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# ACADEMIC CALENDARS

	2013-13	2013-14
<b>Fall Term</b>		
Classes Begin	Sept. 10	Sept. 16
Classes End	Nov. 21	Nov. 27
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<b>D-Term</b>		
D-Term Begins	Nov. 26	Dec. 2
D-Term Ends	Dec. 14	Dec. 20
Christmas Recess Begins	Dec. 17	Dec. 23
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<b>Winter Term</b>		
Classes Begin	Jan. 2	Jan. 6
Classes End	Mar. 13	Mar. 19
Spring Break Begins	Mar. 13	Mar. 19
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<b>Spring Term</b>		
Classes Begin	Mar. 25	Mar. 31
Easter Weekend Begins	Mar. 29	Apr. 18
Classes Resume	Apr. 1	Apr. 21
Memorial Day Holiday	May 27	May 26
Classes End	June 5	June 11
Commencement	June 8	June 14
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<b>Summer Term</b>		
Classes Begin	June 10	June 16
Independence Day Holiday	July 4	July 4
Classes End	Aug. 2	Aug. 8

# CONTACT DIRECTORY

North Central staff are happy to answer your questions. Inquiries by mail should be addressed to the specific offices listed below at North Central College, P.O. Box 3063, Naperville, IL 60566-7063. The College office hours are 8 a.m. - 5 p.m. Central Standard Time during the academic year and 8 a.m. - 4 p.m. during the summer months. Direct dial telephone numbers for specific offices are listed below. The College's main number is 630/637-5100.

## **Academic Issues - 630/637-5353**

Academic programs, academic personnel, competence, and curriculum  
Contact: Vice President for Academic Affairs and Dean of Faculty, Old Main

## **Admission - 630/637-5800**

Information on admission to North Central  
Contact: Dean of Admission and Financial Aid, Old Main

## **Alumni Affairs - 630/637-5200**

Information about alumni and alumni programs  
Contact: Director of Alumni Relations, Old Main

## **Athletics - 630/637-5500**

Information about athletic events, programs, and use of facilities  
Contact: Director of Athletics, Merner Fieldhouse

## **Career Development Center - 630/637-5141**

Career planning, summer jobs and internships, job search preparation and placement, and self-assessment programs  
Contact: Director of Career Development, White Activities Center

## **Community Education, Conferences, and Camps - 630/637-5560**

Educational programs for personal and professional growth, non-credit programs, conference planning and facilities utilization.  
Contact: Office of Community Education, Conferences, and Camps; Cardinal Stadium

## **Continuing Education - 630/637-5555**

Adult and continuing education  
Contact: Office of Graduate and Continuing Education, Old Main

## **Development - 630/637-5211**

Information on annuity investment opportunities, gifts, bequests, and the Annual Fund  
Contact: Vice President for Institutional Advancement, Old Main

## **Financial Aid - 630/637-5600**

Financial aid forms and requirements; College, state, and federal aid programs; student loans; and work-study programs  
Contact: Director of Financial Aid, Old Main

## **Graduate Programs - 630/637-5555**

Information on graduate programs  
Contact: Office of Graduate and Continuing Education, Old Main

## **Marketing and Communications - 630/637-5300**

Information about the College, the calendar, and special events during the year  
Contact: Director of Public Relations, Old Main

## **Registrar - 630/637-5252**

Information on courses of study and grades, graduation requirements, registration, acceptance of transfer credit, and requests for transcripts  
Contact: The Registrar, Old Main

## **Student Affairs - 630/637-5151**

Information about enrolled students, housing, counseling services, student activities, health services, and campus security  
Contact: Dean of Students, Old Main

## **Student Expenses - 630/637-5682**

Payment of tuition and fees, room deposits, and questions about student accounts  
Contact: Business Office, Old Main



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# THIS IS NORTH CENTRAL

## Mission

**North Central College is a community of learners dedicated to preparing students to be informed, involved, principled and productive citizens and leaders over a lifetime.** A comprehensive liberal arts college affiliated with the United Methodist Church, North Central fulfills its mission by recognizing the individual needs of students at different stages of life and from different ethnic, economic, and religious backgrounds — students who bring diverse expectations to the educational process — with programs responsive to those needs (residential, outreach, full-time, part-time, undergraduate and master’s level) while ensuring that all students share a common experience:

- Faculty committed to teaching...in small classes in which writing and speaking skills are emphasized, and one standard that is applied to all degree recipients.
- Educational programs rooted in the liberal arts but also actively engaging the world of work and the practical skills needed for jobs and successful careers.
- A commitment, both inside and outside the classroom, to teaching leadership, ethics, and values.

The universe of higher education ranges from small liberal arts colleges to giant research universities. North Central College is a distinct alternative to all of these schools. Our commitment to one set of degree standards for all students reflects our unique character: small classes and one-on-one instruction, each professor who is first and foremost a teacher and advisor, and classes for “non-traditional” students taught by the same men and women who teach full-time students. At North Central, a student experiences the personalized atmosphere of a small liberal arts college, with its friendly but rigorous approach to learning and emphasis on writing and reasoning skills. At the same time, with more than 50 majors, with strong programs in job-related fields such as accounting and education, with master’s degree offerings in a number of areas, and with a wide variety of scheduling formats to accommodate students who work part-time or full-time, North Central provides many of the benefits of a major university (but without the hassles).

## Individual Support

North Central is dedicated to assisting the individual student, at whatever stage of life he or she enters the educational process. Some 1,400 of our approximately 2,500 full-time students live on campus in residence halls and on-campus houses. Most full-time students are ages 18 to 22, and while the majority enter as freshmen, their ranks also include a significant number of transfer students. Together they make up a “college within a college” through their out-of-classroom pursuits in sports, student activities, and residence hall programming. In the evenings and on weekends these students are joined by some 200 part-time undergraduate students (ages 18 to 70) and nearly 300 graduate students. For the 19-year-old living on campus, North Central has the “feel” and the opportunities for participation, personal growth, and leadership of a small college; for the 36-year-old taking classes part-time, there is the assurance that subjects are taught by the same faculty and at the same high standard at night. And for students from traditional and non-traditional backgrounds alike, there is the opportunity to learn from one another.

One of the most positive elements of student life at North Central is the close personal contact students have with their professors. Because teaching, not research, is the first priority of faculty, they are eager to listen to students’

questions, problems, concerns, and ideas and to share their enthusiasm for learning. Their richly varied backgrounds and expertise expose students to the breadth and depth of knowledge and ideas necessary for meaning and success in a world where complexity and rapid change will be even greater in the future than at present.

## **Choice**

The total academic program emphasizes the importance of choice. A uniform pattern of learning is not imposed upon students, but all students must meet general education requirements that ensure breadth of study, as well as pursue detailed study in a major field. Upon entering North Central, each student is assigned a faculty advisor who assists the student in planning an individualized degree program that meets the goals of the student, the objectives of the College, and the standards of the career field he or she plans to enter.

A multitude of special opportunities available at North Central — e.g., the College Scholars Program, the History of Ideas sequence, and the Richter Independent Study Fellowship Program which takes students all over the world to pursue research — helps to facilitate that process. For students interested in off-campus study, the research facilities of Argonne National Laboratory, Fermi National Accelerator Laboratory, major companies in the Illinois Research and Development Corridor, and the city of Chicago offer unlimited internship opportunities. In addition, extra-curricular options such as Model United Nations, Mock Trial, forensics, WONC-FM, Students in Free Enterprise, NCC Green, Black Student Association, Raza Unida, student government, musical ensembles, drama, and athletics enable students to expand and complement their classroom learning.

That same attention to the individual and the sense of freedom and responsibility at North Central extend further to encompass student services and campus governance programs. A staff of counselors is on hand to assist students who may encounter problems of a personal or developmental nature. The Career Development Center provides a wide variety of services and programs that assist students in making a successful transition from collegiate life into careers of their choice. Selected students serve as resident assistants in the residence halls and as liaisons with the Student Affairs staff to help answer residents' questions, to act as advisors in hall matters, and to offer guidance to those who request it. A range of special services directed toward the needs of older students is offered by the Office of Graduate and Continuing Education, and a community governance system allows students, faculty, and administrators to serve together on committees to address campus concerns.

North Central has always emphasized spiritual and community values, and it seeks to develop within all students a respect for intellectual endeavor, leadership, and ethical decision-making skills they will need in all aspects of their future lives; a sense of responsibility for both personal gain and the common welfare; a solid background for a productive career; a desire for lifelong learning; and a set of moral values to which they are truly committed. By carrying these objectives into all areas of the College, North Central prepares its students to make reasoned choices about life.

## **History**

North Central College was founded in 1861 by the Evangelical Association, a forerunner of the United Methodist Church. Until 1870 the College was located in Plainfield, Illinois, and was originally known as Plainfield College. The name of the College was changed to North-Western College in 1865 and to North Central College in 1926. The College's founders expressed the advanced thought for that day that "Christian commitment and intellectual attainments are

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compatible,” and from the beginning the College was non-sectarian in its hiring and admission practices. This pioneering concept — along with commitment to the inclusiveness and diversity of the United Methodist Church — is part of the heritage of North Central and continues to add depth and meaning to its programs.

## **Location**

North Central College is located in a charming historic district in the heart of Naperville, Illinois, a fast-growing community of 140,000 residents in the west suburban area of metropolitan Chicago. The city is a residential community with excellent community services and has become the Midwest center of scientific research and development. It is in the “Silicon Prairie” center of the high-technology Illinois Research and Development Corridor where some of the nation’s largest companies — e.g., BP Amoco, Lucent Technologies, Nalco Company, Nicor, and Tellabs — are located, as are regional headquarters for many major corporations. Nearby are Argonne National Laboratory, Fermi National Accelerator Laboratory, and the Morton Arboretum. All of these facilities and industries represent unique resources for North Central students — for internships, jobs, and joint research opportunities.

Chicago is just 29 miles away, and the cultural, artistic, and entertainment venues in this great city make it a rich resource for a North Central education. The Art Institute, Field Museum, Shedd Oceanarium, Museum of Science and Industry, the Lincoln Park and Brookfield Zoos, and the Chicago Historical Society are highlights among a long list of museums, galleries, and other attractions too numerous to mention. Theatre, professional sports, concerts, and wonderful restaurants add to Chicago’s rich fare. The city is accessible from campus by automobile or commuter train. The Ronald Reagan Memorial Tollway at Naperville’s northern city limits provides a direct route to “The Loop,” and commuters can catch the Burlington Northern Railroad just two blocks from campus.

## **Government**

The corporate name of the college is North Central College. It is governed by a single board of trustees comprising alumni, business, church, and education leaders from all parts of the United States. The Board of Trustees meets in October, February, and May each year, and an executive committee functions for the board throughout the academic year.

## **Compliance with Legal Requirements**

North Central College does not discriminate in its admission policy, programs, or activities on the basis of race, color, religion, gender, age, national origin, ancestry, marital status, sexual orientation, handicap, disability, veteran status, or unfavorable discharge from military service. Nor does the College discriminate on the basis of race, color, religion, gender, age, national origin, ancestry, marital status, sexual orientation, handicap, disability, veteran status, or unfavorable discharge from military service in its educational policies, scholarship and loan programs, athletic and other college-administered programs, or hiring practices and programs. In addition to meeting fully its obligations of non-discrimination under federal and state laws, North Central College is committed to maintaining a community in which a diverse population can live and work in an atmosphere of tolerance, civility, and mutual respect for the rights and sensibilities of each individual, regardless of difference in economic status, ethnic background, political views, or other personal characteristics and beliefs.

The College is also committed to providing all of its students, faculty, staff, and visitors with access to its programs, events, and facilities. To this end, and in compliance with the Americans with Disabilities Act of 1990, the College has made and continues to make modifications to its facilities and programs so as to provide access for individuals with disabilities. Inquiries, requests for modifications beyond those already completed, appeals regarding assistance to accommodate individual needs, or complaints regarding compliance with these federal regulations should be directed to the vice president for business affairs or the vice president for enrollment management and student affairs.

Statistics related to the Student Right to Know and Campus Crime and Security Act are published annually in the Student Handbook and are available in the Office of Student Affairs.

## **Family Educational Rights and Privacy Act**

North Central College complies with all of the rules and regulations of the Family Educational Rights and Privacy Act of 1974, as amended. Copies of the policy are available in the Office of the Registrar, and the policy is also published in the Student Handbook.

The College designates the following categories of student information as public or “directory” information: name; address (local and home); telephone numbers; e-mail address; date and place of birth; class level; major and minor fields of study; participation in officially recognized activities and sports; height and weight of athletes; photographs/video for College and other publications; the most previous educational institution attended; dates of attendance; degrees and awards conferred, including dates; and current course load.

The above information may be disclosed by North Central College for any purpose at its discretion. Currently enrolled students can withhold disclosure of the information classified as “directory” information by notifying the Office of the Registrar in writing on or before August 15 each year. Requests for non-disclosure are in effect until the student notifies the Office of the Registrar in writing to remove the restriction.

Questions concerning the Family Educational Rights and Privacy Act should be directed to the Office of the Registrar.

## **Accreditation and Affiliation**

North Central College is accredited by the Higher Learning Commission and is a member of the North Central Association of Colleges and Schools. The North Central Association of Colleges and Schools can be reached at 30 N. LaSalle St., Suite 2400, Chicago, IL 60602-2504, by calling (312) 263-0456, or via the internet at <http://www.ncahigherlearningcommission.org>.

The College is also accredited by the University Senate of the United Methodist Church. It maintains membership in the American Council on Education, the Council of Independent Colleges and Universities, the Council for the Advancement and Support of Education, the Federation of Independent Illinois Colleges and Universities, the Associated Colleges of Illinois, and the New American Colleges and Universities (as a founding member).

## **Calendar**

The academic calendar at North Central College consists of three 10-week terms, a three-week D-Term, an eight-week summer session, and consecutive four-week summer sessions. Students normally take three to four courses during each 10-week term, allowing both them and faculty to concentrate on fewer subjects at one time. D-Term may be devoted to special study opportunities, selected courses in areas such as leadership development, travel opportunities sponsored by the College, independent study projects, work, or just relaxation.



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# ADMISSION

Since 1861, North Central College has attracted a diverse group of academically talented and highly motivated students. The College is proud of its long history of providing a wide range of academic, professional, and cultural opportunities for students. North Central seeks students who will benefit from and be challenged by all that is offered here. Students are considered for admission on an individual basis, taking into consideration their overall academic preparation, character, and potential for success at the College.

## First-Year Admission

Admission is determined by each student's individual potential as indicated by a minimum of 16 college preparatory units from an accredited secondary school, grade point average, scores on the ACT or SAT, and involvement in extracurricular activities. Study of a foreign language is highly recommended but not required for admission. Students should offer any additional evidence to indicate they can benefit from and contribute to the North Central College experience.

Although applications for admission are accepted throughout the year, it is advantageous for students to apply early in their senior year. Early application ensures priority consideration for admission, financial aid, and housing.

First-year applicants are considered for admission when the following materials are received by the Office of Admission:

- A completed application for admission
- An official secondary-school transcript or General Education Diploma (GED) test results
- Official results from either the ACT or SAT (scores included on an official secondary-school transcript are acceptable)

**Home-Educated Students** — North Central College welcomes the opportunity to serve the needs of students who receive their education in a home-school environment. Realizing that some of the standard tools used to measure a student's ability to succeed at North Central may not be relevant, the Office of Admission may require the following:

- A review of the student's portfolio and curriculum
- A writing sample
- An interview with the Director of Admission
- An interview with a faculty member

## Transfer Admission

Admission is determined by each student's individual potential as indicated by previous college credit earned. Students need a minimum grade point average of 2.25 (on a 4.0 scale) to be considered for admission. If a student has completed less than 27 transferable credit hours, high school transcripts and ACT/SAT scores are also considered. Students who were dismissed for any reason from their last institution attended are not eligible for admission.

Transfer applicants are considered for admission when the following materials are received in the Office of Admission:

- A completed application for admission
- Official transcripts from all previously enrolled colleges and universities
- An official secondary-school transcript or GED test results

North Central College participates in the Illinois Articulation Initiative (IAI), a statewide agreement that allows the transfer of the completed Illinois General Education Core Curriculum between participating institutions. Students completing the General Education Core Curriculum at a participating college or university in Illinois automatically fulfill North Central's general education

requirements, with the exception of three “all-college requirements.” The two all-college seminar requirements must be completed at North Central.

During a prospective student’s visit to North Central College, a transfer counselor may perform an unofficial transcript evaluation and will explain the curriculum. After the student is offered admission, North Central will provide an official evaluation. All transferable course work, regardless of the grade earned, is included in the North Central cumulative grade point average.

The maximum number of credit hours accepted from a two-year college is 60 semester hours or 90 quarter hours. There is no maximum number of credit hours accepted from a four-year institution. However, students must complete either their last 30 hours or 36 of their last 42 hours in residence at North Central to earn a North Central College degree.

## **International Admission**

North Central welcomes applications from international students. Academic and campus life are enriched by the presence of this important group of students from around the globe.

International students applying from outside the United States should plan to apply at least 4 months before the term in which they would like to start to allow ample time to complete the visa application process. Students transferring from a U.S. institution should apply at least 2 months before the intended start term.

All international students must have the equivalent of a high school diploma. International applicants are considered for admission when the following materials are received by the Office of Admission:

- A completed application for admission
- Official, English-translated transcripts from secondary school
- Official, English-translated transcripts for all university-level credit earned.
- English-translated course descriptions for all university-level credit earned outside the U.S.
- Official Test of English as a Foreign Language (TOEFL) score of at least 520 (68 internet-based) for freshmen or 550 (79 internet-based) for transfer students with 60 or more credits. Applicants may submit official IELTS scores of 6.0 or higher or official SAT or ACT scores in place of the TOEFL.
- For International Student Scholarship consideration students should also submit a personal statement and/or 1-2 letters of recommendation.

Applicants who are applying for a student visa (F-1) must submit evidence of financial support. This documentation must show the student has the necessary funds to cover expenses for tuition, room and board, books and supplies, required fees, and major medical insurance coverage. This documentation must be received before the I-20 Form will be issued.

Once on campus, international students are expected to meet the same course requirements and academic standards established for domestic students. Three semi-intensive courses for intermediate and advanced students in English as a Second Language are offered each year. An ongoing tutorial program is also available.

## **Continuing Education Admission**

North Central College provides a variety of undergraduate educational opportunities through courses offered in the evenings and during the day. Students may complete a number of degree options, apply for a second bachelor’s degree, complete the teacher certification process, or take classes as a student-at-large.

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Applicants for a first degree must submit an official transcript from their high school or an official copy of their GED score. Official transcripts from all previous college-level work must be submitted before the first term of study. Please refer to the Transfer Admission section of this catalog for more details about transfer of credit.

Applicants who wish to earn a second bachelor's degree must submit an application for admission and official transcripts from all previously attended colleges. Second degree students must meet the same admission criteria as those transferring in to earn their first degree. Please refer to the Transfer Admission section for more details about transfer of credit.

Applicants who have earned a bachelor's degree but now seek certification as elementary or secondary education teachers should submit official transcripts from all previous colleges attended, along with the application for admission. An interview with an admission counselor may also be required.

Those who wish to take classes as at-large students should submit an application for admission. If the courses desired have prerequisites, official transcripts may be required. An interview with an admission counselor may also be required, depending on the courses the applicant intends to take.

## **Readmission**

Any North Central degree candidate who left the College for any reason for more than one term must apply to reenter. Students who withdraw for one term may continue to use graduation requirements from the catalog which was in effect their first term of attendance. Students who stop out for more than one consecutive term (excluding summer) must use the catalog which is in effect when they reenter. Students-in-Residence-on-Leave (SIROL) are the only exception to this policy. When applying for readmission, students must contact the Office of Admission and request an application for readmission. Students who have completed coursework at an institution other than North Central prior to reentry must have official transcripts forwarded directly from other colleges or universities. Students need a minimum 2.00 GPA to be considered for readmission.

If it has been more than seven years since attending the College, the student must resubmit any transcripts from colleges attended prior to the first enrollment at North Central.

Students who have previously earned degrees from North Central College need to contact the Office of Admission for readmission if they wish to earn an additional major or minor or if they wish to earn a master's degree. Those who have a previous degree from North Central College and wish to earn a second degree should contact the Office of Admission. Note: once a student has earned a B.A. degree from North Central, he/she may earn an additional major, minor, or a B.S. degree. Similarly, students with a B.S. from North Central may earn an additional major, minor, or a B.A. degree. (See the Dual Degrees section of this catalog.)

## **Facsimile and Electronically Transmitted Documents**

While facsimile and electronically transmitted documents may be used to advise and counsel students regarding admission, transfer of credit, and financial aid, they are considered "unofficial" documents. Official, hard-copy documents must be sent to appropriate offices in order to take official action.

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## **Alternative Education**

North Central College recognizes that candidates for admission may present alternative education credits, including but not limited to AP, CLEP, and IB. These credits are reviewed and evaluated using policies of academic departments and divisions, as well as institutional admission standards.

## **Campus Visits**

The Office of Admission encourages students to experience life at North Central by visiting campus. Prospective students may attend classes, meet with faculty, tour campus facilities, spend one night in a residence hall, and speak with counselors in the Offices of Admission and Financial Aid. To arrange an interview and campus visit, please contact the Office of Admission at 1-800-411-1861 or e-mail us at [ncadm@noctrl.edu](mailto:ncadm@noctrl.edu).



# STUDENT EXPENSES

Full-time tuition charges and student activity fees at North Central College cover classroom instruction for eight to twelve credit hours each term; admission to certain athletic, social, and special events; and subscriptions to certain College publications. Some courses and instructional programs require additional fees, which are published in the course schedule. A schedule of charges for the 2012-13 academic year, as of the date of publication of this catalog, appears below. Other expenses beyond the basic tuition charge and student activity fees include books and supplies and room and board.

## Statement of Charges: 2012-13

The normal academic course load is ten credit hours per term. Students will normally not enroll for more than 12 credit hours in any term.

To qualify for financial aid, such as Illinois State Scholarships or Grants, Pell Grants, Perkins Loans, Stafford Loans, special scholarships, or other awards, a student must maintain an enrollment of not less than four credit hours. Full veteran subsistence requires a minimum enrollment of eight credit hours. This standard also applies for the purpose of establishing priority to live in residence halls. Students who enroll for less than eight credit hours will be considered part-time students.

*The following fee schedule is applicable to the 2012-13 academic year. The College reserves the right to change these fees at any time prior to the beginning of the academic year.*

Tuition and Fees:	Per Term	Annual Charge
<b><u>Full-Time Undergraduate Students</u></b>		
Tuition, Full-time 8-12 credit hours*	\$10,297.00	\$30,891.00
Student Activity Fee	60.00	180.00
	\$10,357.00	\$31,071.00
Board	907.00	2,721.00
Room (Rall, Seager, Geiger, and Kimmel)**	2,054.00	6,162.00
	\$13,318.00	\$39,954.00

\* Overload fee for each credit hour over 12 credit hours — \$750.00

\*\* Seybert, Student Village, Peter & Paul — \$2,017 per term; Patterson — \$2,148 per term; Ward, Schneller, Res/Rec — \$2,176 per term; Naper Place — \$2,274 per term; Single Rooms (any on-campus residence hall) — \$2,536 per term.

### Other Than Full-Time Students

<b>Undergraduate Students</b>		
per credit hour		\$ 750.00
per three credit hour course		2,250.00
<b>Graduate Students</b>		
per credit hour: MBA, MIBA		786.00
MS in Web & Internet Applications, MIS		658.00
MA in Liberal Studies, Master of Leadership Studies		650.00
MA in Education		518.00
Project/Thesis Continuation Fee		420.00

### Other Tuition Rates\*:

Senior Scholars (over age 60) (Graduate — per credit hour)	\$ 225.00
Senior Scholars (over age 60) (Undergraduate — per credit hour)	175.00
Early Scholars (per credit hour)	175.00
Ledermen Scholars (per credit hour)	175.00
Audit Fee (Undergraduate and Graduate — per credit hour)	155.00
Graduated Alumni Audit Fee (Undergraduate and Graduate — per credit hour)	90.00

### Summer Session 2012 (only):

Undergraduate (per credit hour)	578.00
Undergraduate (per three credit hour course)	1,734.00

Graduate	
per credit hour: MBA, MIBA . . . . .	750.00
MSWIA/MIS . . . . .	622.00
MA in Liberal Studies, Master of Leadership Studies . . . . .	614.00
MA in EDN. . . . .	482.00
<b>Miscellaneous Fees:</b>	
Application Fee . . . . .	25.00
Late Registration/Processing Fee . . . . .	25.00
Late Application for Graduation Fee (see page 26 for details) . . . . .	100.00
	to 150.00
Deferred Payment Fee . . . . .	45.00
Late Payment Fee . . . . .	90.00
Student Teaching Fee (per term) . . . . .	150.00
Music Course Fee (per 1/2 hour lesson) . . . . .	100.00
Transcript Fee (next business day service - per copy) . . . . .	15.00
Vehicle Registration Fee:	
Commuter Students (full year) . . . . .	100.00
Resident Students:	
Remote Lot-full year . . . . .	100.00
On Campus-full year . . . . .	400.00
Experiential Credit Fee (assessment) . . . . .	150.00
Experiential Credit Fee (per credit hour recorded) . . . . .	50.00
Returned Check Fee . . . . .	35.00
Housing Contract Liquidation Fee . . . . .	500.00
Residence Hall Late Check-out Fee . . . . .	50.00
Residence Hall Lock Re-core Fee--Per Door . . . . .	50.00
Orientation Fee — New First-Year Students . . . . .	200.00
Transfers . . . . .	150.00

## Room and Board

The College furnishes all residence halls with basic furniture, draperies, desks, and mattresses. All other items, including pillows, lamps, blankets, bed linen, and towels, are supplied by the student.

Campus housing charges include both room and board. All students living in College-owned residence halls or auxiliary houses are automatically covered by a 130-meal per term plan at Kaufman Dining Hall. While no reduction in charges can be made for irregular or interrupted usage of the food service, students may select alternate meal plans which provide fewer meals and snack bar money (“Bonus Bucks”) which can be used at the Cage or Rolland Center Boilerhouse Cafe when Kaufman is not available to them. Sack lunches are available for those students who are absent during the regular meal hours for practice teaching, internships, athletic events, or other activities. Students living off-campus may purchase a meal plan or purchase meals at Kaufman Dining Hall on a per-meal basis.

In cases where the student is prevented from consistent use of the dining facility due to College-sponsored internships or health restrictions, a written appeal can be submitted to the Director of Residence Life, requesting removal from the board plan. Such written requests must be submitted at least two weeks prior to the start of each term and discussed completely with the Director of Food Services and are only granted if Food Services cannot meet dietary or other restrictions.

## Other Expenses

Full-time students can expect to pay an average of \$1200 for books and supplies during the academic year. The cost may be higher or lower depending upon the number and nature of the courses in which the student is enrolled.

Personal and transportation costs will vary depending upon the spending habits, place of residence, and marital status of the individual student. A single student living on campus can anticipate personal expenses (clothing, entertainment, laundry, etc.) averaging \$1,182, and transportation expenses

averaging \$447 for the academic year. Transportation expenses for a commuting student can amount to over \$1,470, depending upon the distance the student travels to and from campus and the mode of transportation used.

### **Advance Deposits**

A student who is offered admission to the College must submit a \$100 non-refundable tuition deposit to confirm his/her intention to enroll. The deposit is applied to tuition for the first term of entry.

New students planning to live in campus housing must submit a non-refundable \$100 housing deposit with a room and board contract to reserve a residence hall room. This deposit is used toward future housing reservations or as a security deposit for damages to the residence halls.

### **Music Instruction Fees**

Charges for private lessons are not included in tuition charges. Lessons are 30 or 60 minutes in length and are not scheduled during vacation periods or interim. No deduction is made in case of student absences, except in cases of protracted illness. In such cases, the pro-rata loss is shared equally by the student and the College.

One-half hour lessons are given by resident music faculty as time permits. Such lessons, whether taken for credit or not, will be charged as indicated on the class schedule, which is published at the beginning of each registration period. Lessons are also available from non-resident teachers approved by the music staff. Fees for such lessons are set by the teacher. They are paid to the College if College facilities are used for the lessons. They are paid directly to the teacher if the lessons are given at another location.

### **Payment of Tuition and Fees**

The expenses, as scheduled, are due and payable on or before the beginning of each term. A late payment fee is charged after the eighth day of the term. Statements are available online approximately 4-5 weeks in advance of the due date.

The College also offers a payment program for full-time undergraduate students, through a third party, in which the annual cost of education may be spread over a 12-month period. The payment program may be arranged by completing the necessary application and contract forms, identifying educational expenses minus financial aid (if applicable), and scheduling payments over a 12-month period beginning in the month of June preceding the start of the academic year. An annual fee is assessed for this plan. Interested individuals should contact the Business Office for additional information and applications.

The College reserves the right to withhold the diploma or transcripts as long as any bills owed the College remain unpaid. The College reserves the right to deny registration and housing to any student with outstanding bills from a previous term. The College will pursue any outstanding balances owed by any student and the student will be liable for any costs of collection, including reasonable attorney's fees.

### **Refunds**

Because North Central College contracts with faculty and staff and incurs other expenses in advance of the academic year, a refund formula has been established to reflect the equitable sharing of the loss when a student withdraws from classes. Refunds due to official withdrawal, suspension, or dismissal will be made on the following basis:



*Tuition* — A student who officially withdraws from the College or a course(s) may receive a full or partial refund (credit) according to the following schedule computed from the first official day of the academic term, as designated by the registrar, excluding summer and interim (which, in general, is the first weekday of the term in which classes are held):

- During first 8 calendar days — 100 %
- 9th through 14th calendar day — 90 %
- 15th through 21st calendar day — 50 %
- After 21st calendar day — 0 %

A schedule with specific effective dates is published in advance of each term. The date of withdrawal is established by the student's completion of all official steps in the withdrawal process and is based on the date the Registrar's Office records the withdrawal. If a student withdraws from the College or any courses at any time without having completed the official process, no refund/credit will be made. **Non-attendance in a class does not automatically withdraw the student from the course.** Proper procedures must be followed to withdraw from class(es). The College reserves the right to modify the refund schedule as circumstances may dictate.

Requests for exception to North Central's refund policy must be made in writing, using the General Petition Form available in the Office of the Registrar. Exceptions may be considered for reasons such as institutional error, fully documented medical condition, death in the immediate family, or a call to military service. In all cases, a complete review of any possible means of completing the course(s), including incomplete grades, must be explored prior to submitting the petition. Petitions that are granted are assessed \$50 for processing.

Federal regulations require that North Central College have a written policy for the refund and repayment of Federal Aid (Supplemental Educational Opportunity Grant, Pell Grant, Perkins Loan, Federal Stafford Loan, and Federal Parent Loan) received by students who withdraw during a term for which payment has been received. This policy is effective only for those students who completely terminate their registration (i.e., cancels his/her registration, withdraws or is dismissed) or stops attending classes before completing 60% or more of the enrollment period. The in-depth explanation of this written policy is available in the Office of Financial Aid.

*Room and Board* contracts are for the full academic year. If a student intends to withdraw from housing during the academic year, the student must follow the procedures outlined in the room and board contract signed at the beginning of the academic year. In all cases, the student must petition the Director of Residence Life for release. Granting of the release is not automatic and refunds (credits) will be determined in accordance with the contract. All students should read and understand the Room and Board Contract before signing.

A credit balance caused by a credit card payment may be refunded back to the credit card account. A credit balance caused by any other form of payment, tuition cancellation, etc., will be refunded in the form of a check.

A Refund Request form must be completed and signed by the student in order to obtain a refund of a credit balance. Special rules apply for credit balances caused by PLUS loan payments. A Student Accounts staff person can assist with any questions regarding these matters.



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## FINANCIAL AID

An education at North Central College is a sound investment in a student's future. However, the cost of such an education can present financial concerns for many students and their families. The financial aid program at North Central is designed to assist those students and families requiring financial assistance in addition to their own contributions to cover the cost of that education. The College's financial aid program is assisting over 90 percent of the current degree-seeking undergraduates in meeting the cost of education at North Central.

The Office of Financial Aid administers a variety of state, federal, private, and institutional programs of financial assistance. Each of these programs carries specific eligibility requirements or regulations which ensure that the assistance given is benefiting a maximum number of students. Due to the different criteria and application requirements of each program administered, it is impossible to discuss all of them in this publication. Detailed descriptions of the aid programs available and the rights and obligations a student assumes when accepting financial assistance are provided in the Financial Aid Handbook, which is available online at [www.northcentralcollege.edu/financial-aid/resources](http://www.northcentralcollege.edu/financial-aid/resources). North Central's financial aid counselors are also available to discuss the financial aid programs during normal business hours.

North Central participates in all need-based assistance programs, including Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Perkins Loan, Federal College Work Study, and Federal Direct Student Loans. Illinois residents are eligible for the Illinois Student Assistance Commission Monetary Award. In addition to these programs, the College administers its own need-based grant program. In order to receive full consideration for any need-based financial aid, the student must complete the Free Application for Federal Student Aid (FAFSA) at [www.fafsa.ed.gov](http://www.fafsa.ed.gov).

Veterans are entitled to use their Chapter benefits in accordance with the rules of the Veterans Administration while attending North Central College. Applicants are required to complete and submit appropriate documents in order to establish their eligibility. For further information, contact the Office of the Registrar.

North Central also awards academic scholarships to incoming first-year students. These awards, the Presidential, Dean, Honor, and Achievement Scholarships, are based on recalculated GPA, and ACT and/or SAT scores. Academic scholarships for transfer students are also available.

To be eligible for any scholarship or grant from North Central, the student must have applied for admission and been accepted to the College. For additional financial aid information, call or write: (630) 637-5600 or [finaid@noctrl.edu](mailto:finaid@noctrl.edu).

# CAMPUS LIFE AND STUDENT SERVICES

At North Central College we believe that learning occurs both inside and outside of the classroom. In fact, our goal is to create an overall campus environment that encourages the growth and development of all students. The activities and services available on campus provide students with opportunities to practice classroom theories, to sharpen leadership skills, and to learn problem-solving techniques that will last a lifetime.

## Office of Student Affairs

The dean of students in the Office of Student Affairs plays a key role in supporting students throughout their experience at North Central College. The dean coordinates the orientation and student success programs which are designed to help new students make a successful transition to college. The dean also provides a counseling, advocacy, and referral service to students who may need assistance with personal or academic problems. Students are welcome to visit the Office of the Dean of Students on an appointment or walk-in basis.

## Residence Life

At North Central College, residence halls are more than a place to sleep and eat. They are extensions of the classroom; they are places where students learn. Students learn how to appreciate diversity by living and working with people different from themselves. Students learn decision-making skills, they develop independence, they gain self-confidence, and they learn to accept responsibility.

Residence halls are staffed by professional hall directors and a cadre of resident assistants who are undergraduates trained to provide support to students living on campus. Student involvement and community decision-making are key ingredients in the residence life program. Each residence hall has a residence hall council made up of students who live in that facility. These students organize activities throughout the year and provide input to the residence life staff on a variety of topics, including maintenance, technology, and programming.

Each room is furnished with beds, dressers, chairs, and closet space. Telephone service includes phone ports and voice mail. Each room is also equipped with computer and cable television ports which enable students to access the campus network and the internet. All residence halls have lounges available to students, soda and snack machines, and laundry facilities.

## Ministry and Service

As a church-related college, North Central provides an atmosphere in which students can explore and grow in their faith and social activism. Staff members include a director and assistant director of ministry and service, a United Methodist chaplain, and a part-time Catholic campus minister. This team oversees and advises a dozen or more student organizations that provide a breadth of opportunities for students to grow spiritually and serve the local and global community.

Focus, a student-led, non-denominational worship service fills Koten Chapel to capacity every Wednesday night with music, prayer, and guest speakers. Focus also helps organize numerous bible studies, retreats, and special events throughout the year. Other groups meet during the week for spiritual encouragement and outreach, including the United Methodist Student Association, Catholic Student Union, and Fellowship of Christian Athletes.

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Strong partnerships with local churches also provide outlets for students to connect to a faith community.

Some campus groups exist to offer students a chance to serve others, either as an expression of faith or out of humanitarian concern. Cardinals in Action, Circle K, and the Uncommon Life Movement partner with organizations in Naperville and Aurora to serve the needs of the local communities, while International Justice Mission advocates for the rights of the oppressed around the world. Break Away plans up to a dozen service and mission trips each year to send teams of students to serve around the country and around the world to places like Kenya, Haiti, and Mexico. The Union, a student-run "venue for social change" operates on Friday nights in downtown Naperville to host music, film, and art events. Other special events take place annually such as Intersection (a spring community service day), Gospel Extravaganza, and the Martin Luther King prayer breakfast.

### **Multicultural Affairs**

North Central College is committed to recruiting, supporting, and retaining students from underrepresented (African American, Latino/Hispanic, Native American, and Asian American) and international backgrounds.

The Office of Multicultural Affairs seeks to promote a perspective that recognizes, understands, respects, appreciates, and celebrates human differences within and between cultures. The office seeks to transcend barriers that often separate people and replace them with bridges of understanding. The fundamental aspect of this effort is a series of educational, social, and cultural activities sponsored by the Office of Multicultural Affairs.

Students, faculty, and staff are welcome to visit the Office of Multicultural Affairs and are encouraged to become involved in multicultural programming

### **Community Service Center**

The Community Service Center provides opportunities for students, faculty, and staff to engage in meaningful community service. In addition, the center has resources to help members of the campus community find individual service opportunities in the community.

Working with the director of the community service center and the student volunteer coordinator, student team leaders initiate, research, develop, and lead yearlong service projects for other students. Some of these projects focus on literacy, health care, education, homelessness, and senior citizens. Orientation, training, and reflection help participants explore the social context of their project's site and activity. Cardinals in Action (CIA), the student service organization, offers one-time service opportunities and speakers on service-related topics.

The Center also works with faculty to incorporate service learning in the curriculum and offers educational programs and speakers.

### **Disabled Student Services**

Support and advocacy services are available on an individual basis for students with disabilities. The goal of these services is to provide access and support so that students may pursue their educational goals and participate in the activities of the College.

For students with learning disabilities, the College provides a wide range of support services. These services are offered through the Academic Support Center and are described on page 44.

For students with physical disabilities, services include notification to instructors, relocation of classes to accessible locations, access to recorded

textbooks, sign language interpreters, note takers, testing accommodations, handicap parking stickers, and other reasonable accommodations determined by individual need.

## **Library Services**

The mission of North Central College library services is to provide resources and services to meet the College community's information and instructional media needs and to assist members of that community in developing skills for lifelong learning. To teach patrons how to access information, the library offers orientations, workshops, and classes.

In addition to books, periodicals, instructional media, and reference resources housed in Oesterle Library, the library's webpage (<http://library.noctrl.edu>) offers access to online databases, the online catalog, and online reference sources. Members of the College community may also borrow materials from 75 other academic libraries in Illinois, either in person, online, or through Oesterle Library's interlibrary loan service.

The North Central College Archives seeks to identify, preserve, and make available the permanent records of the College and provide students with opportunities to use primary documents in their research. Housed in Oesterle Library, the Archives are open to the public. Two additional collections include the Suburban Studies Archives and the Harris W. Fawell Congressional Papers.

## **Office of International Programs**

North Central College has made a firm commitment to ensuring that the College community develops knowledge and appreciation of cultural differences in both domestic and international settings. For students, an education at this institution includes a global dimension gained through proficiency-based language learning, course work, internships, person-to-person contacts, study abroad, travel, and exchange programs.

The Office of International Programs provides vision and guidance for developing and implementing international programs. The director oversees international developments in academic programs (including study abroad and domestic programs), student affairs, faculty development, campus events, and grant writing.

## **Career Development**

In today's competitive job market, students need to be prepared to enter the professional world before they graduate. The staff in Career Development encourages career exploration and clarification through individual career counseling, computerized assessment, programming on relevant issues, and developing job search strategies, plus resume, cover letter and interview preparation. Career Development also offers on-line job listings, job and internship fairs, resume referrals, credential files, resume critiques, and mock interviews. Lists of part-time (on and off campus) and full-time job vacancies are also available from their website.

Internships provide North Central students with valuable and marketable work experiences. Career Development promotes as well as assists students in identifying these opportunities with nearby companies, agencies, or organizations. Credit and non-credit internships may be arranged during the academic year, interim, or summer.

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## **Dyson Wellness Center**

The Dyson Wellness Center focuses on the physical and emotional well being of students. It offers confidential medical and counseling services, guidance in health choices, and educational programs to students. Services for illness and injury are available. Physician services are available on a limited basis; please call for exact times. Counseling services are available by appointment for individual, couples, or group assistance with a variety of major and minor issues. Complete immunization records, medical history, and a copy of an insurance card are required of all students taking more than three credit hours.

## **Dispute Resolution Program**

The North Central College Dispute Resolution Center provides services, training, and development opportunities to students in a variety of contexts. A comprehensive program provides the following services: resolution of non-disciplinary student disputes through peer mediation; training of students to mediate disputes; a variety of community service programs; and course work and academic minors in dispute resolution through the Leadership, Ethics, and Values Program.

## **Food Service**

The college dining facility, Kaufman Dining Hall, is operated cafeteria style so that students may have a choice in food selection. Four flexible meal plans which offer varying increments of snack money are available. Program highlights include self-serve entrees, salad bar, and deli. All students living in college-owned residence halls or auxiliary housing units are automatically included in the meal plan. Students living off-campus may purchase a meal plan or purchase meals at Kaufman Dining Hall on a per-meal basis.

## **Commuter Students**

Commuting students are an important part of the North Central College community and the College is committed to helping them be successful in this environment. Commuter Assistants work with students who live off campus and maintain office hours on campus. Through involvement in Cardinals on Wheels, the campus commuter student organization, students are kept well informed of all academic and social programs on campus.

## **Student Activities**

The Office of Student Activities encourages students to gain valuable skills and experiences by becoming involved in one or more of the many clubs and student organizations on campus or the co-curricular activities offered on campus. Student activities are planned and implemented through collaborative efforts of students and staff. In addition to working with registered student organizations, the Office of Student Activities regularly sponsors leadership programs, workshops, and conferences.

## **Campus Organizations**

**Student Governing Association (SGA)** — Students at North Central assist in the governance of the College community through elected representation to various committees within the governance structure. Through these elected officers and representatives, SGA shares student attitudes and opinions on issues that impact the quality of student life with faculty and administrators.

**College Union Activities Board (CUAB)** — CUAB is a student-directed organization which is responsible for meeting the programming needs of students by providing a variety of social, educational, and cultural programs. Included among these programs are Homecoming, Springfest, various popular singers and comedians, dances, and off-campus outings to sporting events and theatre performances.

**Black Student Association (BSA) and Raza Unida** — These organizations provide support to students from underrepresented ethnic minority backgrounds and opportunities for majority students to learn about other cultures. Much of their work is accomplished through social events, guest speakers, and student leadership conferences.

**Publications** — The campus student newspaper, *The North Central Chronicle*, and the literary magazine, *The NC Review*, are the major publications on campus. Students are encouraged to create pieces for inclusion in all student publications, and a full-time instructor is assigned to each as an advisor. An online blog, *North Central Pride*, provides a calendar of events for the entire campus.

**WONC-FM (89.1)** — North Central's powerful, student-staffed radio station broadcasts to a potential audience of more than 3.5 million listeners. Formatted as an album-oriented rock station, WONC offers three state-of-the-art studios for on-air and audio production work. WONC has been honored with 20 Marconi Awards and assorted awards from College Media Advisors, the National Association of College Broadcasters, the Society of Professional Journalists, and the Illinois Broadcasters Association. More than 75 students who staff the station are supervised by a professional general manager.

**Cultural Events** — The mission of Cultural Events is to provide the campus community with a variety of speakers and programs that will enrich their academic experience and broaden their cultural outlook. The Cultural Events committee invites speakers like ethicist and novelist Lori Andrews, NBC journalist Ron Allen, and Lincoln scholar Douglas Wilson. In addition, Cultural Events works with Anderson's Bookshop to bring authors to the North Central campus, and Pfeiffer Hall has seen journalists Tom Brokaw and Tim Russert, *Life of Pi* author Yann Martel, *The View's* Barbara Walters, and former *Happy Days* star Henry Winkler, now a children's book author. Cultural Events also partners with Multicultural Affairs to sponsor the Martin Luther King Day speaker and International Programs to sponsor a Film Festival.

**Some of the many other organizations** which are active on campus are the American Marketing Association, Cardinals on Wheels, Cardinals in Action, Fellowship of Christian Athletes, Impressions (art club), International Club, Math Club, NAFME (student chapter of The National Association for Music Education), NCC Green (environmental awareness organization), Residence Hall Association, SIFE (Students in Free Enterprise), the United Methodist Student Organization, and the Cardinal Cheerleading and Dance Team. In addition, many academic departments have active honor societies.

## **Performing Ensembles**

The Department of Music features several large and small, instrumental, jazz, and choral performing ensembles. Choral ensembles include: Concert Choir, Cardinal Chorus, Women's Chorale, Chamber Singers, "Express" Show Choir, Opera Workshop, Naperville Chorus, and various smaller chamber ensembles. Instrumental ensembles include: Concert Winds, Chamber Winds, Red Noise Pep Band, Percussion Ensemble; String Ensemble, Flute Choir, and Saxophone Quartet. Jazz



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Ensembles include: Big Band, Vocal Jazz Ensemble, several combos, Chamber Jazz duos and trios, and Guitar Ensemble. Ensembles perform regularly on and off campus and some tour regionally, nationally, and internationally. Contact the Department of Music website ([www.northcentralcollege.edu/music](http://www.northcentralcollege.edu/music)) for director names and contact information.

### **Theatrical Productions**

The North Central College theatre department presents numerous productions annually in various fine arts venues, including two musicals—one of which is student-directed. Several student-directed plays are also produced as part of an expanding Studio Series. The student theatre club, the Company, organizes trips to professional theatres in the Chicago area, and many students find work and internships at such prestigious theatres as the Goodman, Steppenwolf, Victory Gardens, and Shakespeare Repertory. A special feature of the theatre department is its active participation in the Kennedy Center/American College Theatre Festival where students vie for awards and scholarships in criticism, acting, and design. Highlighting NCC's participation in this national competition, in January 2008 the theatre and music departments were invited to perform *Thoroughly Modern Millie* at the five-state regional festival, a very prestigious honor.

### **Intercollegiate Athletics**

Athletics play an important role in campus life at North Central College and in the personal development of the student-athletes who participate in the 22 intercollegiate sports offered by the College for men and women.

North Central women compete in basketball, cross-country, golf, lacrosse, soccer, softball, swimming, tennis, track and field, and volleyball. The men's athletic program includes baseball, basketball, cross-country, football, golf, soccer, swimming, tennis, track and field, and wrestling.

North Central athletic teams, known as the Cardinals, compete as members of Division III in the National Collegiate Athletic Association and as members of the College Conference of Illinois and Wisconsin, considered by many sportswriters to be the best small college conference in the country. The athletic teams have won 22 national championships including championships in track and field, cross country, women's basketball, and men's swimming.

### **Intramural Sports**

North Central students may participate in an active intramural sports program which includes aerobics, basketball, bowling, floor hockey, football, softball, and co-ed volleyball. The program is administered by the Board of Intramural Governors and the director of intramurals. Special events such as golf tournaments, midnight bowling, super hoops, and volleyball tournaments dot the annual schedule.

# ACADEMIC REGULATIONS

## Graduation Requirements

1. The minimum credit for graduation is 120 credit hours, with a maximum of 51 hours in any one department. Some programs require more than 120 credit hours. The following regulations are strictly enforced.
  - a. At least 60 credit hours are to be taken at a four-year college or university.
  - b. There are two ways to meet the residency requirement: 1) the last 30 hours must be earned at North Central as a degree candidate, or 2) 36 of the last 42 hours must be earned at North Central as a degree candidate.
  - c. At least nine credit hours in the student's major and six credit hours in the student's minor must be earned at North Central. CLEP and experiential credit may not be used to meet these two requirements. At least nine hours of coursework in each major and at least six hours of coursework in each minor must be unique.
  - d. Only courses numbered 100 or above count toward the 120 minimum credit hours required for graduation.
  - e. Only 100- or 200-level courses may be repeated at a two-year college.
  - f. Graduate credit may be applied toward an undergraduate degree only if the credit is from North Central graduate programs and the student has prior official permission.
  - g. A maximum of 28 credit hours earned through CLEP and/or experiential credit may be applied toward the 120 credit hour requirement for graduation. Such credit may count towards the residency requirement only if the student completes at least 36 credit hours at North Central.
  - h. A maximum of 12 credit hours earned through internships and/or independent studies, including Richter study, may be applied toward the 120 credit hour requirement for graduation.
  - i. A maximum of eight credit hours may be earned in physical education activity courses.
2. A cumulative grade-point average of 2.000 or higher is required.
3. A minimum grade-point average of 2.000 is required for all courses in a major or minor. Some programs require a higher grade point average.
4. Courses in which the student initially enrolled for a letter grade cannot be repeated pass/no pass.
5. Completion of all general education requirements is required.
6. Completion of an approved major is required.
7. Each student must make application for graduation in the Office of the Registrar during the first term of the senior year. A late fee of \$100 is imposed if the application is received after the third Monday of the term prior to the term of graduation. A late fee of \$150 is imposed if received after the first day of the term of graduation.

## Degree-specific Requirements

1. Requirements for the B.A. degree, in addition to the major, are:
  - a. Language study through MCL 102, or
  - b. Three years of language study in high school with an average grade of B in those language courses, or
  - c. Participation for one term in a designated study abroad program that develops linguistic skills in a language other than English, or
  - d. Transfer students who enter with 48 or more credit hours, who did not take three years of foreign language in high school with an average grade of B, may take MCL 390, or

- e. Students with extensive experience living in a non-English language context may fulfill the language requirement by:
  - i. provision of an official transcript attesting the completion of (the equivalent of) an 8th grade or higher education in a non-English language school, or
  - ii. passing an exam that determines proficiencies in a non-English language equal to or greater than the MCL 102 outcomes.
2. Requirements for the B.S. degree, in addition to the major, are:
  - a. MTH 152
  - b. A minimum of nine credit hours, determined by the discipline, from two of the following four areas:
    - 1) Computer Science
    - 2) Statistics (PSY 250, BUS/ECN 241, or MTH 342)
    - 3) Mathematics above MTH 152 Calculus II
    - 4) Life science or physical science course(s) outside the major discipline, beyond the courses used to fulfill general education requirements, and that count toward a major in a science discipline.
  - c. Some majors may have additional requirements for the B.S. degree.

## General Education

The general education curriculum at North Central College was designed by the faculty to offer a well-balanced, interdisciplinary, and integrative experience over the course of a student's academic career.

**Core** courses from across the curriculum introduce students to the liberal arts and sciences, giving particular attention to writing, oral communication, and critical thinking. Interdisciplinary components of the core make connections among areas of study.

**All-college requirements** build upon the core, emphasizing interdisciplinary themes, collaborative learning, and problem-solving from multiple perspectives. Pursued concurrently with studies in the majors, they prepare students for entering a world in which communication across specializations and the ability to place subjects in multiple contexts play as important a role as professional expertise.

General education requirements are listed below. A full description of individual components of the curriculum begins on page 37 of the catalog.

### The Core Requirements

*Composition:* six credit hours

*Speech Communication:* three credit hours

*Mathematics:* three credit hours

*Life and Physical Sciences:* six and one half credit hours, including one laboratory course

*Humanities and Fine Arts:* nine credit hours distributed over three courses\*

*Social Sciences:* nine credit hours distributed over three courses\*

*Interdisciplinary Requirement:* three credit hours; IDS 125 or ENG 125

\*Within the 18 credit hours required in the Humanities and Fine Arts and Social Sciences, up to six credit hours may be taken in the same department.

### The All-College Requirements (ACR)

Religion and Ethics: three credit hours; may be taken as a separate course, as part of the core requirements, or as one of the two ACR seminars

Intercultural Seminar\*: three credit hours

Leadership, Ethics, and Values Seminar\*: three credit hours

\*The courses used to fulfill the ACR seminars must be drawn from two different disciplines and must be taken at North Central

General education requirements may be met by study in appropriate courses. Course descriptions in this catalog include a notation regarding which component of general education is fulfilled by each course. Students are expected to work with their advisors to develop a plan for meeting these requirements that best suits their previous experience, needs, and interests.

Although each of the general education requirements implies enrollment in an appropriate college-level course, the student may fulfill selected requirements by demonstrating the attainment of the proficiency or training which essentially meets that requirement. Demonstrated proficiency or training may include work-study projects, the College Level Examination Program (CLEP), the CEEB Advanced Placement Program, special emphases in approved experimental courses, actual performance (as in writing or speaking), and unusual high school concentrations. The faculty advisor will help the student explore the opportunities for such demonstrated proficiency and help make arrangements for it. Students must complete the interdisciplinary seminar and both ACR seminars (Intercultural and Leadership, Ethics, and Values) at North Central College. Students who transfer in with 18 or more hours are exempt from the interdisciplinary requirement.

## ENTRY

### Immunization and Health Statement Policy

Prematriculation requirements include a physical examination, health statement, and a current immunization record. It is a requirement of the College/University Immunization Law, Illinois Public Act 85-1315, effective July 1, 1989, that persons born on or after January 1, 1957, who are enrolled in designated Illinois public and private colleges and universities, present evidence of immunity against certain diseases. This law prohibits registration for any subsequent terms until the requirements are fulfilled and provides for cancellation of registration for any students who fail to submit the appropriate immunization records.

### Classification of Students

Students are classified either as degree candidates or as non-degree students.

**Degree candidacy** is automatically conferred by the vice president for enrollment management and student affairs on any student enrolling at North Central during a regular term for full-time study who meets the College's admission guidelines. In addition, any recent high school graduate meeting those guidelines who enrolls for part-time study during a regular term is also considered a degree candidate. For others, degree candidacy will be conferred only upon written application to the vice president for enrollment management and student affairs, supported by evidence of their ability to undertake the College's academic program.

**Non-degree seeking students** are those not admitted to degree candidacy, regardless of course load. Students in this category may be transient or summer-only students, adults who already have a degree, or adults who state that they do not wish to earn a degree.

A non-degree seeking student who wishes to apply for degree candidacy must have a cumulative grade-point average of 2.00. Such students must take their last 30 credit hours (or 36 of their last 42 hours) at North Central as a degree-seeking student if they intend to earn a degree. Once a student becomes a degree candidate, he or she cannot be reclassified as a non-degree seeking student. A degree candidate who drops from full-time enrollment to part-time enrollment remains a degree candidate.

Degree candidates fall into four traditional classifications:

- **Freshman** — Students with less than 27 credit hours
- **Sophomore** — Students with at least 27 credit hours but less than 54
- **Junior** — Students with at least 54 credit hours but less than 84
- **Senior** — Those with 84 or more credit hours

## Dates of Entry and Matriculation

A student's date of entry is the first day of the term in which he or she enrolls at North Central. A student retains this date of entry as long as he or she does not leave the College for more than one term at a time, not including summer. The student may graduate using the catalog current at the date of entry or any catalog effective after the date of entry. A student who is not in attendance for two or more consecutive terms, not including summer, must use the catalog which is current on the first day of the term in which he or she is readmitted to the College. A student's matriculation date is the date on which he or she becomes a degree candidate.

## Advanced Placement Credit

Students who took an advanced placement course in high school and scored a grade of 4 or 5 on the CEEB Advanced Placement Examination are awarded college credit at North Central. Departments vary in accepting a score of 3.

## International Baccalaureate

Students who participate in the International Baccalaureate program are awarded college credit for scores of 5, 6, or 7 in higher level subjects. No credit is granted for standard level subjects.

## Competency Credits

The College will award up to 28 credit hours for demonstrated competence obtained through CLEP and experiential learning. Credits earned in this manner may not be applied toward the residency requirement, unless the student will complete at least 36 classroom credit hours at North Central. Evidence of competence may be measured by examination or by an assessment committee.

### College Level Examination Program (CLEP)

North Central grants CLEP credit to enrolled students for both general and subject matter examinations in accordance with the following guidelines:

**CLEP general examinations** must be taken by students enrolled at North Central prior to attending college-level classes. Students may receive five credit hours for meeting the College's score requirement on each examination. A maximum of 25 credit hours may be earned through the general examination.

**CLEP subject examination** credit is granted by North Central College in many areas. Further information can be obtained in the Office of the Registrar or the Office of Graduate and Continuing Education. Students should check with their faculty advisors to determine applicability to degree requirements.

Students may not receive CLEP credit in a subject area in which they have taken college-level course work. CLEP examinations in foreign languages do not count towards the humanities and fine arts requirement.

### Experiential Learning Credit

Experiential credit may be requested by following application guidelines available in the Office of Academic Affairs. A student may be tested or assessed in the same credit area only once in any 12-month period and only twice overall. Experiential credit is not awarded for a lower-level demonstration after a student has successfully completed a higher-level academic course in the same area.

Since experiential credit may not count towards the residency requirement, students must apply well in advance to allow ample time for assessment. Credit awarded by other institutions is accepted at North Central if it meets the College's norming criteria.

## DURING ENROLLMENT

### Credit Unit

The unit of credit at North Central is the credit hour, which is equivalent to one semester hour of credit or one and one half hours of credit under quarter plans. Previous academic work by transfer students is evaluated and translated into credit hours. Official evaluations are completed only in the Office of the Registrar.

### Study Load

To be considered a full-time student, a student must maintain enrollment for at least eight credit hours. A student may enroll for a maximum of 12 credit hours. The average study load is ten credit hours. Students dropping below eight credit hours should consult the Office of Financial Aid about possible loss of financial aid. Student athletes dropping below eight credit hours should contact the faculty athletics representative or the registrar about athletic eligibility.

### Overload Registration

Registration for more than 12 credit hours in any term requires a cumulative grade-point average above 3.33 and approval from both the faculty advisor and the associate academic dean. In Winter term, students may register for up to five hours in D-Term and up to 12 hours in the regular term without approval. Overload charges still apply.

### Changes of Registration

The first step in making any change of schedule or program is to consult the faculty advisor. All enrollments in the College or in courses, as well as all withdrawals from the College or courses, are to be officially completed within the prescribed timelines. Informal attendance or withdrawal is not recognized. Both the educational program and the financial aid program of the College depend upon the cooperation of student, advisor, and administration in all academic commitments.

**Adding Courses** — Beginning the first day of the term through the end of the sixth week, or the third week for a course which is five weeks long, a student may only enroll in new courses with the approval of the instructor.

**Dropping Courses** — A student may drop a course(s) as follows:

- Through the first eight calendar days of the term a student may cancel enrollment in a course without grade or notation on the academic record if all official steps are completed by the eighth day.
- From the ninth calendar day through the end of the sixth week of the term, or the third week for a course which is five weeks long, a student may drop a course with the notation WD on the academic record.
- After the sixth week of the term, or the third week of a five-week course, any student who does not complete a course receives a letter grade in the course.
- The date of withdrawal is the date that withdrawal procedures are completed. **Absence from class does not constitute withdrawal from a course.**

Any student contemplating dropping a course is advised to consult the Office of Financial Aid since a student whose course load falls below eight credit hours may immediately forfeit certain types of financial aid. Student athletes should consult the faculty athletics representative or the registrar before dropping below eight credit hours.

### **Repeated Course Registration**

An undergraduate student may only repeat a course in which a final grade of D or F was received. The repeated course grade replaces the original grade in calculating the cumulative grade-point average, but both grades appear on the transcript. If a department requires that a minimum grade of C be earned to fulfill major or minor requirements and the student earns a C-, the course must be retaken; however, it does not replace the C- grade or otherwise impact the grade point average.

If a student repeats a course or completes other courses which may be considered a duplication, it is the responsibility of the student to notify the Office of the Registrar during the first two weeks of the term in which the work is being completed so that the proper adjustment can be made in the total number of credit hours and the grade-point average. The Office of the Registrar cannot be responsible for notifying students of a loss of credit because of duplication before the student files an application for a degree. The student's academic record is carefully checked at that time, and loss of credit due to duplication of courses is reflected on the graduation audit report which is sent to the student.

### **Double Registration**

A degree candidate at North Central may register for courses only at North Central, not simultaneously at North Central and another college or university. This principle applies to correspondence work as well. It does not, however, preclude cross-registration at consortium colleges with whom North Central has arranged for that option. Such cross-registration is initiated at North Central and forms are available in the Office of the Registrar.

### **Graduate Registration**

A maximum of six credit hours of graduate coursework may be available to seniors with the approval of their faculty advisor and special permission from the dean of graduate and continuing education. An approval form, which must accompany the registration, is available in the Office of Graduate and Continuing Education.

If an undergraduate course is not available, a parallel graduate course may apply toward an undergraduate degree. A maximum of six graduate credit hours counts toward the 120 credit hours required for an undergraduate degree. Graduate courses taken for credit toward an undergraduate degree will not later be applied toward a graduate degree at North Central College.

Alternatively, graduate coursework taken as an undergraduate may apply toward a graduate degree at NCC. This coursework will not be applied toward the 120 hours required for an undergraduate degree or any other undergraduate requirement.

### **Grades and Grade Averages**

North Central uses familiar letter grades — A, A-, B+, B, B-, C+, C, C-, D, and F. A grade of PR indicates a course in progress, but not completed by the end of the term. Grades of P (Pass) and NP (No Pass) have no effect on the grade-point

average and may be used for laboratory sections, remedial courses, and clinical experiences. A grade of AU indicates the course was audited.

An “I” grade is used to indicate incomplete work and is calculated as an “F.” It may be given to a student who carries a course at a passing level until near the end of the term and then, because of circumstances beyond the student’s control, is unable to complete it on schedule. An incomplete course must be reported as complete by the middle of the following term or it lapses into an F. All remaining work for an incomplete course in Spring Term must be completed by the middle of the following Fall Term.

To compute grade-point averages, the College uses a 4.000 scale: A = 4.000, A- = 3.700, B+ = 3.300, B = 3.000, B- = 2.700, C+ = 2.300, C = 2.000, C- = 1.700, D = 1.000, and F = 0.000. Each course earns grade points by multiplying the points corresponding to the letter grade by the number of credit hours for the course. A student’s grade-point average equals the number of grade points divided by the number of credit hours attempted. For example, if a student earns an A-, a B+, and a C in three 3-credit-hour courses in one term, he or she would be credited with 27 grade points ( $11.1 + 9.9 + 6 = 27$ ) and the grade-point average for the term would be a 3.000 ( $27 \div 9 = 3.000$ ). If those grades were A, B, and F, the grade-point average for the term would be 2.333.

## **Class Attendance**

Regular class attendance is expected of all students, although the instructor of each course sets the attendance standard for that course. A student who is absent from class for any reason should contact the instructor.

The College expects attendance on the first and last day of a term as well as the class days immediately preceding and following College holidays. If there is a waiting list for a course, the instructor may remove from the course roster any student who is absent the first day, unless the student has notified the instructor in advance of his or her absence. Generally speaking, however, absence from a class does not constitute withdrawal from a course.

## **Medical Conditions**

Students are cautioned that participation in some classes requires the use of chemicals and/or physical exertion. Therefore, students with such conditions as pregnancy, asthma, and skeletal or muscular disorders are encouraged to consult with the faculty member and/or physician(s) prior to participating in such classes so that proper precautions can be taken to prevent injury or exposure.

## **Prolonged Illness**

Students unavoidably absent from classes because of illness should keep in touch with the Dyson Wellness Center, faculty advisors, and instructors. Students who must be absent from classes longer than three weeks may be instructed to withdraw from some or all courses. The usual criteria for withdrawal is applied except that the date of withdrawal is calculated as the date on which illness first prevented attendance in classes.

## **Other Interruptions of Attendance**

Students in good standing who transfer to another institution where they remain in good standing and who wish to return to North Central may be readmitted through arrangements with the Office of Admission.



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## Stopping Out

A student who withdraws from North Central for one term and then returns may continue to use graduation requirements detailed in the catalog that was in effect when the student first enrolled. Students who stop out longer than one term (excluding Summer) must use the catalog that is in effect when they reenter; such students must also reapply for admission.

## Withdrawal

Any student contemplating withdrawal from all coursework in a given term should contact the Office of the Dean of Students. The amount of refund for complete withdrawal is governed by the date on which withdrawal procedures are completed in the Registrar's Office. Students contemplating withdrawal from North Central in mid-term should consult the Business Office and the Office of Financial Aid if they are receiving financial aid, because withdrawal may prove to be more expensive than they realize.

## Dean's List

This honor is reserved for those full-time students whose grade-point average for the term is 3.600 or higher. Part-time students are recognized at the end of each academic year if they have earned at least eight credit hours with a cumulative grade-point average of 3.600 or higher during the academic year in which they were enrolled as part-time students.

## Academic Probation and Dismissal

Students falling behind in their studies to the point where the degree may soon be out of reach are placed on academic probation. This action warns the student and the faculty advisor that real problems exist in motivation or study skills, and that they must be diagnosed and addressed. The student who cannot reverse direction after a period of probation will be dismissed from the College.

A student is placed on academic probation at the end of any term in which his or her cumulative grade-point average falls below 1.800 before the completion of 27 credit hours (below 2.000 after the completion of 27 credit hours) or at the end of any term in which the grade-point average for that term is below 1.500. Probation is defined as not in good academic standing.

A student is subject to dismissal after two terms on academic probation — consecutive or interrupted. A student is also subject to dismissal immediately after any term in which his or her grade-point average for the term is below 1.000.

The student who is notified of dismissal may appeal the decision in writing to the chair of the Academic Standing Committee. A dismissed student may apply for readmission after one year upon demonstrating an improvement in motivation or preparation for college work.

## Academic Dishonesty

Any instructor who has assembled evidence of plagiarism will first offer the student a chance to provide an alternate explanation of the evidence or to admit fault. If the inference of plagiarism remains, the instructor may choose one of these options, listed in order of increased severity according to the extent and evident deliberateness of the deceit. The first two options suppose that the plagiarism is not extensive, that it would not have given the student substantial academic advantage such as full course credit or high course grade, or that the instructor has clear reasons to believe that the plagiarism can be accounted for by ignorance, which, though subject to discipline, is genuine.

1. Reprimanding the student and requiring either a revision of the work or an additional paper or exam
2. Lowering the grade for the paper or exam (even as far as F) without opportunity to regain the lost credit

The remaining three options come into play if the plagiarism is extensive, if it gave the student substantial academic advantage, or if the student had previously been warned against it.

3. Directed withdrawal of the student from the course
4. Failure of the student for the course
5. Referral of evidence to the dean of faculty for appropriate disciplinary action (which may go so far as suspension or dismissal)

Any sanction beyond 1) will be reported to the Dean of Faculty for notation in the student's file. The record of past plagiarism for a given student may affect the disposition of any new case. No notation will appear on the student's permanent transcript, nor will any notation be sent off campus with the student's records.

## **Eligibility for Athletics**

To represent North Central in intercollegiate athletics, a student must comply with regulations of the College Conference of Illinois and Wisconsin (CCIW) and the National Collegiate Athletic Association (NCAA). For questions regarding athletic eligibility, contact the faculty athletics representative or the registrar.

## **General Petitions**

Students wishing exemptions from all-College or specific degree requirements must file a General Petition with the registrar, explaining the reason for the request. All persons related to the petition (e.g., the instructor, a physician, and the faculty advisor) should sign the petition and attach all supporting documentation.

## **GRADUATION**

### **Multiple Degrees**

A student wishing to earn both a B.A. and a B.S. degree, whether from North Central College or in conjunction with a degree previously earned at another college or university, must earn at least 30 additional credit hours — beyond the requirements for the first degree — at North Central. Students may not earn two identical degrees from the College.

### **Completing An Additional Major or Minor After Graduation**

A student who has received a B.A. or a B.S. degree from North Central may complete the requirements for an additional major or minor after graduation, subject to the following restrictions.

The student must supply official transcripts documenting all undergraduate or graduate course work from colleges and universities attended after earning the NCC bachelor's degree. North Central accepts in transfer only that undergraduate course work that applies to the additional major. CLEP, experiential, and advanced placement credit are not accepted after the North Central degree has been earned. At least nine credit hours in the additional major and/or six credit hours in an additional minor must be earned at North Central College. All coursework must be completed within two years of the date the original degree was earned.

## Major/Minor

Each major and/or minor must be declared by filing a Major/Minor Declaration Form in the Office of the Registrar. Transfer students must take at least nine credit hours in the major and six credit hours in the minor at North Central. A 2.000 grade-point average is required for all courses which may count toward the major or minor. Students must declare their major by the Spring term of the sophomore year. Transfer students should declare their major during their first term of enrollment at the college.

## Maximum Credits

The maximum number of credit hours which may be taken in one department is 51 (one credit hour is equivalent to one semester hour or one and one-half quarter hours). Students who wish to exceed the maximum may do so by earning extra credit hours beyond the 120 required for the degree. Some programs may also require more than 51 credit hours—for example, the Athletic Training program requires 51.5 hours of HPE credit, so a minimum of 120.5 credit hours is needed to graduate.

Unless an exclusion is given elsewhere in this catalog, the 51 credit hour maximum applies even to courses which are not accepted for the major in that department (e.g., CHM 100).

Any course which can count toward a major or minor does count. At least nine hours of coursework in each major and at least six hours of coursework in each minor must be unique. If fewer hours of coursework are unique, the student must complete an equivalent number of additional elective hours in the major or minor. A single course may be used to satisfy requirements in the case of double majors, majors and minors, and interdisciplinary or intradisciplinary majors and minors with overlapping course requirements. Note: required support courses are not considered part of the major or minor.

A maximum of 12 credit hours earned through independent studies and internships, including Richter study, may be applied toward the 120 credit hours required for graduation. Formal courses attended at another institution are not included in this restriction. The maximum number of credit hours which may be earned through CLEP or experiential credit is 28, but such credit may not be applied towards the residency requirement unless the student will complete at least 36 classroom credit hours at the College.

## Degrees and Commencement

All work for the degree must be completed and all documentation received in the Office of the Registrar on or before the last day of the examination period for that term. Students completing all requirements for the degree in any term receive the degree on completion of that term and are recorded as members of the graduating class for that academic year.

Students who are graduating in June are expected to attend commencement. Students completing requirements for the degree at other times during the academic year may elect to participate in commencement the following spring.

In addition, students may be granted permission to participate in the commencement ceremony before completing all requirements if:

1. they have a graduation application approved by the registrar on file,
2. their current cumulative grade point average is 2.000 or higher (3.000 for graduate students) and 2.000 or higher in their major, and
3. they are registered for and will complete graduation requirements by the end of Summer Term, or they are within one course of graduation at the end of Spring Term but cannot complete that course until Fall Term because the course is not offered in summer.

Students who qualify and wish to take advantage of this option must file both the Commencement Participation Form and the Graduation Application form in the Office of the Registrar on or before the third Monday of Winter Term indicating their intent to participate in the commencement ceremony. If either of these forms is submitted after the third Monday of Winter Term, the late fee structure detailed on page 26 is in effect.

### **Graduation Honors**

The B.A. and B.S. degrees are awarded *summa cum laude* (with highest honor) to any student whose final cumulative grade point average is 3.900 or higher. The degree is awarded *magna cum laude* (with much honor) to any student whose final cumulative grade point average is 3.750 or higher, and the degree is awarded *cum laude* (with honor) to students whose final cumulative grade point average is 3.500 or higher. The final cumulative grade point average used to compute eligibility for graduation with honors includes all coursework taken at North Central and all coursework accepted in transfer from other institutions.

# THE ACADEMIC PROGRAM

## Academic Objectives

Course work at North Central College is divided into three components: general education, exploration, and the major. Each occupies about one-third of the student's college experience.

- **General Education** — The core complements the majors by introducing students to the liberal arts, giving particular attention to writing, communication, and critical thinking. All-college requirements enhance the integrative and interdisciplinary aspects of the core by making connections across areas of study and by addressing problem-solving from a variety of perspectives. Students complete 42.5 to 48.5 credit hours within general education.
- **Major** — Each North Central graduate must complete a major. The major provides depth and focus in a subject which may relate to the student's career choice. Requirements for majors are listed under department, division or interdisciplinary program headings; most require 30 to 51 credit hours. Some students are able to complete two majors. A few develop individualized majors.
- **Minor** — A student may decide to complete a minor as an optional part of their curriculum (some students may be required to complete a minor as part of their major course of study). Requirements are listed under the various department and interdisciplinary program headings.
- **Exploration** — Although credit hours completed to fulfill general education and the major account for between two-thirds and three-quarters of the student's academic program, for most students some 35 credit hours may be selected virtually without restriction except where prerequisites are required. Exploration studies may come early or late in a student's education. Those which come early may help the student choose a major. Those which come later, such as international study, Washington Term, internships, or independent studies, may help the student make useful connections between a chosen major and other interests. Many students use the exploration component to develop a second major or a minor.

## The General Education Curriculum

General education at North Central College offers an interdisciplinary and integrative approach to education over the course of a student's academic career. Core courses from across the curriculum introduce students to the liberal arts and sciences, giving particular attention to writing, oral communication, and critical thinking. Interdisciplinary components of the core make connections among areas of study to enrich insight and to reveal alternative ways of seeing.

Emphasizing interdisciplinary themes, collaborative learning, and problem-solving from multiple perspectives, all-college requirements build upon the core. Pursued concurrently with studies in the majors, they prepare students for entering a world in which communication across specializations and the ability to place subjects in multiple contexts play as significant a role as professional expertise. All-college requirements emphasize three themes and contexts that prepare students for a lifetime of learning: religion and ethics; intercultural and global studies; and leadership, ethics, and values.

### The Core

The core courses provide a foundation of skills and approaches to learning that are integral to a liberal arts education and to a lifetime of learning. Students are introduced to:

*Composition:* the study and practice of writing with an emphasis on planning, drafting, analysis, argument, and research methods within multiple contexts

*Speech Communication:* study which promotes an understanding of the nature of the speech communication process through emphasis on and practice in public, interpersonal, and/or small group communication

*Mathematics:* study and practice which cultivate the ability to engage in mathematical reasoning and problem-solving

*Life and Physical Sciences:* investigation of the process and/or products of the scientific method in the life and physical sciences

*Humanities and Fine Arts:* study of intellectual and cultural expression as approached through historical, cultural, and aesthetic contexts

*Social Sciences:* study in the social and behavioral sciences leading to an appreciation of human continuity and change

*Integrative and Interdisciplinary Study:* Inquiry and practice which cultivate the ability to analyze, integrate, and apply different disciplinary perspectives to an area of study.

### **Integrative Components of the Core**

*Interdisciplinary First-Year Seminar* — IDS 125 (or ENG 125) is the gateway seminar for an integrative academic program that promotes reading, writing, critical thinking, and integrative inquiry across the curriculum. These seminars emphasize the study of topics that benefit from multi-disciplinary perspectives. Topics vary from section to section, reflecting themes from across academic programs.

### **All-College Requirements**

The College's commitment to interdisciplinary and integrative themes continues into the junior and senior years at North Central, when students' development in the major course of study allows for more advanced consideration of topics that benefit from increased attention to context and interdisciplinary approaches to inquiry. All graduating students complete the following requirements:

*Religion and Ethics:* Students are asked to examine ethical and religious ideas, traditions, and issues through one of a variety of courses that meet the requirement, including designated courses in the departments of Philosophy, Religion, and History of Ideas. Courses in the core, ACR seminars, or electives may be used to fulfill this requirement.

*Intercultural Seminar\*:* Incorporating an interdisciplinary approach, varying topics are addressed from global, international, or multi-cultural perspectives. These seminars invite students to explore problems that benefit from a multi-national solution, to examine the world-view of a culture outside the United States, or to examine the multicultural heritage and contemporary multicultural experience of North America. The intercultural requirement may also be fulfilled through participation in an approved study abroad program.

*Leadership, Ethics, and Values Seminar\*:* Offered within majors as well as in divisional or interdisciplinary courses, the LEV seminars examine varying topics with an emphasis on how leadership, ethics, and values interact. The seminars offer students a context for analyzing one or more social, political, or cultural problems and for considering the nature of leadership, ethics, and values themes in relation to their majors or other areas of special interest. These LEV seminars offer an integrative capstone experience that links general education perspectives and skills to advanced studies.

\*The courses used to fulfill the two ACR seminars must be drawn from two different disciplines and must be taken at North Central.

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## First-Year Experience Program (FYE)

FYE is North Central's first-year experience program. This program is designed to encourage a successful transition from high school to college. Continuing throughout the first year, FYE connects students with the information, the people, and the resources needed for a rewarding North Central College education.

FYE has several interrelated parts. It begins with summer orientation — a one day introduction to North Central's curriculum, technologies, and campus. During this time, students also have the opportunity to meet their faculty advisors and to sit in on a sample class. At the end of the day, students are also given this year's summer reading — Will Allen's *The Good Food Revolution*.

When students return to campus in September, Welcome Week provides a more thorough opportunity to become familiar with the campus, meet fellow students, and prepare for the academic and social opportunities of college life. During this week, students also begin the Fall FYE 100 course — a course taught by their faculty advisor and organized around a real-world case study connected to the summer reading.

As the FYE 100 course concludes, faculty advisors will meet with students throughout the year to help devise their four year curricular and non-curricular plans, and to alert students to all the opportunities (study abroad, academic clubs, athletic teams, community engagement) that a North Central College education can provide. During D-Term, students will have the opportunity to engage in a service learning experience.

## History of Ideas

The History of Ideas option provides motivated students with an opportunity to meet many of their general education requirements in an alternate manner. The program gives students the opportunity to read and discuss primary texts in a seminar format. An interdisciplinary approach is emphasized, drawing upon the fine arts, history, literature, philosophy, political science, religion, and the social sciences. The five-course sequence, HOI 102-203, is divided as follows: Greek and Hebrew Thought, Roman and Christian Thought, Medieval Thought, Early Modern Thought, and 19th and 20th Century Thought. Each course is designed as an honors class, open to College Scholars and to other students who seek a stimulating interdisciplinary experience. For students interested in pursuing advanced work in the History of Ideas, the sequence also provides a foundation for the History of Ideas minor.

## College Scholars

The College Scholars Honors Program was created at North Central College in order to 1) attract students capable of superior work and invite them to be part of a "community of excellence," with increased opportunity for challenging and broadening intellectual experiences; 2) develop a coherent set of academic experiences emphasizing interdisciplinary study, individualized research, global learning, and the cultivation of leadership and teamwork skills within a community of highly-motivated peers; and 3) provide a range of social and academic activities that encourages honors students to build relationships with each other, professors, and honors students from other institutions (through state, regional, and national honors conferences). The College Scholars Program is open to students from all academic disciplines, and its curriculum can fit with any of North Central's majors or minors.

Based upon high school records, test scores, and academic interests, some students are invited to apply to College Scholars as incoming first-year students. For other interested students, including transfer students, admission can be granted by submitting an application and letter of faculty recommendation to the

College Scholars Committee at any point during the year. Once admitted, a student must maintain a cumulative GPA of 3.0 or higher, and a cumulative honors GPA of 3.0, in order to remain in the program.

The title of College Scholar is bestowed upon graduating students who have completed all the specified program requirements. Each student in the program who completes the curriculum is recognized as a “College Scholar” at Commencement and on all official transcripts distributed by the Office of the Registrar. For further information about the program specifics, see the Honors section on page 164.

## **Interdisciplinary Studies**

North Central has long maintained a commitment to interdisciplinary study. Interdisciplinary courses, drawn from two or more academic departments, express the College’s conviction that knowledge flows across disciplinary boundaries. These courses promote the mutual enrichment of fields of inquiry and encourage an integrative and holistic approach to research and problem solving. Courses with an interdisciplinary focus can be found co-listed under two departments, listed under a divisional designation, or, when they involve courses from more than one division, listed under Interdisciplinary Studies (IDS). North Central’s general education curriculum features team-taught courses, interdisciplinary seminars, and course clusters that promote interdisciplinary and integrative inquiry. Interdisciplinary majors or minors are offered as fully developed multi-disciplinary programs in such areas as East Asian Studies; Environmental Studies; Gender and Women’s Studies; Global Studies; History of Ideas; Interactive Media; Leadership, Ethics, and Values; and Urban and Suburban Studies. Students may also choose to develop an individualized major with an integrative emphasis in consultation with the Director of Integrative Programs and the Academic Standing Committee.

## **LEV - The Leadership, Ethics, and Values Program**

Leadership, ethics, and values are hallmarks of a North Central College education. Recognizing the need for responsible, values-sensitive leaders in business, government, the professions, and service organizations, North Central has developed a distinctive, comprehensive program of courses and co-curricular activities designed to help students develop their own leadership capabilities. It is the College’s conviction that students who develop skills in leadership enhance their prospects for meaningful work, rewarding careers, and the personal satisfaction that comes from taking the initiative and engaging others in the pursuit of worthy goals.

The Leadership, Ethics, and Values Program is successful if it touches each student in some way that advances our institutional mission of creating “productive, principled, and involved citizens and leaders over a lifetime.” The College has created a rich variety of LEV options for students including academic coursework, Leadership and Ethics Concentrations, academic degree options and co-curricular activities with depth and meaning. Students complete an advanced level seminar that focuses on LEV themes. LEV courses at the introductory and advanced levels offer opportunities to study the emergence and exercise of effective, moral leadership under various complex conditions which characterize our society and our world (see *Courses of Instruction* for descriptions). The LEV program also offers students three minors concerned with leadership, social change, and conflict resolution. Non-credit workshops help students develop leadership skills which can be practiced in campus and community activities. The program also sponsors — frequently in association with other campus groups — a range of conferences, speakers, and seminars which bring to the campus academic experts on values and applied ethics, as



well as recognized leaders in the professions, business, and government.

Please see the Leadership, Ethics, and Values Program section of the catalog for further details on academic opportunities.

## **Individualized Instruction and Off-Campus Study**

**Directed Study** is the study of a course listed in the catalog on a tutorial basis. With the approval of the department chair and the division chair, a directed study is limited to rare cases for juniors and seniors.

**Independent Study** is the study, on a tutorial basis, of a topic not covered in course offerings listed in the catalog. With the approval of the department chair, the student and the faculty member agree upon the subject, but the responsibility for developing and completing the independent study lies primarily with the student.

Independent study opportunities are listed as course numbers 299, 399 and 499. They are normally available to juniors and seniors and require a 3.0 cumulative grade point average or a 3.0 grade point average in the major.

The first draft of the completed independent study form must be submitted to the supervising faculty member no later than the seventh week of the term prior to the term in which the independent study is to be completed. Application forms must be received in the Office of the Registrar no later than the first day of the term in which the student plans to do the independent study.

**Richter Independent Study Fellowships** provide North Central students an opportunity which is truly distinctive among undergraduate institutions. Grants up to \$5,000 are awarded for independent study projects of unusual merit and scope. These projects normally require fieldwork, first-hand observation, interviews, or access to primary information sources. Recent projects have involved travel abroad to Europe, Africa, Asia, and Latin America. In addition, small grants are available for faculty-led group projects and travel grants are available for participation in academic conferences. Applicants must be enrolled in an undergraduate degree program and must be in good academic standing. Selection is competitive and is made by the Richter Independent Study Committee on the basis of an evaluation of proposals submitted by interested students. Detailed information as to the proposal process and the selection criteria is available in the Office of Academic Opportunities.

**Internships** give students an opportunity to apply their general liberal arts background to the professional work environment. The corporate and scientific communities in the area near North Central provide excellent opportunities for students to enrich their classroom experiences in this manner. Students may participate in an internship experience either for academic credit or on a non-credit basis.

Through credited department-based internships — courses numbered 297, 397, and 497 — the student, in conjunction with a faculty supervisor and an on-site supervisor, designs a course of study that explores a particular subject in the context of the work environment. Each credit hour of internship requires a minimum of 50 hours on-site field experience and 10 hours of academic research and writing. Concurrent registration in a non-credit section, graded pass/no pass, is used to denote that all hours of the field experience are complete. Students must complete and submit the Internship Agreement Form prior to beginning the on-site experience. The internship must be completed by the end of the term in which the student receives academic credit. If the required hours are not verified by the on-site supervisor, the non-credit section receives a no pass grade, and a failing grade is assigned to the credited section. Similarly, if the student receives a failing grade in the credited section, a grade of NP is assigned to the non-credit section.

Non-credited internships are also available through Career Development. A minimum of 150 hours of on-site field experience is required for notation of the non-credited internship on the academic transcript.

**SIROL (Student-in-Residence-on-Leave)** status allows a student to attend a special program at another accredited institution in the United States while remaining officially enrolled at North Central. The student may participate in a Study Abroad program sponsored by another American college or university (arrangements are made through the study abroad advisor) or attend such programs as the Washington Term at American University in Washington, D.C. (arrangements are made through the chair of the department of political science and the study abroad advisor). SIROL status is normally granted for a maximum of one academic year.

**Study Abroad** is encouraged by North Central to enrich the academic and personal experiences of students. The College currently sponsors the following study abroad opportunities: student exchanges in Nagoya, Chiba, Kyoto, Iwate, and Tokyo, Japan; Seoul, South Korea; Singapore; Taichung, Taiwan; Belfast, Northern Ireland; Angers, France; Istanbul, Turkey; Seville, Spain; Canterbury, England; Nairobi, Kenya; Athens, Greece; and Växjö, Sweden; term study abroad/ internship programs in San José, Costa Rica; Canterbury, England; Beijing, China; and Kyoto, Japan; and direct enrollment programs in Australia, England, Germany, Ghana, India, Ireland, Italy, Jordan, Mexico, Peru, People's Republic of China, and Scotland. In addition, programs are available through ANAC (Association of New American Colleges), Global Student Teaching, and SIROL.

Study abroad must be planned and arranged in consultation with the study abroad advisor by the end of the winter term of the year preceding the academic year in which the student plans to study abroad. Such study, undertaken without prior approval of the study abroad advisor, may not be accepted for credit at North Central.

**Consortium Exchange** coursework is available to North Central students through the College's membership in the Council of West Suburban Colleges (CWSC). North Central degree candidates may cross-register for courses at Aurora University or Benedictine University as part of their regular course load without additional tuition. Information is available in the Office of the Registrar.

**A Botany Program** in which North Central students may enroll in a variety of courses for credit is available at the Morton Arboretum in nearby Lisle, Illinois. A number of the courses in the program are repeated in a two-year cycle. Information is available from the department of biology.

**A Marine Science** option is available to North Central students through the College's affiliation with the Gulf Coast Research Laboratory in Ocean Springs, Mississippi. Students may arrange to study for credit at the laboratory which offers courses, research facilities, and field trips primarily in the summer. Room and board are available there. Information is available upon request from the department of biology, and registration can be arranged through the Office of the Registrar.

## **Pre-Professional Programs**

**Pre-Health** — The Pre-Professional Health Program provides support and guidance to students planning for careers in healthcare. Students work toward a B.A. or B.S. degree at North Central in a major of their choosing based on their interests, skills, and abilities. They apply for admission to a health professions

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program, typically in the junior or senior year of college, and begin that program following graduation from North Central. Pre-health areas include dentistry, medicine, nursing, occupational therapy, optometry, pharmacy, physical therapy, physician assistant, podiatry, and veterinary medicine.

Admission to health professions programs (masters or doctoral) is a competitive process based on academics and activities achieved prior to applying for the program. North Central's designated Pre-Professional Health Program Coordinator serves as a critical resource in identifying the academics and activities needed to be a competitive applicant, provides guidance and support during the application process, and arranges for mock interviews as students prepare for the final steps prior to acceptance to their preferred programs. Prerequisite coursework varies for individual health professions programs, with common courses required in biology, chemistry, physics, math, and psychology.

A wide range of support services is available to students preparing for careers in healthcare. The Pre-Health Organization (PHO), a student-led branch of the Student Government Association (SGA), was created to instill cooperation, education, and a sense of community among pre-health students. The PHO sponsors a health professions speakers series, makes recommendations for healthcare related volunteer opportunities, and identifies research opportunities for current students. In addition, the PHO reaches out to alumni that have achieved success in various health professions and encourages them to serve as mentors for North Central students.

Interested students should contact the Pre-Professional Health Program Coordinator or a member of the PHO executive board for more information.

**Affiliate Program in Nursing** — North Central College students are eligible for preferential admission to the Graduate Entry Master's (GEM) program at Rush University College of Nursing.

North Central students select a major of their choosing and complete specific prerequisite courses for the GEM program. Interested students apply to the GEM program during their senior year at North Central and begin the program in the Fall or Spring following graduation from North Central. Contact North Central College's Pre-Professional Health Program Coordinator for information about the program and prerequisite coursework.

**Engineering** — North Central's dual-degree engineering program allows a student to earn both a bachelor of arts degree from North Central after four years of study and a bachelor of science degree from an engineering school after five years of study. The typical program involves three years of study at North Central, followed by two years of intensive course work in engineering at a school of engineering. During the first three years the student takes courses in chemistry, computer science, mathematics and physics — the foundation of engineering — as well as all the liberal arts courses needed for the B.A. degree. Upon successful completion of North Central's pre-engineering program, the student is recommended for admission to a cooperating school of engineering where two more years of study can lead to the B.S. degree in engineering. Formal agreements exist between North Central and the University of Illinois at Urbana-Champaign and the University of Minnesota. However, a student may complete the final two years of the program at any accredited school of engineering, subject to the approval of the chair of the department of physics. Students should note that completion of North Central's requirements does not automatically result in admission to a school of engineering. Interested students should contact a member of the faculty in the department of physics for more information.

**Pre-Law** — The pre-law program at North Central College prepares students for admission to and success in law school. In coordination with the NCC chapter of Phi Alpha Delta, the international law honor society, an atmosphere of intellectual exchange and challenge is provided through courses, programs and individual consultation among students and pre-law faculty advisors.

Following the recommendations of the American Bar Association's statement on pre-law education (<http://www.abanet.org/legaled/prelaw/prep.html>), students are encouraged to take the most demanding courses they can find to prepare for their careers. Specifically, preparation for law school involves striving for excellence in the following skills and areas of knowledge: problem solving, critical reading, writing, oral communication and listening, research, task organization and management, and a value for helping others and striving for justice.

There is no curricular track for pre-law at NCC: students matriculate into reading- and writing-intensive majors. While students of nearly any major can be admitted to and are successful in law school, the humanities, natural sciences, and social sciences are recommended areas of study. Many pre-law students participate in NCC's excellent co-curricular programs, acquiring leadership experience crucial in a legal career. Some of the many relevant opportunities available are: The Mock Trial and Model UN teams, the Dispute Resolution program, internships, and opportunities for service and travel in the U.S. and abroad.

Interested students should contact the current student president of NCC's chapter of Phi Alpha Delta, the NCC Pre-law club, or one of NCC's pre-law advisors.

### **Reserve Officers Training Corps (ROTC)**

North Central students are eligible to participate in two- and four-year ROTC programs leading to a commission in the U.S. Army or the U.S. Air Force. The four-year programs are open to entering freshmen, while the two-year programs are intended for junior-level transfer students or students with prior military service. ROTC classes are taught at Wheaton College (Army) and the Illinois Institute of Technology (Air Force). Students should contact the ROTC office at the appropriate institution to register for ROTC classes and to inquire about financial aid.

A maximum of ten North Central College credit hours (ten semester hours) of military science course work is accepted in transfer toward a North Central College degree. Prior to registering for ROTC course work, students should consult with the Office of the Registrar at North Central to verify which course work will be accepted in transfer. The student must also request that a transcript be sent to the North Central College Registrar after each term in which military science course work is completed.

### **Academic Support Services**

**Advising and Faculty Advisors** — Academic advising by qualified faculty members and close rapport between the student and the faculty advisor are part of North Central's supportive atmosphere. Upon entering the College, each student is assigned a faculty advisor, although the student may later make a personal choice of a faculty advisor. With help from the advisor, each student plans an individualized academic and co-curricular program, normally a year at a time. Later adjustments to the program are made as needed or desired. However, students are expected to assume the responsibility for planning their academic programs in accordance with College regulations, policies, and requirements.

**Academic Support Center** — The ASC offers free peer tutoring programs to students who need additional academic assistance. Study Group is a weekly

drop-in session for students in select 100- and 200- level courses. Tutors are trained to aid with questions, review concepts, and assist students in studying for upcoming tests. EDGE: Structured Study is open to all students, Sunday-Thursday evenings in Geiger Lounge and Kaufman Dining Hall. Tutors are available in Kaufman to help with particular subject areas. Individualized tutoring is also available; students needing assistance contact tutors directly to arrange appointment times. Help with study skills, test taking or other academic skills is available on a referral basis. The Center is located on the second floor of the Larrance Academic Center.

**Disability Support Services** — A wide range of support services is tailored to meet individual student needs. The following services are offered to students with documented learning disorders, attention deficit disorder, and chronic medical or psychological conditions: individualized support and consultation, academic advising, college counseling staff support and consultation, exam accommodations, tutorial support, library research assistance, student self-advocacy training, and study skills/strategies classes, as well as study skill tutoring, liaison and coordination with faculty and other college/community services, referral to private diagnostic evaluation services, referral to DORS, and information on disability related events. Disability Support Services is part of the Academic Support Center.

**Writing Center** — The Writing Center offers support for writing, reading, and critical thinking across all courses. Peer tutors work with students on any aspect of writing, from interpreting assignments and jotting down ideas, to initial drafting and revising. Successful student-writers share their expertise with a wide range of students from across the College looking for a careful reader for their writing. The Writing Center is located on the main floor of the Larrance Academic Center.

## **Office of Graduate and Continuing Education**

**Continuing Education** — North Central College offers the opportunity for adult learners to complete their undergraduate educational goals through courses offered in the evenings or during the day. Adults may earn their first degree, add a second degree, complete elementary or secondary teacher certification requirements, or enjoy a class as a student at-large. Students may complete all requirements for a B.A. or B.S. degree in nine majors through evening classes. This format, designed to maximize learning and facilitate efficient use of students' time, is taught by distinguished faculty members and is available each term. Additional majors are available for adult learners, but may require daytime classes to be included in the scheduling process.

For continuing education students planning to attend classes primarily in the evening, degree programs are offered in accounting, business management, computer science, entrepreneurship and small business management, finance, human resource management, management information systems, marketing, and psychology. In addition to minors in the areas mentioned above, minors in English writing, history, and leadership are also offered in the evening.

The evening course format is designed primarily for continuing education students whose career and personal responsibilities make it difficult for them to pursue a North Central degree during the day. Evening classes meet either two nights per week or in a “jumbo” format one night per week. A special emphasis on assignments completed outside of class supplements class time and ensures that students taking courses in the jumbo format receive the same high quality education as students taking courses in other formats. Students taking evening classes are also eligible to enroll during the day as their schedule permits.

North Central College is committed to meeting the needs of all students in both traditional and non-traditional formats. This commitment ensures that all continuing education students receive individualized academic advising and access to other college services and facilities.

**Graduate Programs** — North Central College offers seven graduate programs which complement and enhance the College’s distinctive educational mission and liberal arts heritage by providing opportunities for advanced scholarly work and professional development:

- Master of Arts Degree in Education
  - Curriculum and Instruction Track
  - Educational Leadership and Administration Track
- Master of Arts Degree in Liberal Studies
  - The Writing, Editing, and Publishing Program
  - The Ethics and Public Policy Program
  - The Culture and Society Program
- Master of International Business Administration Degree
- Master of Business Administration Degree
- Master of Leadership Studies Degree
  - Professional Leadership Course of Study
  - Higher Education Leadership Course of Study
  - Sports Leadership Course of Study
  - Social Entrepreneurship Course of Study
- Master of Science Degree in Web and Internet Applications
- Master of Science Degree in Management Information Systems

North Central also offers graduate certificates for individuals who have earned an undergraduate degree or a graduate degree, and now seek short, more focused programs of study. Certificates are offered in

- |                             |                                    |
|-----------------------------|------------------------------------|
| • Business Foundations      | • Change Management                |
| • Dispute Resolution        | • Finance                          |
| • Gender Studies            | • History and Nature of Science    |
| • Human Resource Management | • Investments & Financial Planning |
| • Leadership                | • Management                       |
| • Marketing                 | • Multicultural Studies            |
| • Organizational Ethics     | • Teacher Leadership               |

Administered by the Office of Graduate and Continuing Education and faculty program coordinators, the graduate degrees and certificates are designed specifically for working adult students. Classes are offered in the evening and on weekends, enabling students to balance work and family responsibilities with their graduate education. Most importantly, these programs are characterized by the same attributes which distinguish North Central’s undergraduate programs, especially

- Faculty recognized for their expertise in and commitment to teaching, as well as their ability to bridge academic theory with current and future professional practices
- Cross-curricular focus on the interrelatedness of knowledge among academic disciplines and professions
- Emphasis on high-level critical thinking, problem-solving, and communication skills
- Small classes providing optimal student-faculty interaction and creating a learning environment which fosters both collaborative learning and individual inquiry
- Personalized academic and career advising by program faculty, counselors and administrative staff
- A “rolling” admissions process allowing for multiple program entry points throughout the academic year

**Integrated Five-Year Bachelor's/Master's Programs** - The College offers four five-year programs leading to both a bachelor's and a master's degree: B.A. or B.S. in Accounting: CPA Track/M.B.A.; B.A. or B.S. in any discipline and M.S. in Web and Internet Applications; B.A. or B.S. in any discipline and M.A. in Liberal Studies; and B.A. or B.S. in any discipline and Master of Leadership Studies. Refer to page 276 or contact the Office of Graduate and Continuing Education for additional details.

### **Learning Outcomes Assessment**

In order to provide for continual improvement in the quality of a North Central education, the College has developed an Outcomes Assessment Program, not just to find out how much and how well students learn, but also how and where they learn. What is discovered through the assessment program is used to make decisions about everything the College does, from curriculum planning to student activities to support services.

While not all students participate in every aspect of the assessment program, each student at North Central is expected to participate as needed in this important effort. Student contributions provide a clearer picture of what it means to be a North Central graduate. Consequently, the College can communicate to employers and others the qualities which they can expect in a North Central graduate.





# COURSES OF INSTRUCTION

## Curriculum

The courses listed herein have been approved by the faculty as authorized by the Board of Trustees. Courses are subject to change through normal academic channels, and information about new courses approved after publication of this catalog can be obtained in the Office of the Registrar or from appropriate departments. Typically, 13.5 hours per week of combined class and study time are expected for each three credit hour course.

The frequency of offering each course is determined by the department or division as demand indicates. Course numbering is intended to reflect the level of preparation which a student should have to enroll in a specific course, but courses are not numbered according to difficulty within a hundred series. Courses numbered below 100 affect the cumulative grade point average, but are not applied to the 120 credit hours required for graduation at North Central College.

## Course Descriptions

For ease of reference, course descriptions on the following pages are listed alphabetically.

The expected offering of each course, prerequisites (if any), and the General Education Requirement(s) which each course fulfills (if any) are noted following each course description. Academic credit for each course is noted after the course title.

If a course qualifies as an Illinois Articulation Initiative (IAI) General Education course, then an IAI code appears to the right of the course title. The letter codes are C (Communications), F (Fine Arts), H (Humanities), L (Life Sciences), M (Mathematics), P (Physical Sciences), and S (Social Behavioral Sciences). Note that some courses meeting NCC general education requirements are not approved by the IAI. Students intending to transfer to another school participating in the IAI are strongly encouraged to take only courses approved by the IAI for general education core requirements.

**Key** — Sample Entry (from Religious Studies)

### **100 Introduction to World Religions (3.00)**

**IAI: H5 900**

An introduction to the major religions of the world. The primary methodology is phenomenological. Special emphasis is given to the beliefs, rituals, sacred texts and ethical dimension of each religion. Core: Humanities. ACR: Religion and Ethics.

(3.00) indicates the amount of credit: three credit hours. Core: Humanities indicates that the course counts towards the Humanities requirement. ACR: Religion and Ethics indicates that the course fulfills the Religion and Ethics all-college requirement.

# Accounting (ACC)

*Associate Professors: David Gray, Gerald Thalmann*

*Assistant Professors: Allison Purcell Hayes, Sarah Lureau*

*Adjunct Faculty: Gerald Hamsmith*

## Mission Statement

The Accounting department is dedicated to providing students with the conceptual knowledge, the skill set, and the appropriate attitude to be successful entrants into the business and professional accounting world. We encourage students to become critical thinkers, develop habits of life-long learning, and take leadership roles.

Degrees offered: A Bachelor of Arts or a Bachelor of Science in Accounting may be completed in one of three tracks — a Certified Public Accountant (C.P.A.) track, a Certified Management Accountant (C.M.A.) track, or a Corporate track. Accounting courses in all tracks emphasize communication skills as well as critical thinking and problem-solving skills. Computer work, cases, and group work are also incorporated in most accounting courses. In addition, students are encouraged to pursue internships at local firms and to interact with practitioners who are invited to campus. Graduates of the accounting program usually seek full-time positions in public accounting, in private industry, or in not-for-profit organizations. Graduates also have the option of attending graduate school to obtain a Master's degree in Accounting, Business Administration, Taxation, or other area of specialization. The Accounting 5-Year Integrated CPA Track at NCC allows North Central College students to obtain a B.A. or B.S. degree in accounting as well as the MBA degree within a five-year period.

## Accounting Major

### C.P.A. Track

A bachelor's degree in the C.P.A. track requires 51 credit hours in accounting, business, economics, and finance. Other courses in economics and mathematics are required to complete prerequisite course work. Transfer students must take at least 12 credit hours in the Accounting Department at North Central College before they graduate. A bachelor's degree and a minimum of 150 credit hours must be completed to be eligible to take the C.P.A. exam.

### B.A. Requirements:

ACC 201	Accounting Principles I/Financial
ACC 202	Accounting Principles II/Managerial
ACC 307	Cost Accounting
ACC 310	Accounting Information Systems
ACC 317	Intermediate Accounting I
ACC 318	Intermediate Accounting II
ACC 319	Intermediate Accounting III
ACC 430	Taxes I
ACC 431	Taxes II
ACC 440	Advanced Accounting
ACC 470	Auditing and Attestation
ACC 490	Seminar: Financial Accounting
BUS 162	Management of Organizations
BUS 168	Marketing

BUS 205	Introduction to Business Law
ECN 252	Macroeconomic Principles
FIN 350	Corporate Finance

Prerequisite Courses (or their equivalents) must also be completed for the C.P.A. track:

ECN 250	Microeconomic Principles
BUS 241	Business and Economics Statistics

**B.S. Requirements:**

A Bachelor of Science in the C.P.A. track requires the completion of the following courses beyond the requirements for the B.A. degree:

CSC 160	Computer Science I
MTH 152	Calculus II
One mathematics elective beyond MTH 152 or one computer science course beyond CSC 160	

**C.M.A. Track**

A bachelor's degree in the C.M.A. track requires 51 credit hours in accounting, business, economics, and finance. Prerequisites in economics and mathematics must also be met. Graduates of the C.M.A. track are eligible to sit for the Certified Management Accountant exam administered by the Institute of Management Accountants.

**B.A. Requirements:**

ACC 201	Accounting Principles I/Financial
ACC 202	Accounting Principles II/Managerial
ACC 307	Cost Accounting
ACC 310	Accounting Information Systems
ACC 317	Intermediate Accounting I
ACC 318	Intermediate Accounting II
ACC 319	Intermediate Accounting III
ACC 430	Taxes I
ACC 440	Advanced Accounting
ACC 470	Auditing and Attestation
ACC 480	Seminar: Managerial Accounting
BUS 162	Management of Organizations
BUS 168	Marketing
BUS 205	Introduction to Business Law
BUS 446	Operations Research
ECN 252	Macroeconomic Principles
FIN 350	Corporate Finance

Prerequisite Courses (or their equivalents) must also be completed for the C.M.A. track:

MTH 130	Survey of Calculus (or higher level course)
BUS 241	Business and Economics Statistics
ECN 250	Microeconomic Principles

**B.S. Requirements:**

Beyond the above requirements for the B.A. degree, a B.S. in the C.M.A. track requires the completion of the same courses as listed above for the B.S. in the C.P.A. track.

**Corporate Track**

A bachelor's degree in the Corporate track requires 36 credit hours in accounting, business, and finance. Prerequisites in economics and mathematics must also be met.

**B.A. Requirements:**

- ACC 201 Accounting Principles I/Financial
  - ACC 202 Accounting Principles II/Managerial
  - ACC 307 Cost Accounting
  - ACC 310 Accounting Information Systems
  - ACC 317 Intermediate Accounting I
  - ACC 318 Intermediate Accounting II
  - ACC 319 Intermediate Accounting III
  - ACC 430 Taxes I
  - BUS 162 Management of Organizations
  - BUS 205 Introduction to Business Law
  - FIN 350 Corporate Finance
- and one of the following:
- ACC 431 Taxes II
  - ACC 440 Advanced Accounting
  - ACC 470 Auditing and Attestation

Prerequisite Courses (or their equivalents) must also be completed for the Corporate track:

- BUS 241 Business and Economic Statistics
- ECN 250 Microeconomic Principles

**B.S. Requirements:**

Beyond the above requirements for the B.A. degree, a B.S. in the Corporate track requires the completion of the same courses as listed above for the B.S. in the C.P.A. track.

**C.P.A., C.M.A., and Corporate Track Recommended Electives:**

- ACC 431 Taxes II (required in C.P.A. track)
- ENG 455 Writing in Technical & Professional Settings
- PHL 210 Professional Ethics
- PSY 270 Industrial Psychology
- SPC 200 Interpersonal Communication
- SPC 214 Group Process
- SPC 230 Business and Professional Communication

**Accounting Minor**

At least 18 credit hours in accounting, including the equivalent of ACC 201, 202, and 317.

**190 Topics in Accounting (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are normally announced in advance and placed in the online schedule of classes. May be repeated with different content.

**201 Accounting Principles I/Financial (3.00)**

An introduction to accounting principles and procedures as they are employed in the communication of financial information to various users, such as management, stockholders, and government agencies. Topics include accounting for assets, liabilities, owner's equity, and other reporting issues.

**202 Accounting Principles II/Managerial (3.00)**

Analysis of accounting for managerial decision-making, planning, and control. Topics include budgeting, variance analysis, traditional and nontraditional product costing methods, cost-volume profit analysis, and financial analysis. Prerequisite: ACC 201.

**290 Topics in Accounting (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are normally announced in advance and placed in the online schedule of classes. May be repeated with different content.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****307 Cost Accounting (3.00)**

Development of accounting information for management decisions. A study of several cost accounting systems, unit cost determination, budgeting, variance analysis, cost allocation systems, and inventory control techniques used for routine and nonroutine management decisions. Prerequisite: ACC 202.

**310 Accounting Information Systems (3.00)**

An introduction to financial and managerial information systems. Topics include developing an understanding of the roles and responsibilities within the functions of accounting information systems, and understanding the relationship between events, financial reports, and resultant managerial decisions. Prerequisites: ACC 317 or concurrent enrollment.

**317 Intermediate Accounting I (3.00)**

Study of Generally Accepted Accounting Principles, APB opinions, and FASB statements, and their applications to financial accounting and financial statements. Topics covered include an in-depth study of cash, receivables, inventory, plant assets, and depreciation and depletion. Prerequisites: Junior standing, ACC 202.

**318 Intermediate Accounting II (3.00)**

A continuation of Intermediate Accounting I. Topics covered provide an in-depth study of intangible assets, investments, liabilities, stockholders' equity, revenue recognition, earnings per share calculations, and financial statement analysis. Prerequisite: ACC 317.

**319 Intermediate Accounting III (3.00)**

A continuation of Intermediate Accounting II. Topics covered include an in-depth study of pensions, leases, deferred taxes, disclosure requirements for business segments, cash flows statement, error analysis, and selected APB and FASB statements. Prerequisite: ACC 318.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****430 Taxes I (3.00)**

(Same as: ACC 530.) Basic concepts of federal income tax laws and their application in individual taxation. Topics include gross income, excluded income, deductions (business, non-business, and employee), tax credits, depreciation, capital gains and losses, installment sales, nonrefundable credits, and bad debts and losses. Prerequisites: Junior standing, ACC 202.

**431 Taxes II (3.00)**

(Same as: ACC 531.) Basic concepts of federal income tax laws and their application primarily to business entities. Topics include corporations,

corporate distributions, partnerships, securities and retirement plans, administrative procedures, and S corporations. Prerequisite: ACC 430.

**440 Advanced Accounting (3.00)**

(Same as: ACC 540.) A study of accounting principles concentrating on the preparation of consolidated financial statements and related topics. Prerequisite: ACC 319.

**460 Accounting For Not-For-Profits (3.00)**

(Same as: ACC 560.) A study of fund accounting as used by not-for-profit organizations such as government agencies, colleges, hospitals, and charitable organizations. Prerequisite: ACC 318.

**470 Auditing and Attestation (3.00)**

(Same as: ACC 570.) A study of standards and procedures related to audit and attest engagements. Topics include the decision-making process, the internal control environment, and the communications for the engagement. Prerequisites: ACC 310, ACC 319, BUS 241. ACR: Leadership, Ethics, and Values.

**480 Seminar: Managerial Accounting (3.00)**

This course explores and analyzes advanced cost management issues faced by modern organizations. An emphasis is placed on emerging issues and their impact on the decision making process of organizations within today's business environment. Prerequisites: ACC 307, BUS 241.

**490 Seminar: Financial Accounting (3.00)**

(Same as: ACC 590.) Topics in financial accounting with an emphasis on emerging issues and the nature of financial accounting standard setting. Repeatable with different topic. Prerequisite: ACC 319.

**497 Internship (0.00-9.00)**

**499 Independent Study (1.00-9.00)**

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## Actuarial Science

See **Mathematics** for a description of courses and programs of study in actuarial science.

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## Anthropology

See **Sociology and Anthropology** for a description of courses and programs of study in anthropology.

# Applied Mathematics

See **Mathematics** for a description of courses and programs of study in applied mathematics.

## Art (ART)

*Associate Professors: Wendy Koenig, Barry Skurkis*

*Assistant Professors: Hale Ekinci, Christine Rabenold*

*Adjunct Faculty: Blair Kamin*

### Mission Statement

The Art department facilitates the development of visually literate students by providing opportunities for growth in both traditional and new media. Students receive group and individualized training in studio art, interactive media, art history, and art education encouraging conceptual, technical, and historical knowledge beneficial to diverse professions and communities.

Exploration in the art department at North Central College is possible both for the art major and for students simply interested in pursuing their creativity. Basic courses in studio work such as foundational design, drawing, painting, and ceramics are structured to encourage students to develop a personal vision and appreciation of the art discipline. Advanced studio courses in ceramics, interactive media, painting, printmaking, figure drawing, and sculpture continue student exploration, critical thinking, and portfolio development. Art History courses investigate works of art from diverse historical periods and regions with attention given to the conditions of their production and viewing, their original functions and meanings, and the roles they play in recording and shaping self perception, cultures, and specific events. The Art History curriculum helps students to develop skills associated with critical reading and the analysis of works of visual art and culture as it fosters an understanding of interpretive and research strategies associated with the discipline.

Art majors seeking a teaching career are assisted by both the Art and Education faculty in designing a program that leads to certification by the State of Illinois. Because of flexible prerequisites in the art program, some students pursue a double major or a major and a minor.

Degree offered: B.A.

### Studio Art Major

48 credit hours, including

ART 107 2-Dimensional Design

ART 110 3-Dimensional Design

ART 120 Drawing I

ART 220 Drawing II

ART 130 Painting I

ART 272 Art History I

ART 274 Art History II

ART 276 Art History III

one course in Ceramics or Sculpture

at least three studio art courses at the 300-level or above

one art history course at the 300-level or above

a senior art exhibit

## Studio Art Major leading to certification in Art Education

51 credit hours in Art, including

A. Eight required courses:

- ART 107 2-Dimensional Design
- ART 110 3-Dimensional Design
- ART 120 Drawing I
- ART 220 Drawing II
- ART 264 Non-Western Art Survey
- ART 272 Art History I
- ART 274 Art History II
- ART 276 Art History III

B. One course in each of the following areas:

- Painting
- Figure Drawing
- Ceramics
- Printmaking
- Sculpture

C. Required art electives:

Three studio art courses at the 300-level or above (total 9 semester hours)  
a senior art exhibit

D. Required support courses:

- EDN 331 Elementary Art Methods
  - EDN 332 Elementary Art Practicum
  - EDN 338 Secondary Art Methods
  - EDN 371 Practicum Secondary Content Area
- A minor in Secondary Education is also required.

NOTE: For teacher certification general and professional education requirements, consult the education department.

## Studio Art Minor

18 credit hours, including one course in each of the following areas:

- Drawing
- Design
- one art history course
- one art course at the 300-level or above

## Art History Major

The major in Art History requires 30 credit hours in Art History and 15 credit hours in support courses outside of the Art department. Students are required to complete at least 9 credit hours (or the equivalent to the level of MCL 103) in foreign language study.

A. Core Art History Requirements (18 credit hours):

- ART 261 Chicago Art and Architecture
- ART 264 Global Art Survey
- ART 272 Art History I: Prehistoric to Medieval Art
- ART 274 Art History II: Renaissance to Rococo Art
- ART 276 Art History III: Late 18th Century to Contemporary Art
- ART 360 Art Theory and Criticism

B. Art History Upper-Level Electives (12 credit hours)

Choose at least four of the following courses:

- ART 370 Art of the Nineteenth Century
- ART 371 African-American Art
- ART 374 Art of the Twentieth Century I: 1900-1950
- ART 376 Art of the Twentieth Century II: 1950-Present
- ART 397 Internship



- ART 399 Independent Study  
 ART 470 Art History Seminar  
 ART 497 Internship  
 ART 499 Independent Study
- C. Required support courses:  
 PHL 220 Aesthetics
- Choose at least one of the following courses:  
 CLS 101 Introduction to Ancient Greece  
 CLS 102 Introduction to Ancient Rome  
 CLS 250 Classical Mythology  
 CLS 255 Greek and Roman History
- Choose at least three of the following courses:  
 ENG 201 Critical Methods in English Studies  
 ENG 240 Introduction to Film  
 ENG 260 Integrating Word and Image  
 ENG 340 Global Film  
 FRN 380 French Cinema  
 GWS 350 Gender and World Religions  
 GWS 389 Gender and the Mass Media  
 HOI 102 Greek and Hebrew Thought  
 HOI 103 Roman and Christian Thought  
 HOI 201 Medieval and Renaissance Thought  
 HOI 202 Early Modern Thought  
 HOI 203 19th and 20th Century Thought  
 HST 330 East Asian Thought  
 PHL 260 Ancient and Medieval Philosophy  
 PHL 270 Early Modern Philosophy  
 PHL 280 Modern Philosophy  
 REL 210 Old Testament  
 REL 215 The Evolution of God  
 REL 220 New Testament  
 REL 230 Gender in the Judeo-Christian Traditions  
 REL 235 Sexuality and Christianity  
 REL 245 Religion and Ethics in Film  
 REL 255 Religions of India  
 REL 260 Religions of China  
 REL 265 Religions of Japan  
 REL 270 Judaism  
 REL 280 Islam and the Middle East  
 REL 315 Buddhism  
 REL 330 Contemporary Christian Theologies  
 REL 340 Sociology of Religion  
 REL 344 Religion and the Political Order  
 REL 345 Religion, Ritual and Symbol  
 REL 355 The Historical Jesus

### Art History Minor

The minor in Art History requires 18 credit hours in Art History. Students may combine the Studio Art major with a minor in Art History.

### 100 Introduction to Visual Literacy (3.00)

(Same as: IMS 100.) An art survey of the theories and practice of visual forms, especially as applied in interactive media. Theoretical instruction may include narratology, ut pictura poesis (relationships between word and image), and/or postmodernism; students engage these and other theories in constructing imagery.

**105 Art Through Photography (2.00)**

The study and practice of photography as visual expression and communication through picture taking, feedback, and critique. No darkroom work. 35 mm camera required.

**107 2-Dimensional Design (3.00)**

Exploration, study, and application of the basic elements of art and the principles of design. Course objectives include acquisition of technical skills and introduction to a variety of materials.

**109 Image Processing (1.50)**

(Same as: IFS 109.) Processing of photographic and digital imagery to enhance communication and meaning. Topics include: representation of digital images, digital manipulation techniques, the use of images in web pages and video production, and the use of digital editing applications such as Adobe Photoshop.

**110 3-Dimensional Design (3.00)**

The study of design elements and principles through the form and structure of three-dimensional space. The acquisition of technical skills and the introduction to a variety of materials.

**117 Silver Photography I (3.00)**

An introduction to the basics of black and white 35 mm photography. This course includes lectures, demonstrations, and hands-on experiences. Students learn camera operation, film exposure, black and white negative and print development, composition, and presentation. Students are required to provide their own 35 mm camera with manual override. Core: Humanities.

**120 Drawing I (3.00)**

A course designed to develop the ability to draw with ease and flexibility. Instruction in the use of a variety of materials combined with the elements of art to provide the fundamentals in visual perception. An exploration of ideas in imagery and self-expression. Core: Humanities.

**130 Painting I (3.00)**

A course designed for the experience of self-expression through painting. Exploration of the fundamentals of color theory and technique. Development of personal imagery with a parallel enhancement of basic skills and structural knowledge. Recommended prerequisites: ART 107, ART 120. Core: Humanities.

**135 Watercolor Painting (3.00)**

An introduction to watercolor painting through exploration of materials, techniques, and history. Enhancement of the student's abilities to make personal visual statement. Recommended prerequisites: ART 107, ART 120.

**140 Oriental Brush Painting (3.00)**

An introduction to Chinese watercolor painting through practice in the use of oriental brushes and ink in both calligraphy and painting and study of seventeenth-century Chinese painter's manual and techniques.

**141 Designing Graphics (1.50)**

(Same as: IFS 141.) An introduction to digital graphics. Emphasizes hands-on computer experience with drawing and editing tools that allow students to create computer based graphic arts, design, and page layout.

**143 Beginning Typography (3.00)**

Introduction to the understanding of type and its use as a design element. Type is explored in relation to page layout, color, importing of graphics, and expression, using computer graphics technology.

**150 Ceramics I (3.00)**

An introduction to clay which places an emphasis on handbuilding techniques with some sculpture, wheel throwing, glaze application, and kiln experience. This course also addresses issues of three-dimensional design as they pertain to contemporary ceramics. Recommended prerequisite: ART 110. Core: Humanities.

**205 Digital Photography (3.00)**

An introduction to the basic tools and programs used in the electronic imaging process of digital photography. Students develop their imagery and concepts through the use of computers and software. Areas of concentration include imagery manipulation, color, and collage. Digital camera is required. Prerequisite: IFS/ART 109.

**215 Sculpture (3.00)**

Introduction to the basic concepts, materials, and processes of sculpture using carving, modeling, and construction. Development of aesthetics and individual projects. Recommended prerequisite: ART 110. Core: Humanities.

**220 Drawing II (3.00)**

Further development of techniques and application of materials. Drawing exploration includes emphasis on imagery and self-expression. Prerequisite: ART 120; ART 107 recommended.

**225 Figure Drawing I (3.00)**

The human figure studied through direct drawing exercises in gesture, contour, and volume with work done in charcoal, pencil, crayon, ink, pastel, and watercolor. Live model. Recommended prerequisites: ART 107, ART 120.

**230 Painting II (3.00)**

Painting exploration with a continuation of personal development in the realm of visual representation. Includes lectures pertaining to the history, philosophy, and aesthetic contributions of specific art movements. Student's choice of medium and subject with instructor's consent. Prerequisite: ART 130; ART 120, ART 107 recommended.

**245 Art and Culture (1.50)**

A study of the relationships between culture and the techniques of designing and producing a work of art. Such techniques are not neutral, and students learn how to be culturally sensitive, especially when borrowing from different cultures. Students are also shown how knowing the cultural roots of certain techniques and processes can help illuminate the way they use such processes.

**250 Ceramics II (3.00)**

Emphasis on individual exploration of ideas through ceramic media. More in-depth approach to glaze application and formulation and kiln firing. Prerequisite: ART 150; ART 110 recommended.

**261 Chicago Art and Architecture (3.00)**

The development of the city of Chicago and the metropolitan area, focusing on architecture; the rise of the identifiable Chicago style in painting and sculpture; the

expanding contemporary art scene in the cultural life of the city. Field trips. Core: Humanities.

### **264 Global Art Survey (3.00)**

A survey of art from the cultures of Asia, the Near East, Native North America, Mesoamerica and the Andes, Oceania, Africa, and the Islamic World. Core: Humanities.

### **270 Aesthetics (3.00)**

(Same as: PHL 220.) An examination of aesthetic experience, the norms which govern aesthetic judgment, and the significance of the idea of beauty in our experience of art and nature. Core: Humanities.

### **272 Art History I: Prehistoric to Medieval Art (3.00) IAI: F2 901**

The chronological study of sculpture, architecture, and painting from prehistoric to Gothic; presented in social, religious, and intellectual context. Field trip to Chicago museum. Core: Humanities.

### **274 Art History II: Renaissance to Rococo Art (3.00) IAI: F2 902**

Painting, sculpture, and architecture of the Renaissance in Italy and Northern Europe, also including Baroque and Rococo art, with consideration of social, religious, and intellectual conditions. Field trip to Chicago museum. Core: Humanities.

### **276 Art History III: Late 18<sup>th</sup> Century to Contemporary Art (3.00) IAI: F2 902**

Art starting with the late 18<sup>th</sup> century and ending with the most recent events and styles of the 21<sup>st</sup> century. Emphasis on the origin, development, meaning, and context of modern art. Field trip to Chicago museum. Core: Humanities.

### **280 Printmaking I (3.00)**

A studio and lecture printmaking survey course which may include linoleum prints, dry point etching, and another area selected by the instructor. Recommended prerequisites: ART 107, ART 120.

### **297 Internship (0.00-9.00)**

### **299 Independent Study (1.00-9.00)**

### **315 Sculpture II (3.00)**

This course builds on the visual and technical skills learned in ART 215. Emphasis is placed on developing original solutions to sculpture problems in a variety of media. Students are expected to be experiential in their concepts and approaches to sculpture. Prerequisite: ART 215.

### **325 Figure Drawing II (3.00)**

A creative approach to the figure, both in materials and in composition. Exploration of the historical use of the figure through study and innovative application. Work from the model. Prerequisite: ART 225.

### **340 Advanced Painting I (3.00)**

The pursuit of advanced training within the diverse spectrum of painting. Medium and subject matter are chosen by student with instructor's consent. Weekly critique. Prerequisite: ART 230.

**341 Advanced Painting II (3.00)**

The continuation of advanced training within the diverse spectrum of painting. Medium and subject matter are chosen by student with instructor's consent. Prerequisite: ART 340.

**343 Digital Illustration and Prepress Production (3.00)**

(Same as IMS 343.) An in-depth exploration of digital illustration techniques and their uses as both tool and medium. The general focus is on technical operations and standardized procedures in preparation for offset printing. Digital illustration (primarily raster-based graphics) and their applications in publication design contexts constitute the bulk of the investigations; however, traditional illustration techniques are also utilized as an introduction in this advanced course. Prerequisite: ART/IMS109.

**344 2-Dimensional Computer Graphics and Animation (1.50)**

Creative digital exploration of two-dimensional images and animation for print, interactive multimedia, computer games, and the Web. Prerequisites: ART 107, ART 143, and IFS/IMS 125.

**345 3-Dimensional Computer Graphics and Animation (3.00)**

Creative digital exploration of three-dimensional images and animation for print, interactive multimedia, computer games, architecture, and the Web. Prerequisites: ART 107, ART 110, and ART 141.

**350 Advanced Studies I (3.00)**

The pursuit of advanced training within the diverse spectrum of art. Materials and subject matter are chosen by student with instructor's consent. Weekly critique. Prerequisite: 200-level art studio course.

**351 Advanced Studies II (3.00)**

The continuation of advanced training within the diverse spectrum of art. Materials and subject matter are chosen by student with instructor's consent. Prerequisite: ART 350.

**355 Ceramics III (3.00)**

Emphasis on individual exploration of ideas through ceramic media. Intermediate laboratory and practical study of clay-body preparation, glaze calculations, and kiln firing. Prerequisite: ART 250 or consent of instructor.

**360 Art Theory and Criticism (3.00)**

An examination of the foundations of the discipline of art history as well as modern and contemporary theoretical movements related to art through the reading and analysis of texts by philosophers, art historians and critics. Prerequisite: ART 272 or 274 or 276 or consent of instructor.

**370 Art of the Nineteenth Century (3.00)**

A contextual examination of the development of painting, sculpture, architecture, photography, and other arts from the late 18<sup>th</sup>-century to 1900, focusing upon North American and European movements. Field trip. Prerequisite: ART 276 or consent of instructor.

**371 African-American Art (3.00)**

An overview of the contributions made by African-Americans to the visual arts of the United States in conjunction with an examination of the political and cultural debates regarding race, class and gender as they pertain to the African-American experience in this country. Consideration of colonial America,

followed by an in-depth study of visual products from the 19th and 20th centuries, with particular emphasis given to the Harlem Renaissance, black art movements of the 1960's and 1970's as well as contemporary works that speak to issues of identity. Prerequisite: ART 276 or consent of instructor.

**374 Art of the Twentieth Century I: 1900-1950 (3.00)**

A contextual history of painting, sculpture, architecture and other arts in Europe, the United States, and other parts of the world from 1900 to 1950. Field trip. Prerequisite: ART 276 or consent of instructor.

**376 Art of the Twentieth Century II: 1950-Contemporary (3.00)**

A contextual history of painting, sculpture, architecture and other arts in Europe, the United States, and other parts of the world from 1950 to the present. Field trip. Prerequisite: ART 276 or consent of instructor.

**380 Printmaking II (3.00)**

An advanced studio and lecture course with an emphasis on etching, aquatint, and one other area selected by the instructor. Prerequisite: ART 280 or consent of instructor.

**397 Internship (0.00-9.00)**

**399 Independent Study (1.00-9.00)**

**442 Advanced Painting III (3.00)**

A continuation of advanced training within the diverse spectrum of painting. Medium and subject matter are chosen by student with instructor's consent. Prerequisite: ART 341.

**452 Advanced Studies III (3.00)**

A continuation of advanced training within the diverse spectrum of art. Materials and subject matter are chosen by student and with instructor's consent. Prerequisite: ART 351.

**455 Ceramics IV (3.00)**

Advanced work and continuation of ceramic building techniques, laboratory and practical study of clay-body preparation, glaze calculations, and kiln firing. Prerequisite: ART 355 or consent of instructor.

**460 Studio Seminar (3.00)**

Intensive study of an announced topic in studio art, emphasizing technical and practical approaches, research, and various historical approaches to specific studio themes. Prerequisite: 300-level art course.

**470 Art History Seminar (3.00)**

Intensive study of an announced topic in art history, emphasizing advanced research and writing. Field trip. Prerequisites: ART 272, ART 274, ART 276; one 300-level art history course; consent of instructor.

**497 Internship (0.00-9.00)**

**499 Independent Study (1.00-9.00)**

## The Division of Arts and Letters (ARL)

The Division of Arts and Letters offers majors and minors through the Departments of Art and Theatre; English; Modern and Classical Languages; Music; and Speech Communication as well as through interdisciplinary concentrations. The division also supports a wide array of performance activities and assists the student who wishes to seek independent study, internships or study abroad opportunities. Students may cultivate a specialization that prepares them for graduate training, teaching, or professional advancement; they may enrich another course of study through exposure to the tradition and practice of the humanities; or they may draw upon the resources of the division to build particular expertise in the areas of critical inquiry, analysis and communication.

**297 Internship (0.00-9.00)**

**299 Independent Study (1.00-9.00)**

**385 Symposium (3.00)**

Study of a selected area, movement, theme, or genre. Prerequisite: ENG 196.

**397 Internship (0.00-9.00)**

**399 Independent Study (1.00-9.00)**

**485 Symposium (3.00)**

Study of a selected area, movement, theme, or genre. Prerequisite: ENG 196.

**497 Internship (0.00-9.00)**

**499 Independent Study (1.00-9.00)**

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## Athletic Training

See **Health and Physical Education** for a description of courses and programs of study in athletic training.

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# Biochemistry (BCM)

## Mission Statement

The Biochemistry program is dedicated to providing a challenging and supportive environment for students to: i) integrate principles and laboratory skills from the disciplines of biology and chemistry to address real-world problems; ii) develop their critical thinking and communication skills through course work and collaborative research; and iii) become informed and principled citizens.

Biochemists study the molecules of life: proteins, nucleic acids, lipids, and carbohydrates. One need only scan a list of recent Nobel Laureates to see that biochemistry is one of the “cutting edges” of modern science and medicine. North Central’s biochemistry major is offered jointly by the chemistry and biology departments. The curriculum is modeled after typical undergraduate biochemistry curricula identified by the American Society for Biochemistry and Molecular Biology. A degree in biochemistry can prepare a student for employment in a private or government research laboratory; medical, dental, veterinary, or law school; a position in a biotechnology or other scientific firm; or graduate study and research in the sciences or engineering.

Degrees offered: B.A. and B.S.

## Biochemistry Major

### B.A. Requirements:

At least 47.25 credit hours in biology and chemistry. These must include the following courses:

Introductory Biology	BIO 101, 102
Cellular/Genetics	BIO 200 or 260
Molecular Biology	BIO 360
Biochemistry	BCM 365, 465
Introductory Chemistry	CHM 141
Organic Chemistry	CHM 220, 221, 222
Analytical Chemistry	CHM 210
Physical Chemistry	CHM 340 or 341
Seminar	BIO 475 or CHM 475

### Additional Requirements:

**Research Experience:** Students must take a course which incorporates a research experience. BCM 465 currently meets this requirement. Each student presents the results of this research in either the biology or chemistry seminar course, BIO/CHM 475. BIO/CHM 475 is taken over three (usually non-consecutive) terms. During the first two terms the student participates as an observer and questioner and enrolls in BIO/CHM 475 for no credit. During the third term, the student gives the research presentation and enrolls in BIO/CHM 475 for one credit hour. Students are encouraged to gain additional research experience by undertaking independent research under the direction of a biology or chemistry faculty member or by participating in a summer research program at a university, government, or corporate laboratory.

### Required Support Courses for the B.A. Degree:

Introductory Physics	PHY 141, 142, and 143A or 143C; or 115 and 116
Calculus	MTH 152



**B.S. Requirements:**

A student may earn a B.S. degree in biochemistry by fulfilling the B.A. requirements and taking the following support courses:

Introductory Physics:	PHY 141, 142, and 143A or 143C; or 115 and 116
Mathematics:	MTH 152
Statistics:	One of PSY 250, MTH 342, or BUS 241
Additional Requirements:	Three of the following courses: BIO 242, BIO 301, BIO 302, BIO 340, BIO 400, BIO 416, BIO 430, BIO 440, CHM 340 or 341 (the one not taken for the major), CHM 405, CHM 410, CHM 420, CHM 425.

**TYPICAL COURSE SEQUENCE FOR THE FIRST TWO YEARS**

	FALL	WINTER	SPRING
FIRST YEAR:	CHM 141 MTH 140 or 151	CHM 142 MTH 141 or 152 BIO 101	BIO 102 MTH 152 or elective
SECOND YEAR:	CHM 220 PHY 141 or 200-level BIO	CHM 221 PHY 142 or 200-level BIO	CHM 222 BIO/CHM 475 PHY 143 or 200-level BIO

CHM 141-142 and BIO 101-102 should be completed by Winter of the second year. MTH 152 should be completed no later than the second year.

**140 Nutrition (3.50)**

A study of food, the nutrients in foods, their biochemical function, and how they interact in relation to physical and mental development and performance in humans. Laboratory. Does not count toward the major in biochemistry, chemistry, or biology. Prerequisite: One of BIO 100, CHM 100, or two years of high school science. Core: Science (Lab).

**365 Biochemistry (3.75)**

Survey of the major classes of biological molecules. Enzyme kinetics and the major metabolic pathways are discussed. Laboratory. Prerequisite: CHM 222 or CHM 216.

**465 Advanced Biochemistry (3.75)**

Current topics in biochemistry are studied, allowing students to synthesize previous biology, chemistry, and general education coursework. Ethical considerations in scientific research and recent primary literature are discussed. Laboratory. Prerequisite: One of BCM 365, BIO 340, or BIO 360. Research course. ACR: Leadership, Ethics and Values.

# Biology (BIO)

*Professors: Stephen Johnston, Jonathan Visick, John Zenchak*

*Assistant Professor: Gregory Ruthig*

*Visiting Faculty: Christopher O'Connor*

## Mission Statement

The Biology department strives for excellence in undergraduate education by providing a challenging and supportive environment for students to:

i) understand and apply a broad range of biological principles; ii) develop critical thinking, investigative, and communication skills through course work and collaborative research; and iii) become informed and principled citizens pursuing a variety of careers in an increasingly technological world.

Our challenging, inquiry-based, research-rich curriculum is deliberately designed to provide our students with the right tools for a bright future in any area of biology. Courses ranging from genes to organisms and cells to ecosystems give broad background yet allow specialization in a student's area of interest and are complemented by an emphasis on hands-on inquiry. Many of our students continue their education in medical, graduate, dental, or veterinary schools or in allied health fields such as nursing, pharmacology, or physical therapy. Other graduates find employment in the field of education, or in conservation agencies, non-profit organizations and academic, industrial, or government laboratories.

Degrees offered: B.A. and B.S.

## Biology Major

### B.A. Requirements:

At least 33.75 credit hours in biology, to include a minimum of 22.5 credit hours at the 200 level or higher, of which at least 11 must be at the 300 level or higher, and at least 3.5 of the 11 must be at the 400 level. Biochemistry courses BCM 365 and BCM 465 may be used to fulfill these requirements. Students shall have at least one course from each of four areas of Biology:

Animal Systems:	BIO 202, 302, 305, 310 or 410
Plant Systems:	BIO 201 or 301
Evolution, Ecology, Diversity:	BIO 216, 222, 228, 400 or 416
Cellular & Molecular:	BIO 200, 260, 340, 360, 430, 440, or BCM 365

**Research Experience:** Students must take at least one course which incorporates a research-type experience (BIO 305, 416, 430, or BCM 465) or an independent study. Subsequently, the student presents the results of the research-type experience to biology faculty and peers at a seminar. The required seminar, BIO 475, is taken over three terms (not necessarily consecutive). At the beginning of the sequence, the student is an observer and questioner. During the term in which the student enrolls to make his/her seminar presentation, a total of one credit hour is awarded for the entire sequence.

**Required Support Courses for the B.A. Degree:**

- CHM 141
- CHM 142 or 205 or 210
- PSY 250 or MTH 141 (or a higher-level mathematics course)

Recommended electives:

CHM 220, 221, and 222

MTH 152

PHY 141, 142, and 143A or 143C **-or-** 115 and 116

Statistics (PSY 250 or MTH 342)

### B.S. Requirements:

At least 41.25 credit hours in biology, to include all of the requirements for the B.A. degree (including the research experience).

Required Support Courses for the B.S. Degree:

CHM 141, 142, 210, 220, 221 and 222

MTH 152

PHY 141, 142, and 143A or 143C **-or-** 115 and 116

PSY 250 or MTH 342

Other: Transfer students must take at least 11 credit hours in Biology at North Central College, and at least 7.5 of the 11 must be at the 200-level or higher.

## **Biology Minor**

22 credit hours in the department, to include 11 or more credit hours at the 200-level or above.

## **Bioinformatics Minor**

See program requirements under CSC heading.

Course selection:

During the first two years there are many logical plans for course work from which the student might select depending on individual interest, goals, and personal reservations. The following chart summarizes a general recommended sequence.

### **Year One:**

#### Fall Term

MTH (appropriate level)

CHM 141

#### Winter Term

MTH

BIO 101

CHM 142

#### Spring Term

MTH or Open

BIO 102

### **Year Two:**

#### Fall Term

100 or 200-Level BIO

MTH or Open

CHM 220 or Open

#### Winter Term

100 or 200-Level BIO

CHM 221

#### Spring Term

100 or 200-Level BIO

CHM 222

## **Special Opportunities**

**Gulf Coast Research Laboratory** — Located in Ocean Springs, Mississippi, students may arrange for credit study at the laboratory, which offers courses, research facilities, and field trips, particularly in the summer. Room and board are available. Detailed information is provided by the biology faculty upon request. Registration is arranged through the Office of the Registrar.

**Morton Arboretum** — The College maintains this affiliation through the Associated Colleges of the Chicago Area. Located in Lisle, Illinois, the Arboretum offers botany courses for credit on a rotating two-year cycle. Detailed information is provided by the biology faculty upon request. Registration is arranged through the Office of the Registrar.

**Shedd Aquarium** — The College maintains this affiliation through the Associated Colleges of the Chicago Area. Located in downtown Chicago, the Shedd Aquarium is truly one of the world's best aquariums and offers a variety

of courses for credit in both freshwater and marine biology, some of which include trips to the Caribbean. Detailed information is available from the biology faculty. Registration is arranged through the Office of the Registrar.

Nonmajors and students with minimal science backgrounds should take BIO 100, 106, 107, 108, 109 or a BIO 120 topics course. Students anticipating a major in biology should start in BIO 101 or BIO 102.

### **100 Principles of Biology**

**IAI: L1 900L**

The study of biological principles as they relate to modern society. Discussion groups and laboratory work are an integral part of the course. Core: Science (Lab).

### **101 Biology I: Introduction to Ecology, Evolution and Diversity (3.75)**

An introduction to biological diversity with emphasis on the origins of diversity, the phylogenetic relationships of organisms and the ways in which these organisms interact and function in ecological communities. Topics include the origin of life, evolutionary change, phylogeny and classification, diversity in form and function, and the adaptations and interactions of organisms within communities and populations. Intended for students majoring in the laboratory sciences. Lecture, discussion, field and laboratory experience. Prerequisites: One year of both high-school biology and high-school chemistry. Core: Science (Lab).

### **102 Biology II: Introduction to Cell Biology and Genetics (3.75)**

An integrated study of cellular biology including the role of biomolecules, enzyme action, energy transformations and cellular organelles. Special emphasis on DNA and its role in the storage and expression of genetic information, including Mendelian genetics, gene interactions, transcription, translation and the molecular analysis of gene function. Intended for students majoring in the laboratory sciences. Laboratory emphasizes experimental design and data analysis. Prerequisites: CHM 141 and high-school biology. Core: Science (Lab).

### **106 Introduction to Environmental Science (3.50)**

(Same as: ENV 106) This course is an overview of biological and physical processes that affect the environment in the context of current environmental issues. Topics include population, community, ecosystem ecology, conservation biology, water and air pollution, and natural resource management. Core: Science (Lab).

### **108 Water, Food, and Sex (3.50)**

This course focuses solely on five systems, exploring them in depth: excretory, respiratory, circulatory, digestive, and reproductive. Complementing the biological concepts material is discussion from ethical and public health/public policy perspectives. Special consideration is given to topics such as water and food policy, environmental policy, and issues of bioethics (e.g., research ethics, informed consent, eugenics, moral status of animals, and the Human Genome Project). Core: Science (Lab).

### **109 Genes, Genomes, and Genethics (3.50)**

This course introduces key concepts of modern biology while focusing on important questions at the interface of science and modern society. Both the science and the implications of such advances in genetic technology as screening for genetic diseases, DNA fingerprinting, stem-cell therapy, genetically modified organisms, and gene therapy are discussed. Core: Science (Lab).

**120 Topics in Modern Biology (3.00-3.50)**

An in-depth investigation of a topic in modern biology. Topics are current issues encountered in day-to-day life. The course is presented in a highly interactive seminar format. Topics vary (see course schedule). Laboratory activities emphasize an inquiry approach. Prerequisite: Strong science background or BIO 100. Core: Science (Lab).

**147 Anatomy and Physiology (3.75)**

The structure, function, and integration of systems of the human body. Laboratory studies in mammalian dissection and physiology. Prerequisite: Strong science background or BIO 100. Core: Science (Lab).

**200 Cellular Biology (3.75)**

An introduction to structure and function of eukaryotic and prokaryotic cells. Topics covered in detail include cell membranes, enzymes, energy metabolism, gene expression, cell movement, and cell communication. Laboratory required. Prerequisites: BIO 102 and CHM 141.

**201 Botany (3.75)**

A study of the diversity of plant life by examination of the morphology, physiology, and ecology of major plant groups. Their evolutionary relationships and economic importance are also considered. Prerequisite: BIO 101.

**202 Zoology (3.75)**

Phylogenetic relationships among the animal phyla – Porifera through the Chordata – with reference to the natural history, morphology, and physiology of these organisms. Includes laboratory work by observation and dissection. Prerequisite: BIO 101 or BIO 102.

**216 Ecology - How Organisms Interact with their Environment (3.75)**

How living organisms interact with their environments. Laboratory work includes field observations, laboratory experiments, and computer model simulations of ecological problems. Prerequisite: BIO 101. Recommended: BIO 201.

**222 Estuarine Ecology (2.00)**

How living organisms, including humans, interact with the estuarine environment. The course is taught in this coastal environment during interim. Prerequisite: BIO 101 or BIO 102.

**228 Desert Ecology (2.00)**

How living organisms, including humans, interact with the desert environment. The course is taught in the desert during interim. Prerequisite: BIO 101 or BIO 102.

**242 Introduction to Bioinformatics (3.00)**

(Same as: CSC 242.) Introduction to the field of bioinformatics. Computational methods for study of biological sequence data in comparative biology and evolution. Analysis of genome content and organization. Techniques for searching sequence databases, pairwise and multiple sequence alignment, phylogenetic methods, and methods for pattern recognition and functional inference from sequence data. Database theory, information extraction, algorithm analysis, and data mining are utilized. Prerequisites: CSC 160; BIO 100 or BIO 120. Recommended: BIO 102.

**260 Genetics (3.75)**

Introduction to genetic analysis, including both classical and molecular genetics. Topics include DNA structure and function, transmission genetics, chromosomes and genetic mapping, mutation, gene regulation, recombinant DNA, and genome analysis. One three-hour laboratory per week; includes investigative projects in *Drosophila* genetics and bacterial molecular genetics. Prerequisites: BIO 102 and CHM 141.

**290 ACCA Seminar in Organismal Biology and Ecology (0.00-1.00)**

Current topics in botany, zoology, ecology, evolutionary biology, or related fields. Course content is provided by the Associated Colleges of the Chicago Area and consists of a 10-week seminar held one evening per week during Fall term, usually at an off-campus site. Attendance is required. May repeat once with new content. May substitute for one of the two required non-credit BIO 475 seminars. Prerequisites: BIO 101, one 200-level biology course.

**291 ACCA Seminar in Molecular and Cellular Biology (0.00-1.00)**

Current topics in cellular biology, molecular biology, microbiology, genetics, or related fields. Course content is provided by the Associated Colleges of the Chicago Area and consists of a 10-week seminar held one evening per week beginning in Winter and continuing into Spring, usually at an off-campus site. Attendance is required. May repeat once with new content. May substitute for one of the two required non-credit BIO 475 seminars. Prerequisite: BIO 200 or BIO 260.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****300 Human Sexuality: A Clash of Values (3.00)**

(Same as: GWS 301.) In traditional topics in human sexuality (e.g., natural essence of sexuality, reproductive biology, sex research, marriage and other arrangements, reproductive issues) there is a clash of values both within a culture and between cultures. This course includes such controversial issues as religious perspectives, pornography, the media, prostitution, and female circumcision. The latter components serve to explore problems that result from the clash of values. Prerequisite: Junior standing. ACR: Intercultural.

**301 Plant Physiology (3.75)**

Fundamental principles of plant physiology including photosynthesis, respiration, transpiration, nutrition, translocation, and development are investigated. The impact of both biotic and abiotic factors on these processes is emphasized. Laboratory work includes both field observations and laboratory work. Prerequisites: CHM 141 and either BIO 200 or BIO 201.

**302 Animal Physiology (3.75)**

Basic functional mechanisms of higher animals. Laboratory investigations including relatively long-term experimentation. Prerequisites: 3.75 credit hours of 200-level biology and CHM 141.

**305 Animal Behavior (4.00)**

The motor activities of an organism as it interacts with its environment. Laboratory investigations. Prerequisites: 3.75 credit hours of 200-level biology and CHM 141. Research course.

**310 Vertebrate Biology (3.75)**

A study of the basic biology of vertebrates with special emphasis on adaptive strategies and evolutionary relationships of the major vertebrate groups. Areas investigated include, but are not confined to, diversity, function, and evolution of vertebrates. Laboratory introduces students to the extensive taxonomic diversity of this group and provides an introduction to vertebrate morphology, particularly as it is used to infer evolutionary relationships within the group. Laboratory required. Prerequisite: BIO 101 or BIO 147; 3.75 credit hours of 200-level biology.

**340 Microbiology (4.00)**

Biology of microorganisms, emphasizing the physiology, genetics, and ecology of bacteria and their relationships (pathogenic and otherwise) with other organisms. Archaea, viruses, eukaryotic microorganisms, and basic concepts of immunology are introduced. Laboratory emphasizes the application of microbiological techniques to investigative studies. Prerequisite: BIO 200 or 260.

**360 The Molecular Biology of Cancer (3.75)**

In-depth investigation of current concepts and topics in molecular biology, using cancer as a theme. Major topics include: regulation of gene expression, control of the cell division and death, and drug development. Reading of the primary literature and understanding current experimental methods are emphasized. Prerequisite: BIO 200 or 260.

**395 Directed Research (0.00)**

Students work in collaboration with faculty on ongoing research. Activities vary according to project needs and student background. Graded Pass/No Pass. Prerequisite: BIO 101 and 102.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****400 Evolution (3.50)**

Investigation of the history of evolutionary thought, evidences for origin and adaptation of organisms, and mechanisms of adaptation and speciation. Laboratory work includes computer simulations of population genetics phenomena and morphological adaptation plus discussions of current readings. Prerequisite: 3.75 credit hours of 300-level biology, and BIO 260.

**410 Microscopic Anatomy (3.75)**

The structural and functional components of mammalian tissues and organs. Emphasis on laboratory work. Prerequisite: 3.75 credit hours of 300-level biology.

**416 Environmental Biology (3.75)**

Investigation of the effects of human activities on biological resources. Laboratory investigations provide experience with some of the most important field methods and analytical techniques used to examine human impacts on ecosystem structure and function. Research course. Prerequisites: BIO 216 and 3.75 credit hours of 300-level biology.

**430 Developmental Biology (3.75)**

Analysis of patterns and principles of animal development. Includes basic processes and mechanisms involved with the molecular control of development. Prerequisite: BIO 200 or BIO 260. Research course.

**440 Virology and Immunology (3.50)**

Structure, replication, and pathogenic mechanisms of viruses are discussed in the first part of the course. Connections between viruses and the immune system are then explored, leading to study of human resistance to disease, including non-specific, antibody-mediated, and cell-mediated responses to viral and bacterial pathogens. Laboratory includes experiments with bacterial viruses and antigen-antibody reactions as well as discussion of primary literature. Prerequisites: BIO 200, BIO 260.

**475 Seminar (0.00-1.00)**

(Same as CHM 475.) Each student presents the results of a laboratory research project in a scientific meeting format. Prerequisite: If taken for no credit, none; if taken for credit, one course that includes research-type experience or an independent study.

**499 Independent Study (1.00-9.00)**

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## Broadcast Communication

See **Speech Communication** for a description of courses and programs of study in Broadcast Communication.

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## Business

See **Marketing and Management** for a description of courses and programs of study in Business.

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## Chemical Microscopy (CMC)

The Chemical Microscopy program provides students a hands-on experience using state-of-the-art microscopes and techniques. Students learn how to apply the necessary skills and analytical judgment to a wide variety of microanalytical problems including: pharmaceutical contamination, forensic trace evidence, white powder identification to detect weapons of mass destruction, failure analysis of plastics and polymers, and cleanroom techniques including particle isolation and specialized sample preparation. By using light and electron microscopy along with infrared and Raman spectroscopy students learn how each of these microanalytical tools can be used to solve a wide variety of materials analysis and particle identification problems.

North Central College's 3+1 program in Chemical Microscopy prepares students for a career as a Chemical Microscopist. Students spend three years at



North Central College, where they complete their liberal arts general education core along with prerequisite science and math courses. This is followed by 12 months of course work, research, practicums and internship at the Hooke College of Applied Sciences, Westmont, Illinois. The student then graduates from North Central College with a liberal arts degree in Chemical Microscopy. Admission to the final year of the program is based upon successful application to the program at the Hooke College of Applied Sciences in the second term of the junior year. Student applicants are considered and evaluated solely by the faculty/staff at the Hooke College of Applied Sciences. Student admission to the program at McCrone Associates' Hooke College of Applied Sciences is not guaranteed.

Students intending to major in Chemical Microscopy must apply for admission into the North Central College program at the end of their second year of study.

Degrees offered: B.A. and B.S.

## Chemical Microscopy Major

### B.A. Requirements:

Prerequisite science and math coursework:

Introductory Biology	BIO 102
Introductory Chemistry	CHM 141, CHM 142
Organic Chemistry	CHM 220, CHM 221, CHM 222
Chemical Analysis	CHM 210
Descriptive Inorganic	CHM 205
Physical Chemistry	CHM 340 or 341
Statistics	PSY 250
Calculus I	MTH 151
Physics	PHY 141, PHY 142, PHY 143A

Upper Level Chemistry Coursework:

A minimum of 3.75 additional credit hours in chemistry coursework at the 300 level or higher.

Major Coursework:

CMC 400	Modern Polarized Light Microscopy
CMC 405	Techniques of Optical Crystallography
CMC 410	Scanning Electron Microscopy
CMC 411	Advanced Scanning Electron Microscopy Based Tools for Microanalysis
CMC 420	Transmission Electron Microscopy
CMC 430	Microscopic Particle Handling: Particle Isolation, Manipulation and Mounting
CMC 450	Introduction to Forensic Trace Evidence
CMC 460	Infrared Microscopy
CMC 470	Raman Microscopy
	3-4 elective courses

### B.S. Requirements:

In addition to the B.A. requirements, MTH 153 must be completed, as well as CHM 340 or 341 (the one not taken as part of the prerequisite coursework listed above).

### **400 Modern Polarized Light Microscopy (3.00)**

The Modern Polarized Light Microscopy (PLM) course thoroughly covers the theory and principles of polarized-light microscopy. Students learn time-honored and highly specialized PLM methods that can be successfully applied to virtually all materials problem solving situations. The student learning outcomes

are achieved through lecture/demonstration and many practical exercises utilizing known and unknown samples. Includes practicum. Prerequisite: Admission into the CMC program.

#### **405 Techniques of Optical Crystallography (3.00)**

This class introduces the student to a range of methods used for the identification of crystalline materials. Emphasis is given to understanding the relation between crystal symmetry and the behavior of light passing through them, and to basic principles which facilitate an understanding of optical phenomena. A number of other techniques are employed or demonstrated, including crystal rotation methods and the use of rotating compensators. A wide variety of grain mount, thin section, and oriented crystal sections, as well as other demonstration materials, are used to elucidate optical properties. Optical properties of both isotropic and anisotropic comminuted mineral samples are examined and unknown samples identified by immersion methods using calibrated refractive index liquids. Includes practicum. Prerequisite: Admission into the CMC program.

#### **410 Scanning Electron Microscopy (3.00)**

Students learn through lecture, demonstration, and hands-on participation how to setup and operate SEM and EDS instruments, including low-vacuum and field-emission models. The final quarter of the course is devoted to student projects, where students are invited to analyze their own samples on a variety of SEM instruments.: JEOL JSM-6460LV low vacuum SEM, JEOL JSM-6480LV low vacuum SEM, JEOL JSM-6301F field emission SEM, JEOL JXA-8900 combined EDS/WDS electron microprobe analyzer, and JEOL JXA-8200 combined EDS/WDS electron microprobe analyzer. At the end of the course, students with no prior experience are able to align an SEM, obtain secondary electron (SE) and backscatter electron (BE) micrographs, and perform EDS qualitative and quantitative analysis. Includes practicum. Prerequisite: Admission into the CMC program.

#### **411 Advanced Imaging Techniques for Scanning Electron Microscopy (2.00)**

This course is an advanced topics course and provides instruction and hands-on practice for getting the best possible SEM images, especially from difficult samples, or under challenging operating conditions. Signals and image generation, instrument operation, operating variables, image interpretation and applications of SEM are studied through lectures and hands-on activities. Advanced SEM imaging topics such as very high resolution imaging and low voltage imaging are covered. Includes practicum. Prerequisite: Admission into the CMC program.

#### **415 Pharmaceutical Materials and Contaminants (3.00)**

Most pharmaceutical products are specified to be essentially free of visible particulates and there are limits on the number of allowable sub-visible particles. The FDA requires that contamination problems are fully investigated in a timely fashion. This course teaches an analytical approach that utilizes microscopical examination coupled with sample isolation, preparation, and analytical methods optimized for small particles, to successfully identify particulate contamination for regulatory compliance. The overall analytical approach for the identification of particles (contaminants) is outlined at the beginning of the course. The analysis plan includes simple examination, gathering of background information concerning the sample and particle isolation. Analytical methods taught include: stereomicroscopy, polarized light microscopy (PLM), Fourier transform infrared spectroscopy (FTIR), Raman microscopy. The course emphasizes the identification of the following typical particle types: metals, minerals, fibers, hairs, glass, polymers, chemicals, excipients and botanicals.. Includes practicum. Prerequisite: Admission into the CMC program.

**416 USP {788} Particulate Matter in Injections (0.50)**

This course provides students with a hands-on understanding of the Microscopic Particle Count Test portion in the method as well as instruction on how to prepare samples for counting, and performing microscopic particle counts. Includes practicum. Prerequisite: Admission into the CMC program.

**417 Freeze-Dry Microscopy (2.00)**

This course begins with a presentation of some of the basic theories behind lyophilization and polarized light microscopy, followed by a hands-on demonstration of the set up and alignment of the freeze-dry microscopy system. Each student practices using the freeze-dry microscope system by measuring the thermal properties of various crystalline and amorphous samples. The course finishes with a demonstration of how the collected data can be used for lyophilization cycle development and optimization. Includes practicum. Prerequisite: Admission into the CMC program.

**420 Transmission Electron Microscopy (2.00)**

This course provides practical, hands-on learning for new and experienced operators, utilizing lectures, demonstrations and direct student participation, using a JEOL JEM-3010 300kV, LaB6 TEM. Two experienced TEM analysts act as instructors, tailoring discussions to suit individual skill levels and interests. The course provides a foundation for new TEM operators, and gives students the skills necessary to align a TEM, and select parameters for acquisition of images, EDS spectra, and electron diffraction patterns. Students with prior experience learn how to better utilize the multiple analytical capabilities of the TEM for real-world materials characterization. Includes practicum. Prerequisite: Admission into the CMC program.

**430 Microscopic Particle Handling: Particle Isolation, Manipulation and Mounting (3.00)**

This course focuses on isolating, mounting, and handling 1-100 $\mu$ m sized particles without the use of micromanipulators. Methods for isolating contaminants from liquids, solids or on surfaces are covered. Preparation methods for further analysis by PLM, IR, Raman, SEM and TEM are demonstrated and discussed. Each student is supplied with a detailed laboratory manual for reference and works hands-on with an Olympus SZX10 stereomicroscope for use during class exercises. Olympus BX51 polarized light microscopes are also available for student use during class exercises. Includes practicum. Prerequisite: Admission into the CMC program.

**431 Sample Preparation: Pharmaceutical and Medical Devices (1.50)**

Specialized techniques are demonstrated for isolating and mounting contaminants from pharmaceutical and medical devices. Students use an Olympus SZX10 stereomicroscope. Topics related to these techniques may include but are not limited to: tablets, contact lenses, and contaminants/foreign materials. Includes practicum. Prerequisite: Admission into the CMC program.

**432 Sample Preparation: Sperm Isolation (0.50)**

This course specializes in the techniques that are used for isolating and mounting spermatozoa from smear slides. The techniques learned in this course are faster and more economical than the equipment required to carry out laser capture micro-dissection. Students first learn how to make the tools that they then apply to the isolation of single spermatozoa. Students apply the technique to samples using an Olympus SZX10 stereomicroscope and an Olympus BX51 polarizing light microscope. Includes practicum. Prerequisite: Admission into the CMC program.

**433 Sample Preparation: Polymers, Paints and Coatings (1.50)**

This course is customized to meet the needs of each individual student. Students are encouraged to bring samples to class. In addition to using actual samples in the course, each student has access to the new online McCrone Atlas of Microscopic Particles, which contains PLM and SEM images, descriptions, and EDS, IR, and Raman spectra from over 100 fully-characterized microscopic materials. Includes practicum. Prerequisite: Admission into the CMC program.

**434 Sample Preparation: Forensics and Trace Evidence (1.50)**

Proper sample handling of forensic evidence is critical to the analysis. Specialized techniques are demonstrated for isolating and mounting small particles and microtraces from examples of trace evidence. Students use an Olympus SZX10 stereomicroscope and specialized microtools. Includes practicum. Prerequisite: Admission into the CMC program.

**435 Forensic Soil Examination I (3.00)**

This course covers the forensic examination and comparison of soil. The class emphasizes methods and procedures used in the forensic community for soil analysis, and cover the forensic aspects of soil analysis, sample handling and processing, with a brief introduction to mineral identification. Includes practicum. Prerequisite: Admission into the CMC program.

**440 White Powder Unknowns I (3.00)**

This course teaches students how to identify white powders using several microscopical identification techniques including: polarized light microscopy (PLM), fluorescence microscopy, spot tests, solubility tests, flame tests, and thermal microscopy. The white powder sample set used for this course is derived from real-world examples that were either described in news accounts or found by First Responders at actual incident sites. Students learn how to identify over 40 white powder samples by first studying particle morphology, optical characteristics, and chemical reactions, followed by UV fluorescence observations. Includes practicum. Prerequisite: Admission into the CMC program.

**450 Forensic Trace Evidence Particles (3.00)**

This course is an initial introduction to microscopical trace evidence examination. It introduces the student to the principles and practical use of the stereomicroscope and polarized light microscope for the analysis of common microscopic trace evidence (hairs, fibers, paint, and glass). In addition to beginning theory of polarized light microscopy (PLM), the student learns the basic techniques of PLM directly applicable to trace evidence analysis. Includes practicum. Prerequisite: Admission into the CMC program.

**451 An Introduction to Forensic Document Examination: Basic Theory and Practical Applications (1.50)**

This course is an initial introduction to microscopical trace evidence examination. It introduces the student to the Electrostatic Detection Apparatus (ESDA), used for indented writing detection, and the Video Spectral Comparator (VSC), for UV/IR imaging in reflection/absorption and fluorescence modes- two of the most important instruments used in the examination of questioned documents. This course provides a strong foundation in the basic theory behind these two instruments along with practical use of each in actual case work. Includes practicum. Prerequisite: Admission into the CMC program.

**452 Fundamentals of Microscopy for Forensic Document Examiners: Basic Theory and Practical Applications (1.50)**

The stereomicroscope is one of the most important tools used by the Forensic Document Examiner (FDE). This course provides a strong foundation in the workings of the stereomicroscope and presents a number of practical exercises to

enhance the professional Forensic Document Examiner's proficiency. Includes practicum. Prerequisite: Admission into the CMC program.

#### **455 Pigments Identification(3.00)**

The focus of this course is the identification of pigments using polarized-light microscopy (PLM). A practical introduction to PLM methods is taught using many examples from the world of pigments. This course also introduces students to other analytical methods used as confirmatory methods; these include microchemical methods, elemental characterization using XRF or SEM/EDS, Raman, and infrared spectroscopy. The students examine and sample paintings and architectural artifacts, prepare specimens for analysis, perform PLM analysis, and direct or perform further confirmatory analyses. Methods for characterization of binding media and support canvas materials are also discussed. Includes practicum. Prerequisite: Admission into the CMC program.

#### **456 Conservation Materials (3.00)**

This course introduces the students to methods of conservation material identification using materials across all conservation specialties including pigments, paper, fibers, object materials, architectural materials, and inks. The course concentrates on using polarized light microscopy (PLM) for identification, but also introduces students to other analytical methods used as confirmatory methods; these include microchemical methods, elemental characterization using XRF or SEM/EDS, Raman, and infrared spectroscopy. The students examine and sample artifacts, prepare specimens for analysis, perform PLM analysis, and direct or perform further confirmatory analyses. Methods for characterization of organic materials are also discussed. Includes practicum. Prerequisite: Admission into the CMC program.

#### **460 Infrared Microscopy (2.00)**

This course is designed to provide practical instruction in "real world" use of the FTIR microscope. The class utilizes demonstrations and laboratory exercises supplemented with lectures. Students are strongly encouraged to bring their own samples for analysis. This course assumes basic knowledge of infrared spectroscopy and operation of an FTIR microscope. There is a brief discussion of infrared theory, and a heavy emphasis on using FTIR microscopy in problem-solving applications. The emphasis is on student sample preparation exercises and the use of different spectral acquisition methods to obtain optimum results. Includes practicum. Prerequisite: Admission into the CMC program.

#### **470 Raman Microscopy (2.00)**

This course is designed to provide practical instruction in "real world" use of the Raman microscope. The class utilizes demonstrations and laboratory exercises supplemented with lectures. The role of Raman microspectroscopy in the overall scheme of industrial problem solving is addressed. Students are strongly encouraged to bring their own samples for analysis. This course assumes basic knowledge of Raman spectroscopy. There is a brief discussion of Raman theory and an emphasis on recognizing artifacts and how to manage problems encountered in Raman spectroscopy. The course incorporates stereomicroscopy to characterize the sample and define the problem prior to analysis. The stereomicroscope is used to aid in isolation or other sample preparation if needed and several exercises are included to develop facility in use of the stereomicroscope. Students also use the features of the polarizing light microscope to enhance the collection of spectra and interpretation of results. Mapping and imaging are demonstrated and students have the opportunity to collect spectra on a variety of samples covering a range of applications. These include, but are not limited to pigment identification, polymer analysis, carbon phase identification, polymorphs, and particle identification. Includes practicum. Prerequisite: Admission into the CMC program.

**490 Fiber Identification (3.00)**

This course introduces the principles and practice of polarized light microscopy (PLM) to the identification of natural and man-made fibers. The course is useful to anyone from a variety of sciences needed to identify fibers: pharmaceutical, textile, conservation, archaeological, and forensic. The students learn time honored and highly specialized PLM methods that can be successfully applied to virtually all types of fibers: vegetable, fur, mineral, and man-made. Allied topics that are discussed include: fiber loss, shedding, and transfer; sampling and fiber recovery; contamination control; and handling microscopic size fiber fragments. The student learning outcomes are achieved through lecture/demonstration and many practical exercises utilizing known and unknown fiber samples from a variety of industries. Includes practicum. Prerequisite: Admission into the CMC program.

**495 Forensic Hair Comparison (3.00)**

This course is an initial introduction to forensic hair comparison and to the principles and practice of forensic hair comparison using microscopy and DNA analysis. The course concentrates on practical use of stereomicroscope, polarizing microscope, and comparison light microscope for the forensic comparison of human hairs for the purpose of individualization. The subject of DNA analysis is discussed as it is essential to the forensic hair comparison. There is instruction in the characterization of hair roots for purposes of selecting hairs for DNA analysis. At the conclusion of this course, the student is capable of beginning hair examinations under direct supervision, and continuing the necessary study and practice required of proficiency. Includes practicum. Prerequisite: Admission into the CMC program.

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## Chemistry (CHM)

*Professors: Jeffrey Bjorklund, Paul Brandt, David Horner, Nancy Peterson*

*Associate Professor: Jeffrey Jankowski*

*Visiting Faculty: Biswajit Saha*

### Mission Statement

The Chemistry department is dedicated to providing a challenging and supportive environment for students to: 1) learn chemical principles and laboratory skills; ii) develop their critical thinking and communication skills through course work and collaborative research; and iii) become informed and principled citizens.

Chemists study the structure and transformations of matter, and create entirely new substances such as pharmaceuticals, conducting polymers, and synthetic fibers. A degree in chemistry can prepare a student for employment in a private or government laboratory; medical, dental, veterinary, or law school; secondary school teaching; a position in a scientific firm; or graduate study and research in the sciences or engineering.

The Chemistry department's curriculum has been approved by the American Chemical Society and provides courses covering the five major areas of chemistry (analytical, biological, inorganic, organic, and physical). The laboratory experience is an important component of each course where students receive hands on experience with the department's wide range of research quality instrumentation. Students are encouraged to participate in ongoing

research supervised by the faculty during the school year or over the summer. Research experience is one way for students to distinguish themselves when they continue on into industry, research, or graduate school. In addition to the research opportunities on campus, students can explore undergraduate research opportunities at nearby Argonne National Laboratory or industrial companies.

Degrees offered: B.A. and B.S.

## Chemistry Major

### B.A. Requirements:

At least 29 credit hours in chemistry are required, including:

at least 22 credit hours at the 200-level or above;

one of CHM 405, 410, 420, 425, or BCM 465;

one course (3 credit hour minimum) in physical chemistry and one course (3 credit hour minimum) in each of three of the remaining four areas of chemistry (analytical, biological, inorganic, organic);

research seminar - CHM 475\*;

Note: CHM 397 and CHM 497 may not be counted toward the 29.75 credit hours minimum or the area requirement.

Required support courses for the B.A. Degree:

Calculus: MTH 141 or MTH 151, MTH 152

Physics: PHY 141, 142, and 143A or 143C; or 115 and 116

### B.S. Requirements:

At least 46.75 credit hours in chemistry, including:

ten core courses covering the five areas of chemistry:

analytical chemistry - CHM 210, 410

biological chemistry - BCM 365

inorganic chemistry - CHM 205, 405

organic chemistry - CHM 220, 221, 222

physical chemistry - CHM 340, 341

research seminar - CHM 475\*

at least three additional credit hours at the 400-level

introductory physics - PHY 141, 142, and 143A or 143C, or nine credit hours in physics in addition to CHM/PHY 340, at least three of which must be at the 200-level or higher

mathematics - MTH 152, 153

statistics - one of PSY 250, MTH 342, or BUS 241

additional requirements - one additional math or physics course to be chosen from: MTH 254, MTH 256, MTH 300, MTH 355, PHY 210, PHY 244 or PHY 245.

\*Chemistry majors must complete a research project by taking one of CHM 405, 410, 420, 425, 480, or BCM 465, or by participating in a non-credit research program (including off-campus programs). Each student presents the results of this research in the chemistry seminar course, CHM 475. CHM 475 is taken over three (usually nonconsecutive) terms. During the first two terms the student participates as an observer and questioner and enrolls in CHM 475 for no credit. CHM 190 may be substituted for one of these. During the third term the student gives the research presentation and enrolls in CHM 475 for one credit hour.

## Chemistry Minor

At least 22 credit hours in chemistry, which must include at least 15 credit hours numbered 200 or higher, must include CHM 210, and must cover two areas of chemistry.

## TYPICAL COURSE SEQUENCE FOR THE FIRST TWO YEARS

FIRST YEAR:	FALL	WINTER	SPRING
	CHM 141	CHM 142	CHM 205 or 210
	MTH 140 or 151	MTH 141 or 152	MTH 152 or 153
SECOND YEAR:	CHM 220	CHM 221	CHM 222
	PHY 141	PHY 142	CHM 475
			PHY 143

MTH 152 should be completed no later than the winter term of the second year.

**100 Chemistry Today (3.50)**

A chemistry course for non-science majors. A quest for understanding those facets of chemistry that most directly affect daily existence through a study of selected topics in inorganic, organic, and biological chemistry. Does not count toward a chemistry major. May not be taken after any higher level chemistry course. Laboratory. Prerequisite: high school Algebra or MTH 095. Core: Science (Lab).

**141 General Chemistry I: Bio-organic Molecules (3.75)**

An introduction to chemical principles through examples from the chemistry of carbon compounds and the molecules found in living systems, such as simple organic compounds, synthetic polymers, carbohydrates, lipids, proteins, and nucleic acids. Major topics include atomic and electronic structure, ions, molecules, bonding energies, hybridization, acid/base chemistry, thermodynamics, kinetics, stereochemistry, and polymer chemistry. Laboratory. Prerequisites: One year of high school chemistry; two years of high school algebra or MTH 095. Core: Science (Lab).

**142 General Chemistry II: Environmental Chemistry (4.00)**

An introduction to chemical principles within the context of the environmental issues of building copper mines, water treatment, and acid rain. Major chemical topics include aqueous reactions, properties of solutions, thermochemistry, equilibria, acid/base, buffers, redox, electrochemistry, coordination chemistry, metallurgy, and kinetics. Laboratory. Prerequisite: CHM 141.

**190 ACCA Seminar (0.00)**

Study of a current topic in chemistry. The topic is provided by the annual seminar series of the Associated Colleges of the Chicago Area, and attendance at the seminars is the major part of the course. May be repeated once with new content. May be substituted for one of the required non-credit CHM 475 courses. Prerequisite: One term of a 100 level CHM course.

**205 Descriptive Inorganic Chemistry (4.00)**

Theoretical concepts of bonding, acid/base, and redox chemistry. Descriptive chemistry of the elements highlighting their relationship to the biological world. Laboratory. Prerequisite: CHM 142.

**210 Chemical Analysis (3.75)**

Quantitative analysis including theory and techniques for gravimetric, volumetric, and spectrophotometric methods. Two laboratory sessions per week. Prerequisite: CHM 142.

**215 Organic Chemistry I (4.00)**

Survey of the various classes of carbon compounds, with emphasis upon molecular structure, stereochemistry, and mechanisms of chemical reactions.



Techniques for isolating and purifying organic compounds are learned in the laboratory. Only offered in Summer. Prerequisite: Seven credit hours in chemistry.

### **216 Organic Chemistry II (4.00)**

Continuation of CHM 215. This course builds on previously learned concepts to further explore the mechanisms of organic reactions. The emphasis shifts from physical organic to synthetic organic chemistry. Laboratory. Only offered in Summer. Prerequisite: CHM 215.

### **220 Organic Chemistry I (2.75)**

Survey of the various classes of carbon compounds, emphasizing molecular structure, stereochemistry, and mechanisms of chemical reactions. Techniques for isolating and purifying organic compounds are learned in the laboratory. Laboratory. Prerequisite: Seven credit hours in chemistry.

### **221 Organic Chemistry II (2.75)**

Continuation of CHM 220, emphasizing the chemistry of aromatic compounds, carbonyl containing functional groups, and alcohols. The synthesis and chemical transformations of organic molecules is studied in more depth. Laboratory work focuses on synthetic techniques as well as physical and spectroscopic methods for molecular structure determination. Prerequisite: CHM 220.

### **222 Organic Chemistry III Laboratory (3.00)**

Continuation of CHM 221, with emphasis on the synthetic transformations of carbonyl containing functional groups, nitrogen containing compounds, biomolecules, and pericyclic reactions. Laboratory work involves an 8-9 week research project, poster presentation, and formal written report. Prerequisite: CHM 221.

### **299 Independent Study (1.00-9.00)**

### **340 Thermodynamics (4.00)**

(Same as: PHY 340.) A study of the relationship of temperature to other properties of matter, using both macroscopic and microscopic viewpoints. Applications to chemical equilibrium, phase transitions, and thermal properties of gases and solids. Laboratory. Prerequisites: MTH 152; one of PHY 143A or PHY 143C.

### **341 Kinetics, Quantum Theory, & Spectroscopy (4.00)**

Survey of experimental and theoretical physical chemistry, including methods for determining rates and mechanisms of chemical reactions, quantum theory of atomic structure and chemical bonding, and spectroscopic methods used to determine molecular structure. Laboratory. Prerequisites: Seven credit hours in chemistry; MTH 152; one of PHY 143A or PHY 143C.

### **397 Internship (0.00-9.00)**

### **399 Independent Study (1.00-9.00)**

### **405 Advanced Inorganic Chemistry (3.75)**

Coordination chemistry of the transition metals including isomerism, symmetry, group theory, molecular orbital theory, crystal field theory, uv-visible spectroscopy, and kinetics and mechanisms of ligand substitution reactions. Laboratory required. Prerequisite: CHM 341.

**410 Instrumental Analysis (4.00)**

Theory and practice of instrumental analytical chemistry. Major topics include potentiometric and voltammetric methods, chromatography, spectrophotometry, mass spectrometry, and nuclear magnetic resonance spectrometry. Two laboratory sessions per week. Prerequisites: CHM 210; one of PHY 115, PHY 143A, or PHY 143C.

**420 Advanced Organic Chemistry (3.75)**

Topics in organic chemistry which build on the principles covered in CHM 220 and 221. The course explores one topic in depth, with emphasis on organic synthesis and natural products chemistry. Laboratory. Prerequisite: CHM 222 or CHM 216.

**425 Organometallic Chemistry (3.75)**

Structure and bonding, ligands, reactions, and catalysis in chemical industry and pharmaceuticals. Laboratory required. Prerequisite: CHM 341.

**430 Special Topics (1.00-3.75)**

Advanced topics in chemistry. May be repeated with new content. Prerequisite: Varies with topic.

**475 Seminar (0.00-1.00)**

(Same as BIO 475.) Each student presents the results of a laboratory research project in a scientific meeting format. Prerequisite: If taken for no credit, none; if taken for credit, one 400-level chemistry course or one BIO course that includes research-type experience or an independent study.

**480 Research (1.00-6.00)**

Individual laboratory investigation of a problem in chemistry, undertaken with guidance of a faculty member. May be repeated up to a maximum of six credit hours.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Classical Civilization

See **Modern and Classical Languages** for a description of courses and programs of study in Greek and Latin.

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## Communication

See **Speech Communication** for a description of courses and programs of study in communication.

# Computer Science (CSC)

*Professors: Stephen C. Renk, Caroline St. Clair*

*Associate Professors: Godfrey C. Muganda, Judy C. Walters*

## Mission Statement

The mission of the Computer Science department is to create effective, ethical problem solvers who understand and can apply the principles of computer science and information management to serve the research and business communities, as well as society in general.

The Computer Science department offers both undergraduate and graduate degrees with a curriculum based upon national guidelines suggested by the ACM and IEEE computer societies. The focus is on providing students with pragmatic, up-to-date knowledge and skills built on a solid theoretical foundation.

The objectives of the curriculum are to:

- Help students develop strong problem-solving skills leading to the construction of effective problem solutions;
- Introduce students to the fundamental concepts of computer science applicable to a variety of computer systems and areas;
- Provide students with pragmatic, usable knowledge built on a strong theoretical foundation;
- Promote development of effective communication skills;
- Allow students, through a variety of advanced electives, to gain knowledge and experience in areas of special interest.

The College and the Department offer an excellent computing environment with up-to-date hardware and software. Students have access to over 160 Windows-based PCs and 50 MAC workstations running OS X, all connected to each other and to the Internet by a high-speed campus network. A separate graphics and multimedia laboratory offers scanners, color printers, digital cameras, video capture equipment, and other hardware and software for creating and editing digital and video images. Course work exposes students to a wide variety of software for the development of server, desktop, and web applications. Through course work students gain experience with operating systems such as Windows and Linux; databases such as ORACLE and MySQL; and programming languages such as Java, C++, C#, VB.NET, Perl, PHP, SQL, JavaScript, and ActionScript.

**Cooperative Learning** - North Central's ideal location offers students many opportunities to engage in paid internships and cooperative learning experiences with leading corporations and research laboratories. Students are encouraged to take advantage of these opportunities and it is common for our undergraduates to work in areas related to their computer studies during much of their junior and senior years.

Degrees offered: B.A. and B.S.

## Computer Science Major

At least 39 credit hours to include:

Core for B.A. and B.S. degrees:

CSC 160	Computer Science I
CSC 161	Computer Science II
CSC 210	Data Structures and Algorithms
CSC 220	Computer System Concepts

- CSC 230 Discrete Structures I  
 CSC 306 Software Development in C++  
 CSC 495 Capstone Seminar

Application: select three of the following courses

- CSC 415 Web Programming  
 CSC 420 Operating Systems (recommended for B.S. degree)  
 CSC 453 Systems Analysis (recommended for B.A. degree)  
 CSC 460 Database Management Systems (recommended for B.A. degree)  
 CSC 469 Computer Networks  
 CSC 479 Computer and Network Security (recommended for B.S. degree)

Electives: select three or more courses in computer science

Required communications support:

Select two of the following courses (may include the one used to fulfill the communications requirement within general education):

- ENG 265 Style  
 IFS 320 Multimedia Presentation  
 IMS 200 Writing Across Media  
 LEV 230 Conflict Resolution  
 SPC 100 Speech Communication  
 SPC 200 Interpersonal Communication  
 SPC 214 Group Process  
 SPC 230 Business and Professional Communication

Additional requirements:

B.A. degree:

Complete a minor outside of CSC/IFS **-or-**

Complete three additional communications courses from the communications support list above.

B.S. degree:

MTH 152 Calculus II

One of BUS 241, PSY 250, or MTH 342 (Statistics)

One of MTH 153, MTH 256, or CSC/MTH 231

CSC 231 may be used as a CSC elective or as a B.S. support course, but not both.

#### TYPICAL COURSE SEQUENCE FOR THE FIRST TWO YEARS

FIRST YEAR:	FALL CSC 160 *IFS 115	WINTER CSC 161	SPRING CSC 230
or	*IFS 115	CSC 160	CSC 161 CSC 230
	*IFS 115 is a recommended elective		
SECOND YEAR:	CSC 210 MTH 151 (B.S.) or B.A. support course	CSC 220 MTH 152 (B.S.) or B.A. support course	CSC 306 CSC 231 or MTH 153 (B.S.) or B.A. support course

### Computer Science Minor

A minimum of 19 credit hours of Computer Science.

Students with equivalent background for a core course may have it waived by the department chair and substitute an additional CSC elective in its place.

**Internships:** While internships in the computer industry are not required for majors and minors, they are highly recommended. A maximum of six credit hours of internship can be applied to a computer science major. A maximum of three credit hours of internship can be applied to a computer science minor.

**Transfer Students:** Many computer science courses from other institutions can be used toward an NCC degree. However, transfer students should be aware that some work at other institutions may not be accepted by the College. For example, courses focusing on topics like computer center operations, hardware repair, or JCL do not transfer. Computer science course work more than five years old is evaluated to determine if it is sufficiently current.

**Graduate Work:** North Central undergraduate students may transfer up to six credit hours of work at the 500 level into the master's program in computer science, provided these credits are in excess of the minimum credits required for their undergraduate degree program. Courses at the 600 level are not open to undergraduates.

### **Bioinformatics Minor**

A minimum of 19.75 credit hours to include:

- CSC 160 Computer Science I
- BIO/CSC 242 Introduction to Bioinformatics
- CHM 141 General Chemistry I: Bio-organic Molecules
- BIO 102 Biology II: Introduction to Cell Biology and Genetics

One course from the following (course must be outside the student's major):

- CSC 161 Computer Science II
- CSC 230 Discrete Structures I
- BIO 200 Cellular Biology
- BIO 260 Genetics

One course from the following:

- CSC 340 Algorithms
- CSC 460 Database Systems
- BIO 340 Microbiology
- BIO 360 The Molecular Biology of Cancer
- BIO 400 Evolution
- BCM 365 Biochemistry
- MTH 341 Probability and Statistics I
- PSY 370 Biological Psychology

### **Integrated Bachelor's/Master's Program**

North Central College's integrated B.A. or B.S./M.S. in Web and Internet Applications program allows a student to earn both a bachelor's degree (in any discipline) and the Master of Science degree in Web and Internet Applications, normally in five years of study. Admission to this program is open to all academically strong students who have completed CSC 160, CSC 161, CSC 220 and CSC 230, with an overall G.P.A. of at least 3.333.

#### **160 Computer Science I (3.50)**

An introduction to computer science and programming emphasizing the development of algorithms and their implementation in Java. Topics include inheritance, data types such as arrays and strings, control mechanisms for selection and iteration, objects and classes, graphical user interfaces, and event-driven programming. Extensive programming required. Laboratory. May not be taken after a higher level programming class. Prerequisite: MTH 121 or higher or appropriate placement.

**161 Computer Science II (3.50)**

A second course in object-oriented programming, emphasizing design and implementation of efficient, well constructed programs using Java. Topics include graphical user interfaces, polymorphism, exception handling, stream and file I/O, algorithms for searching and sorting, recursion, linked lists, stacks, and queues. Extensive programming required. Laboratory. Prerequisites: CSC 160 or one year of high school programming in Java; MTH 121 or higher or appropriate placement.

**171 Elements of Java I (1.50)**

An introduction to Java for students with some programming experience in an object-oriented language, but with little or no knowledge of Java. Covers event-driven programming and graphical user interfaces. Prerequisite: Transfer credit for (non-Java) Computer Science I.

**172 Elements of Java II (1.50)**

Further study of Java for students who have limited knowledge of Java and are familiar with the concepts of searching and sorting, recursion, and elementary data structures such as linked lists, stacks, and queues. Covers graphical user interfaces, polymorphism, exception handling, streams, and files. Prerequisite: Transfer credit for (non-Java) Computer Science II.

**210 Data Structures and Algorithms (3.00)**

Structures, techniques, and algorithms for managing data. Topics include variations of linked lists; binary trees, B-trees, and other types of search trees; advanced searching and sorting algorithms; graphs and graph algorithms; and analysis of algorithms. Programming required. Prerequisites: CSC 161 and knowledge of C++ or Java. Recommended: CSC 230.

**215 Introduction to Web Programming (3.00)**

(Same as: IMS 215) Topics include the use of PHP and Ruby for server-side generation of content. Also covers HTML/CSS and Javascript for client-side presentation, SQL databases for information management and retrieval, management of shopping carts and client sessions, and security. Extensive programming required. Prerequisite: CSC 161. Recommended: IFS 115.

**220 Computer System Concepts (3.00)**

Basic computer architecture including combinational circuits, instruction sets, microprogramming, and assembly language, I/O (devices, busses and interrupts), and memory systems and organization. Programming required. Prerequisite: CSC 161. Recommended: CSC 230.

**225 Web and Animation Programming with Flash (1.50)**

Course covers program control of Flash animation to build content-rich interactive Web pages. Topics include client-side scripting, plug-ins, environment and session variables, components, animation control with ActionScript, audio and video, interaction with HTML elements, usability, and interface design. Prerequisites: CSC 161, IFS 115, IFS/IMS 125.

**230 Discrete Structures I (3.00)**

(Same as: MTH 230.) Fundamental topics in mathematics and computer science including formal logic, proof techniques, sets, relations and functions, combinatorics, graphs, logic circuits, and finite state machines. Prerequisites: CSC 160, MTH 121 or higher or appropriate placement. Core: Mathematics.

**231 Discrete Structures II (3.00)**

(Same as: MTH 231.) A second course in discrete mathematics that introduces more advanced topics as well as covering some of the material introduced in CSC/MTH 230 in more depth. Topics include growth of functions and complexity of algorithms; number theory; recursive definitions and algorithms; proof techniques; program verification; discrete probability; finite state automata; and formal grammars and language recognizers. Hands-on labs allow students to apply one or more course topics to build practical working systems. Prerequisite: CSC/MTH 230.

**242 Introduction to Bioinformatics (3.00)**

(Same as: BIO 242.) An introduction to the field of bioinformatics. Computational methods for study of biological sequence data in comparative biology and evolution. Analysis of genome content and organization. Techniques for searching sequence databases, pairwise and multiple sequence alignment, phylogenetic methods, and methods for pattern recognition and functional inference from sequence data. Database theory, information extraction, algorithm analysis, and data mining are utilized. Prerequisites: CSC 160; BIO 100 or BIO 120; BIO 102 recommended.

**297 Internship (0.00-4.00)****299 Independent Study (1.00-4.00)****306 Software Development in C++ (3.00)**

Object-oriented design and implementation of large scale software using C++. Topics include development of event-driven software with graphical user interfaces. Prior knowledge of C++ is not required. Extensive programming required. Prerequisites: CSC 161 and knowledge of C++ or Java. Recommended: CSC 210.

**340 Algorithms (3.00)**

(Same as: CSC 540.) Design and analysis of algorithms. Classification of algorithms by time and space complexity. Algorithm design techniques such as divide and conquer, the greedy method, and dynamic programming. NP-complete problems and approximation algorithms. Introduction to parallel algorithms. Programming may be required. Prerequisites: CSC 210, CSC 230, Junior standing or instructor consent. Not available for credit to students who have previous credit for CSC 440.

**355 Windows and .NET Programming (3.00)**

System and application programming on Windows and the .NET platform using C#. Topics include Windows Forms and the Windows Presentation Foundation, interprocess communication, .NET network programming, ADO.NET, and security. Prerequisite: CSC 161. Not available for credit to students who have previous credit for CSC 255 or CSC 431.

**397 Internship (0.00-4.00)****399 Independent Study (1.00-4.00)****415 Web Applications (3.00)**

(Same as CSC 515.) Development of web applications using various client-side and server-side web technologies on the Java EE and .NET platforms. Topics include: HTTP protocols, Javascript, AJAX, JSP, JSTL, ASP.NET, JDBC and

ADO.NET for database access, and web application security. Extensive programming required. Prerequisites: CSC 161 or CSC 500, Junior standing or instructor consent.

### **420 Operating Systems I (3.00)**

(Same as: CSC 520.) An examination of approaches to computer system resource management. Topics include scheduling, memory management, file systems, I/O management, multiprocessing, security, and protection. Programming may be required. Prerequisites: CSC 161, CSC 220, Junior standing or instructor consent.

### **425 Computer Graphics (3.00)**

(Same as: CSC 525.) 2D and 3D graphical applications implemented in OpenGL. Includes graphics, display technologies, and human factors. Extensive programming required. Prerequisite: CSC 306, Junior standing or instructor consent.

### **427 Linux Programming (3.00)**

(Same as: CSC 527.) Fundamental concepts, operating system kernel, library facilities, and programming techniques that provide the foundation for application programming on Linux systems. Course topics include process management, input/output, signals, sockets, interfacing to the Internet, Shell programming, and software project development tools. The course does not cover system administration or operating system internals. Major project required. Students may not receive credit for both CSC 427 and CSC 490/590 Special Topics: UNIX/Linux. Prerequisite: CSC 306; Junior standing or instructor consent. CSC 420 recommended.

### **435 Windows Game Programming (3.00)**

(Same as: CSC 535.) Design and development of Windows game software. Topics include computer graphics, networking, event-driven programming, the Windows API, GDI and Win32 libraries, DirectX, DirectInput, DirectSound, DirectPlay, modeling tools, and graphics engines for games. Extensive programming in C++ required. Students may not receive credit for both CSC 435 and CSC 490/590 Special Topics: Game Software. Prerequisite: CSC 425, Junior standing or instructor consent.

### **436 Human Computer Interaction (3.00)**

(Same as: CSC 536.) Fundamental principles in the design, implementation, and evaluation of human-machine interfaces with emphasis on human computer interaction. Topics include user psychology, theories of human learning and perception, audio and visual physiology, graphical user interfaces, task analysis, and usability heuristics. Prerequisite: CSC 160, Junior standing or instructor consent.

### **453 Systems Analysis (3.00)**

(Same as: CSC 553.) Methods, techniques, and tools to model and analyze systems. Topics include problem definition, the project life cycle, organizational change, data acquisition, data flow and entity-relationship modeling, use cases, and domain engineering. Major project required. Prerequisite: CSC 161, Junior standing or instructor consent.

### **460 Database Management Systems (3.00)**

(Same as: CSC 560.) Data modeling, and database design and implementation, with emphasis on the relational model. Includes SQL, PHP, JDBC, integrity, security, recovery, and concurrency issues, and business applications of database systems. SQL, PHP, and JDBC programming required. Prerequisite: CSC 161, Junior standing or instructor consent.



**464 Data Mining (3.00)**

(Same as: CSC 564.) An introduction to data mining in the context of KDD (Knowledge Discovery and Data Mining), covering the three main phases of the KDD process: preprocessing, data extraction, and data analysis. Includes data cleaning and preparation techniques; extraction methods such as deviation detection, classification, dependency modeling, and clustering; statistical analysis methods; and visualization techniques. Prerequisite: CSC 460, Junior standing or instructor consent.

**469 Computer Networks (3.00)**

(Same as: CSC 569.) Exploration of data communications and computer networks. Topics include network architecture, TCP/IP protocols, wireless and mobile networks, and network security. Includes hands-on lab activities and an introduction to network programming. Prerequisite or co-requisite: CSC 220, Junior standing or instructor consent.

**479 Computer and Network Security (3.00)**

Students are introduced to the theory and methods for developing and maintaining secure systems and applications. Topics include secure infrastructures, intrusion prevention and detection, viruses and anti-virus software, software security, authentication, cryptography, and legal and ethical issues. Prerequisites: CSC 469, Junior standing or instructor consent.

**487 Parallel Processing and Concurrent Programming(3.00)**

(Same as: CSC 587.) A course in hardware, software, and language aspects of parallel computing, focusing on the development of effective parallel algorithms and their implementation on a variety of parallel architectures and interconnection networks. Students may not receive credit for both CSC 487 and CSC 635. Prerequisite: CSC 420, Junior standing or instructor consent.

**490 Special Topics (3.00)**

(Same as: CSC 590.) A course covering a topic of current interest, such as eBusiness or mobile computing. Prerequisite: Varies with topic, Junior standing or instructor consent.

**495 Capstone Seminar (3.00)**

The Computer Science capstone course allows students to apply the many skills they have acquired during their undergraduate studies by participating as a member of a team to design, develop, and present a software solution to a substantive problem. Group process and leadership skills are addressed as well as ethical considerations important to computer science professionals. Prerequisites: Junior standing; Computer Science major or minor. ACR: Leadership, Ethics and Values.

**497 Internship (0.00-4.00)****499 Independent Study (1.00-9.00)**

Designed for students who want to study a topic not covered in a regular course. Prerequisite: Consent of instructor.

# East Asian Studies (EAS)

*Professor: Fukumi Matsubara*

*Associate Professor: Brian Hoffert*

*Assistant Professor: Luke Franks*

## Mission Statement

The East Asian Studies program engages students in the intensive study of Chinese and Japanese language, history, literature, art, and religion in order to help them acquire the skills to pursue a career that focuses on some aspect of East Asian civilization.

The program is predicated on the principle that true communication requires an understanding of both language and culture. Students not only learn to appreciate Chinese and Japanese culture, but to better understand the distinctive cultural patterns that structure their own lives. The program provides essential preparation for anyone interested in living and working in or dealing with East Asia. More generally, East Asian Studies is of interest to anyone curious to explore the diversity of the human experience.

Degrees offered: BA.

## East Asian Studies Major

The major is divided into a “Japan Track” and a “China Track.” All students must finish two years (18 credit hours) in the language of their chosen region. They must complete an additional 21 credit hours in various aspects of East Asian history, religion, and art.

A. EAS 165 Introduction to East Asia

B. Each student must complete one of the following tracks:

### Japan Track

In addition to 18 credit hours in Japanese language, one of the following:

HST 263 Japanese History -or-

EAS 292 Japanese Culture and Society

### China Track

In addition to 18 credit hours in Chinese language, one of the following:

HST 261 Traditional China -or-

HST 265 Modern China

C. At least one of the following courses:

REL 260 The Religions of China

REL 265 The Religions of Japan

REL 315 Buddhism

HST 330 East Asian Thought

D. At least one additional elective, to be chosen from:

One of REL 260, REL 265, REL 315, or HST 330

ART 140 Oriental Brush Painting

ART 264 Global Art Survey

ECN/PSC 324 International Political Economy

GLS 365\* Topics in Global Studies

REL 255 The Religions of India

THE 363 Classical Asian Theatre

\*When topic is approved by the East Asian Studies faculty.

E. Six credit hours in an approved program of study abroad in East Asia. Students may study at NCC's programs in Japan, Republic of China, People's Republic of China, or South Korea. Students are strongly urged to continue their language training upon return from Asia.

F. EAS 499 Independent Study  
Students finish their program with EAS 499, an independent research project. This project examines some aspect of East Asian history, literature, or religion, drawn from and building upon previous coursework and the study abroad experience.

### **East Asian Studies Minor**

The minor is also divided into a "Japan Track" and a "China Track." Students must complete 9 credit hours of study in the appropriate language, as well as 12 additional credit hours to be distributed as follows:

#### **Japan Track**

EAS 165 Introduction to East Asia  
HST 263 Japanese History **-or-** EAS 292 Topics in Japanese Culture  
REL 265 The Religions of Japan  
HST 330 East Asian Thought **-or-** REL 315 Buddhism **-or-**  
EAS 399 Independent Study

#### **China Track**

EAS 165 Introduction to East Asia  
HST 261 Traditional China **-or-** HST 265 Modern China  
REL 260 The Religions of China  
HST 330 East Asian Thought **-or-** REL 315 Buddhism **-or-**  
EAS 399 Independent Study

#### **165 Introduction to East Asia (3.00)**

**IAI: S2 908N**

(Same as: HST 165, HTB 165.) An introduction to major themes in the cultural history of China and Japan. Foundational texts of East Asian philosophy, religion, and literature are read and discussed in their historical context. Important works of East Asian art and film are viewed and analyzed. The goal is to develop a basic familiarity with the evolution of Chinese and Japanese civilizations from their ancient foundations to their modern manifestations. Core: Humanities or Social Science.

#### **292 Japanese Culture and Society (3.00)**

A study of the cultural and social structures that have historically defined Japanese civilization and continue to shape the contemporary Japanese experience with regard to areas such as family, education, ritual, art, politics and economics. Core: Humanities or Social Science.

#### **397 Internship (0.00-9.00)**

#### **399 Independent Study (1.00-9.00)**

#### **497 Internship (0.00-9.00)**

#### **499 Independent Study (1.00-9.00)**

# Economics (ECN)

*Professors: Peter Barger, Andrew Whitaker*

*Associate Professors: Diane Anstine, Marti Bogart, Doh-Khul Kim*

*Assistant Professors: Patrick Gray, Brandon Sheridan*

*Adjunct Faculty: Keith Feiler*

## Mission Statement

The mission of the Economics and Finance departments is to teach economics and finance majors the basic conceptual framework needed for advancement in their careers, to contribute to the curricular needs of the accounting and management and marketing undergraduates, to provide support courses and the finance courses for the masters degree programs, and to offer courses fulfilling the general education requirements of all students at North Central College. The departments seek to inspire students in each of these areas to cultivate quantitative analytical skills and to communicate their results precisely and elegantly.

Economists are active advisors to government at all levels, corporations, and the financial services sector. Economics is the study of how individuals, firms, and societies make decisions about the allocation of scarce resources. Many students select an economics major because it develops skills that are widely valued in finance, business, government, and law. An economics major is also excellent preparation for students who seek advanced degrees in economics, finance, business, and law.

The economics department offers both a Bachelor of Arts (B.A.) and a Bachelor of Science degree (B.S.). The B.A. degree is most appropriate for students who are planning on general business careers or entry-level government positions. The B.S. degree is advisable for students who seek careers which demand a technical or quantitative focus, or who intend to pursue graduate study.

Degrees offered: B.A. and B.S.

## Economics Major

### B.A. Requirements:

At least 24 economics credit hours, including the following:

ECN 241*	Business and Economic Statistics
ECN 250	Microeconomic Principles
ECN 252	Macroeconomic Principles
ECN 423	Intermediate Microeconomics
ECN 427	Intermediate Macroeconomics
ECN 445	Is not <i>required</i> but is <i>strongly recommended</i>

### B.S. Requirements:

At least 27 economics credit hours, including the following:

ECN 241*	Business and Economic Statistics
ECN 250	Microeconomic Principles
ECN 252	Macroeconomic Principles
ECN 423	Intermediate Microeconomics
ECN 427	Intermediate Macroeconomics
ECN 445	Econometrics

Required Support Courses for the B.S. degree:

MTH 152      Calculus II

Choose one of MTH 153 or MTH 256

Choose one of CSC 160, MTH 153 (if not taken for first choice), one 200- or 300-level mathematics course, or one laboratory science course beyond the general education requirements

\*PSY 250 or MTH 342 may be substituted for ECN 241, but do not count toward the total number of required credit hours in economics.

### **Economics Minor**

At least 18 credit hours in economics, at least three of which must be at the 400-level.

**TYPICAL COURSE SEQUENCE:** Economics majors typically use their freshman year to fulfill general education requirements and complete MTH 121 (a prerequisite for ECN 250 and ECN 252). B.S. majors will want to begin working on the College's general B.S. requirements during their first year—particularly MTH 152 and its prerequisites.

	FALL	WINTER	SPRING
FIRST YEAR:	GENERAL EDUCATION and MTH 121		
SECOND YEAR:	ECN 250	ECN 252	ECN 241

#### **100 Economics of Social Issues (3.00) IAI: S3 900**

This course surveys the basic principles of economic theory with a special emphasis on applications of economics to practical problems. Use of supply and demand analysis enables the student to better understand how the market system works. Included among other issues to be covered are inflation, unemployment, pollution, health care, international trade, and income distribution. This course may not be taken after completing either ECN 250 or ECN 252. Core: Social Science.

#### **210 History of Economic Thought (3.00)**

An examination of economic thought with major concentration on the selected writings of economists from the mercantilists through the early 20<sup>th</sup> Century, such as Smith, Ricardo, Malthus, Marx, Veblen, Keynes, and Schumpeter. Core: Humanities.

#### **241 Business and Economic Statistics (3.00)**

(Same as: BUS 241.) This course is designed to provide students with the ability to apply and interpret descriptive and inferential procedures, probability distributions, statistical sampling and design, hypothesis testing, and regression. Primary objectives are to improve the statistical capabilities of students as well as their abilities to apply statistical concepts in a business setting. Prerequisites: MTH 121 or higher or appropriate placement. Note: Students may not receive credit for both ECN/BUS 241 and PSY 250. Core: Mathematics.

#### **250 Microeconomic Principles (3.00)**

**IAI: S3 902**

Introduction to the theory of consumer choice, social and individual welfare, the behavior of business firms under pure competition and monopoly, and applied microeconomic topics. Prerequisite: MTH 121 or higher or appropriate placement. Core: Social Science.

#### **252 Macroeconomic Principles (3.00)**

**IAI: S3 901**

Introduction to macroeconomic theory, with emphasis on factors which explain changes in national income, unemployment, and inflation. Other topics include money and banking, and fiscal and monetary policies. Prerequisite: MTH 121 or higher or appropriate placement; ECN 250 recommended. Core: Social Science.

**290 Special Topics: Contemporary Issues in Economics (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are announced in advance and placed in the course schedule. May be taken more than once with different content. Prerequisites: ECN 250 and/or ECN 252; or ECN 100.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****320 Industrial Structure and Public Policy (3.00)**

An application of microeconomics which involves analysis of the structure, conduct, and performance of firms within industries. The empirical evidence and economic theory relating to pricing practices and policies under various market structures is also examined. Special emphasis is placed on the theory and precedents in U.S. anti-trust policy and the problems associated with the regulation of industry. Prerequisite: ECN 100 or ECN 250.

**324 International Political Economy (3.00)**

(Same as: PSC 324.) Analyses of the problems and prospects challenging the global community at a time of political and economic change through the study of the roles of industrialized countries, former socialist bloc states, and the Third World. Attention is given to the interplay of political and economic power as components of planetary well-being. Prerequisites: ECN 250 and ECN 252; or ECN 100. ACR: Intercultural.

**330 Labor Economics (3.00)**

The economic theory and policy pertaining to the market for labor. Stress on how the market determines employment and income and how human resources contribute to individual and national economic welfare. Prerequisites: ECN 250, and ECN 252; or ECN 100.

**340 International Economics (3.00)**

The theory of international trade and the behavior of international institutions. Examination of how trade, trade restrictions, and international monetary systems affect domestic business and economic prospects. Prerequisites: ECN 250 and ECN 252; or ECN 100.

**350 Public Finance and Social Welfare (3.00)**

An examination of the economic role of the public sector in the United States with an emphasis on theory and policy analysis of the effects of government spending and taxation. Topics include the role of government intervention in the market, the tax system, income redistribution programs, social security, and deficit financing, among other current policy issues. Prerequisites: ECN 250 and ECN 252; or ECN 100.

**360 Money and Banking (3.00)**

An examination of the function of money, credit, and financial institutions in the U.S. economy, and an analysis of Federal Reserve policy and its impact on the macroeconomy. Prerequisites: ECN 250 and ECN 252; or ECN 100.

**390 Special Topics: Contemporary Issues in Economics (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are announced in advance and placed in the course schedule. May be taken more than once with different content. Prerequisites: ECN 250 and/or ECN 252; or ECN 100.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****423 Intermediate Microeconomics (3.00)**

An economic analysis of consumers, firms, and markets. Consumer theory includes indifference curve analysis with selected applications related to a wide range of consumer behavior. The costs and revenue decisions of the firm are analyzed within the context of standard assumptions about economic behavior. Prerequisite: ECN 250.

**427 Intermediate Macroeconomics (3.00)**

An analysis of income, consumption, investment, interest, and money in their relationships to the national economy, equilibrium, and level of employment and prices. Prerequisites: ECN 250 and ECN 252.

**440 Mathematical Economics (3.00)**

This course focuses on the application of mathematics to the theoretical aspects of economic analysis. Topics may include equilibrium analysis, comparative statics, optimization problems, and dynamic analysis. Prerequisites: ECN 250, ECN 252; one of MTH 141 or MTH 151.

**445 Econometrics (3.00)**

This course provides exposure to the estimation and testing of economic models using statistical methods and appropriate empirical data. Emphasis is placed on model construction and the use of multiple linear regression for interpretation, analysis, and forecasting. Prerequisites: ECN 250; ECN 252; and ECN 241 or MTH 341 and 342.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## The Division of Economics and Business (ECB)

See **Accounting, Economics, Management and Marketing, and Finance** for a description of courses and programs of study in the Division of Economics and Business. In the Management and Marketing section, descriptions of programs of study can be found for Management, Marketing, Entrepreneurship and Small Business Management, International Business, Human Resource Management, and Management Information Systems.

**110 Business and Society (3.00)**

An examination of the American business system, its role in the global economy, and its responsibility to society. The course explores the various functions within business organizations. No credit toward graduation will be given if taken after the completion of one 200 level course in the Economics and Business Division.

**190 Special Topics (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are announced in advance and placed in the printed schedule of classes.

**200 SIFE, Leadership Experiential (1.50)**

Development of leadership, communication, decision making, group dynamics, problem solving, personal, and planning skills through community based student generated programs. Evaluation is based on accomplishment outside of the traditional classroom setting. This course is open to all majors and may be taken twice for credit.

**390 Special Topics (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are announced in advance and placed in the printed schedule of classes.

**490 Special Topics (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are announced in advance and placed in the printed schedule of classes.

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## Education (EDN)

*Professors: Rebecca Clemente, Sheryl L. Finkle, Nancy J. Keiser*

*Associate Professors: Maureen Kincaid, Shwuyi Leu, Kristine A. Servais*

*Assistant Professor: Mary Beth Ressler*

*Visiting Faculty: Kathleen King*

*Adjunct Faculty: Julie M Carballo*

### Mission Statement

The department of Education prepares undergraduate teacher candidates and practicing teachers to facilitate the learning of all students, enabling both teachers and their students to act as informed, involved, principled, and productive citizens and leaders over a lifetime.

The Education department offers a specialized, undergraduate certification program in education to prepare elementary (grades K-9), secondary (grades 6-12), K-12 art, K-12 foreign language, K-12 music and K-12 physical education teachers. It is an experience-oriented teacher education program based on the liberal arts. The faculty of the education department is committed to the serious study of education and the promotion of professional standards to foster innovation in professional preparation. This commitment encompasses social issues, such as multicultural and ethnic education, with an emphasis on preparing candidates to teach in diverse school settings. The program is approved for certification by the Illinois State Board of Education. Teacher education programs differ from other programs at the College in that additional specific criteria must be met in the area of general education, as well as in the area of the major.



Degree offered: B.A. (Elementary Education major)

Minors offered: Secondary Education, Reading, and English Language Learner (offered in conjunction with the Department of Modern and Classical Languages).

Certification offered: Art (K-12), elementary education (K-9), English, foreign language (designations in Spanish, German, or French) (K-12), mathematics, music (K-12), physical education (K-12), science (designations in biology, chemistry, or physics), and social science (designation in history).

## I. ADMISSION TO THE TEACHER EDUCATION PROGRAM

All students wishing to pursue teacher certification must apply for admission to the teacher education program. An application, which is available online, should be submitted as soon as the student meets the admission criteria. Transfer and certification-only students should apply for the teacher education program immediately upon meeting the requirements for admission. The following criteria have been established by the Teacher Education Committee (TEC) as requirements for admission to the program:

- 1) Complete an application.
- 2) Successfully complete EDN 100 with a grade of "C" or higher.\*
- 3) Students minoring in Secondary Education must successfully complete a minimum of nine credit hours in their academic (teaching) major with grades of "C" or higher.\*
- 4) Students minoring in Secondary Education must earn a 2.500 grade point average (GPA) in the major, and a 2.750 GPA overall and in the professional education courses. This includes course work from all institutions attended.
- 5) Students majoring in Elementary Education must successfully complete a minimum of nine credit hours in the major beyond PSY 100, with grades of "C" or higher.\*
- 6) Students majoring in Elementary Education must earn a 2.750 grade point average (GPA) overall, in the major, and in all the professional education courses. This includes course work from all institutions attended.
- 7) Pass the Illinois Test of Basic Skills (300) or the Illinois Test of Academic Proficiency (TAP).
- 8) Declare a major in Elementary Education or minor in Secondary Education.
- 9) Submit a four year plan signed by the student's assigned advisor.
- 10) Submit the student self-assessment of dispositions document.
- 11) Submit the Professional Dispositions document completed by a faculty member in the major.
- 12) Continuing education students must submit a copy of their transcript evaluation

\* Note: Grades of "C-" do not meet the minimum standard of "C."

### **Elementary Education Major:**

**Acceptance into the Teacher Education Program is a prerequisite for methods courses requiring 40 or more practicum hours (EDN 362 and 367).**

### **Secondary Education Minor:**

**Acceptance into the Teacher Education Program is a prerequisite for methods courses requiring 40 or more practicum hours (EDN 300, 310, 331, 333, 338, 340, 342, 344, 346, 348, 351, and 353.).**

**All Students Enrolling in Education practicum courses:**

Consistent with state law that requires Illinois school districts to conduct criminal background investigations of applicants for certified and non-certified positions, North Central College requires that all candidates seeking Illinois certification submit to an FBI criminal background fingerprint check prior to their field experience in the schools. The College has chosen Accurate Biometrics to conduct these background checks on its behalf. NCC will not accept criminal background check reports from other sources. Information about how to complete the background check with Accurate Biometrics is contained in the NCC Department of Education student handbook and on the department website.

Background checks and valid T.B. tests are required in order for students to register for the following courses: EDN 100, 211, 270, 302, 311, 330, 324L, 326L, 328L, 332, 352, 365, 369, 371, 373, 381, 485, and HPE 290 (or any other course requiring interactions with school-age children). Only a candidate whose background check is clear or states “no record” is eligible to be placed in the schools. The process that will be followed in the event of a record on the background check is described in the NCC Department of Education student handbook. The candidate is responsible for payment of all fees associated with the background check and T.B. tests.

**II. CURRICULUM FOR ELEMENTARY EDUCATION MAJOR AND CERTIFICATION (K-9)**

Students seeking elementary certification must satisfy:

1. North Central College’s elementary education major
2. North Central College’s general education requirements
3. State of Illinois certification requirements for grades K-9

NOTE: Each course can be used for only one certification requirement.

NOTE: All students completing a degree program must adhere to the number of credit hours as indicated below.

**A. GENERAL EDUCATION REQUIREMENTS**

The elementary education program follows the college’s general education requirements with the following exceptions:

1. MTH 108 Elementary Mathematics II must be taken to fulfill the Mathematics requirement (prerequisite of MTH 107 Elementary Mathematics I)
2. PSC 101 Introduction to American Government must be taken within the Social Science requirement
3. PSY 100 Introduction to Psychology must be taken within the Social Science requirement
4. PSY 210 Child Development must be taken within the Social Science requirement
5. A 100 or 200 level U.S. History course must be taken within the Humanities requirement
6. ENG 196 Reading Literature must be taken within the Humanities requirement
7. 3.50 additional hours of lab science are also required for a total of 10 hours of science (including at least 3.50 hours of biology with a lab and at least 3.50 hours of physical science with a lab)

- B. NORTH CENTRAL COLLEGE ACADEMIC MINOR OR ENDORSEMENT — Elementary Education majors must select at least one minor or one endorsement according to the NCC guidelines. Specific NCC guidelines for endorsement requirements can be found in the advising packets on the department's website.

### **K-5 Science Endorsement**

Elementary school teachers are increasingly encouraged to develop the scientific literacy of their students. The K-5 Science Endorsement gives elementary education majors a realistic option for increasing their science content knowledge and confidence, preparing them for a science curriculum that they will actually teach, and fulfilling their requirement for a minor or endorsement. The endorsement consists of a minimum of 21 credit hours in the science departments to include three life science courses and three physical science courses.

Life science courses may be chosen from the following:

BIO 100	Principles of Biology (3.50)
BIO 101	Biology I: Introduction to Ecology, Evolution, and Diversity (3.75)
BIO 102	Biology II: Introduction to Cell Biology and Genetics (3.75)
BIO 106	Introduction to Environmental Science (3.50)
BIO 108	Water, Food, and Sex (3.50)
BIO 109	Genes, Genomes, and Genetics (3.50)
BIO 147	Anatomy and Physiology (3.75)
BIO 200	Cellular Biology (3.75)
BIO 201	Botany (3.75)
BIO 202	Zoology (3.75)
BIO 216	Ecology: How Organisms Interact with their Environment (3.75)
BIO 260	Genetics (3.75)

Physical science courses may be chosen from the following:

BCM 140	Nutrition (3.50) (may count as life science instead of physical science)
CHM 100	Chemistry Today (3.50)
CHM 141	General Chemistry I: Bio-organic Molecules (3.75)
CHM 142	General Chemistry II: Environmental Chemistry (4.00)
PHY 100	Principles of Physics (3.50)
PHY 115	College Physics I (4.00)
PHY 116	College Physics II (4.00)
PHY 121	Principles of Astronomy (3.00)
PHY 141	Physics I (3.00)
PHY 142	Physics II (3.00)
PHY 143A	Physics III (Algebra-Based) (3.00)
PHY 143C	Physics III (Calculus-Based) (3.75)
SCI 109	Science Inquiry (3.50)
SCI 141	Physical Geology (3.50)

### **Learning Behavior Specialist I Endorsement**

EDN 330	Teaching Students with Special Needs in the General Education Classroom
EDN 430	Characteristics of Students with High Incidence Disabilities
EDN 432	Methods of Teaching Students with High Incidence Disabilities
EDN 434	Psychological Diagnosis and Educational Assessment of Children with Special Learning Needs

PSY 324 Abnormal Psychology  
PSY 325 Child Psychopathology

And one of the following:

PSY 240 Social Psychology  
PSY 280 Drugs and Behavior  
PSY 310 Cultural Psychology  
PSY 320 Personality  
PSY 340 Learning

### C. PROFESSIONAL EDUCATION REQUIREMENTS

1. EDN 100 Introduction to Education (includes on or off-campus field experience — 10 hours).
2. PSY 100 Introduction to Psychology
3. PSY 205 Educational Psychology
4. PSY 210 Child Development
5. PSY 220 Psychology of Adolescence (for students seeking a Middle School endorsement)
6. EDN 240\* Classroom Management Techniques in Elementary Education. Must be taken concurrently with a methods course and field experience of 40 hours
7. EDN 260 Using Children and Adolescent Literature in K-8 Classrooms
8. EDN 324 Techniques in Elementary/Middle School Mathematics (includes off-campus field experience — 20 hours).
9. EDN 326 Techniques in Elementary/Middle School-Science (includes off-campus field experience — 20 hours).
10. EDN 328 Techniques in Elementary/Middle School — Social Studies (includes off-campus field experience — 20 hours).
11. EDN 330 Teaching Children with Special Needs in the General Education Classroom (includes off-campus field experience — 10 hours).
12. EDN 362\* Techniques in Elementary/Middle School — Reading Instruction (requires off-campus field experience — 40 hours).\*\*
13. EDN 365\* Practicum: Elementary/Middle School — Reading (one credit hour).\*\*
14. EDN 367\* Techniques in Elementary/Middle School — Integrated Language Arts Instruction (requires off-campus field experience — 40 hours).\*\*
15. EDN 369\* Practicum: Elementary/Middle School — Language Arts (one credit hour).\*\*
16. EDN 475\* Philosophy of Education and Teaching (Capstone course and satisfies LEV seminar requirement)
17. EDN 485\* Supervised Student Teaching (nine credit hours) (includes on-campus after school seminar)
18. Pre-student teaching field experiences equivalent to a minimum of 160 clock hours prior to student teaching. These hours must be documented and include the following:

140 hours minimum through methods courses with field experience components

20 hours completed in EDN 100 and EDN 330

Students are encouraged to complete more than the 160 hour minimum. Only 30 field experience hours may be transferred from another college. Official documentation of those hours completed at

another college must be submitted directly to the education department. STUDENTS MUST HAVE THEIR OWN TRANSPORTATION AVAILABLE OR USE PUBLIC TRANSPORTATION.

Grades below “C” in professional education courses and field experiences are not accepted for the education major, education minor or certification. Note that grades of “C-” are below “C.”

If a student receives a “no pass” in a field experience, the student must retake the field experience the next time it is scheduled. If a student passes the field experience but not the class, then both must be retaken. Unless otherwise noted, all courses are three credit hours.

NOTE: Only PSY 100 and nine other credit hours of professional education may be transferred in from a two-year college.

\*Acceptance into the Teacher Education Program is a prerequisite.

### Field Experience

Students taking a course with a 40 hour practicum should develop their course schedule so that they have 2-3 hours available during the school day for 2-3 days per week to complete field experience hours.

Field experience assignments are arranged only by the cooperating school administration and the coordinator of field experiences. IN NO CASE should the student initiate contact with a school administrator or cooperating teacher, or have anyone else initiate contact on their behalf, to arrange an assignment unless he/she has received permission from the coordinator of field experience. Students taking courses with a field experience component must be registered for the course at least 15 days in advance of the start of the term so that a placement may be secured.

Students registering for any course with a field experience component are required to complete a background check and have a valid T.B. test. For further information, see page 19 of the NCC Department of Education student handbook.

## **III. CURRICULUM FOR SECONDARY EDUCATION MINOR AND CERTIFICATION (GRADES 6-12, ART K-12, FOREIGN LANGUAGE K-12, MUSIC K-12, PHYSICAL EDUCATION K-12)**

Students seeking K-12 or secondary certification earn a minor in secondary education. For a minor in secondary education students must satisfy:

1. North Central College’s academic major
2. North Central College’s general education requirements
3. State of Illinois certification requirements for grades K-12 or 6-12

NOTE: All students completing a degree program must adhere to the number of credit hours indicated below.

### **A. GENERAL EDUCATION REQUIREMENTS**

The secondary education program follows the College’s general education program. Credit hours counted for the purpose of meeting general education requirements may also be counted for certification in the major field.

### **B. PROFESSIONAL EDUCATION REQUIREMENTS**

1. EDN 100 Introduction to Education (includes on or off-campus field experience — 10 hours).
2. PSY 100 Introduction to Psychology (counts within the Social Science requirement).

3. PSY 205 Educational Psychology
4. PSY 220 Psychology of Adolescence (counts within the Social Science requirement).
5. EDN 270 Secondary Content Reading Instruction. Requires off-campus field experience — 20 hours (required for science, math, English, and socialscience-history secondary education minors, and HPE majors seeking a health endorsement; strongly recommended for all Secondary/K-12 students).
6. EDN 242\* Classroom Management Techniques in Secondary Education. Must be taken concurrently with a methods course and field experience of 50 hours.
7. EDN 300\* General Middle/High School Methods (requires off-campus field experience — 50 hours, 40 hours for art and music majors).
8. EDN 302\* Practicum: General Middle/High School Methods (one credit hour).
9. EDN 3—\* Secondary methods course in major teaching field (requires off-campus field experience — 50 hours).
10. EDN 371\* Practicum: Secondary Content Area Methods (one credit hour).
11. EDN 373 Practicum: K-12 methods/techniques in Art and Music (one credit hour).
12. EDN 310\* Elementary Physical Education Methods. Requires off-campus field experience — 50 hours (Physical Education Majors only).
13. EDN 311\* Practicum: Elementary Physical Education (one credit hour) (Physical Education majors only).
14. EDN 331\* Elementary Art Methods. Requires off-campus field experience — 50 hours (Art Education majors only).
15. EDN 332\* Elementary Art Practicum (one credit hour) (Art Education majors only).
16. EDN 351\* Elementary Music Education. Requires off-campus field experience — 40 hours (Music Education majors only).
17. EDN 352\* Practicum: Experience in Teaching Music (one credit hour) (Music Education majors only).
18. EDN 330 Teaching Children with Special Needs in the General Education Classroom **or** HPE 290 for Physical Education majors (includes off-campus field experience — 10 hours).
19. EDN 475\* Philosophy of Education and Teaching (CAPSTONE course and satisfies LEV seminar requirement); should be taken one term before or after student teaching in the senior year.
20. EDN 485\* Supervised Student Teaching (nine credit hours) (includes on-campus after school seminar).
21. Pre-student teaching field experiences equivalent to a minimum of 150 clock hours prior to the completion of the education program. These hours must be documented and include the following:
  - 100 hours minimum completed in EDN 302 and EDN 371 or 373.
  - 20 hours completed in EDN 100 and EDN 330
  - 20 hours completed in EDN 270
  - 10 hours (to meet 150 hour requirement) through approved volunteer service in the schools

Students are encouraged to complete more than the 150 hour minimum. Only 30 field experience hours may be transferred from another college. Official documentation of those hours completed at another college must be submitted directly to the education department. **STUDENTS MUST HAVE THEIR OWN TRANSPORTATION AVAILABLE OR USE PUBLIC TRANSPORTATION.**

Grades below “C” in professional education courses and field experience are not accepted for the education major, education minor or certification. Note that grades of “C-” are below “C.”

If a student receives a “no pass” in a field experience, the student must retake the field experience the next time it is scheduled. If a student passes the field experience but not the class, then both must be retaken. Unless otherwise noted, all courses are three credit hours.

NOTE: Only PSY 100 and nine other credit hours of professional education can be transferred from a two-year college.

\*Acceptance into the Teacher Education Program is a prerequisite.

#### Field Experience

EDN 300, General Middle/High School Methods and secondary/K-12 methods courses require a minimum of 40 or 50 clock hours of supervised field experience through concurrent enrollment in a practicum. Students taking a course with a 50 hour practicum should develop their course schedule so that they have 2-3 hours available during the school day for 2-3 days per week to complete field experience hours.

Field experience assignments are arranged only by the cooperating school administration and the coordinator of field experiences. IN NO CASE should the student initiate contact with a school administrator or cooperating teacher, or have anyone else initiate contact on their behalf, to arrange an assignment unless he/she has received permission from the coordinator of field placement. Students are expected to attend their field experience a minimum of three days per week. Students taking courses with a field experience component must be registered for the course at least 15 days in advance of the start of the term so that a placement may be secured.

Students registering for any course with a field experience component are required to complete a background check and have a valid T.B. test. For further information, see page 19 of the NCC Department of Education student handbook.

### C. TEACHING MAJOR

Students must meet the following requirements:

1. Complete the minimum number of credit hours in the major: art, English, mathematics, music, physical education, science (designation in biology, chemistry, or physics), social science (designation in history), or foreign language (French, German or Spanish).
2. Students must follow the guidelines of the NCC approved certification program.

#### IV. STUDENT TEACHING

In this final step in preparation for certification, students receive practical classroom experience in one of several schools that cooperate with North Central College in providing this program. All student teachers should expect to be assigned to any cooperating school system depending upon:

1. availability of qualified cooperating teachers
2. number of student teachers in the area
3. distance from North Central College
4. passing the Subject Matter Knowledge state exam
5. quality of the student teacher's application and credentials

Student teaching assignments are arranged only by the cooperating school administration and the coordinator of field experiences. IN NO CASE does the student initiate contact with a school administrator or cooperating teacher, or have anyone else initiate contact on their behalf, to arrange an assignment.

Students should not plan to student teach in a school from which they graduated or in which their child/children attend, or in a school district in which a relative is currently employed or serves on the school board.

#### GENERAL REQUIREMENTS FOR ELIGIBILITY TO STUDENT TEACH

All students seeking placement as student teachers are required to submit a completed application for student teaching one year in advance of the term of student teaching, by the Monday of the third week of the term.. Students who do not meet this deadline are not guaranteed a student teaching placement. Applications are available online.

Additionally, in order to student teach, all students must meet the following criteria:

1. Be admitted to the Teacher Education Program.
2. Complete a minimum of 15 credit hours at North Central College taken within the previous six years that include:
  - a. one course in the teaching major at the 300-level or higher
  - b. one course taught in the College's education department
  - c. 150 field experience hours, of which 120 approved field experience hours must be at North Central College (may be fulfilled through the completion of courses with field experience components), prior to student teaching.
3. Secondary Education minors must attain a minimum GPA of 2.5 in the major, 2.75 overall and a 3.0 in professional education courses by the end of the term prior to student teaching (fall, winter and spring). Elementary Education majors must attain a minimum GPA of 2.75 in the major and overall and a 3.0 in professional education courses by the end of the term prior to student teaching (fall, winter or spring).
4. Pass all areas of the Subject-Matter Knowledge state exam. If the department of education does not receive passing scores for the content test prior to the first day of student teaching, the placement will be canceled. Students should take the test at least two test reporting dates prior to student teaching.
5. Complete all of the professional education courses and field experiences with grades of "C" or higher.\* EDN 475 is the only professional education course that can be taken after EDN 485.
6. Complete a portfolio, following Education Department criteria, based on the Illinois Professional Teaching Standards and submit it by the tenth week of the term before student teaching.



7. Secondary Education students must complete nine of the courses required for the academic teaching major or course work in the teaching major equivalent to that as defined by the College.
- \* Note: Grades of “C-” do not meet the minimum standard of “C.”

The student must have transportation available and must be able to be at the appointed school during the entire day for one term without any conflicts. Students are placed as student teachers within public school districts within a radius of approximately 30 miles from the college. Exceptions are made for students who wish to student teach in an urban setting. Students may be required to interview with the prospective school district in which they will student teach. Students may also be required to attend institute and faculty meetings which occur in August and September, regardless of the term in which they student teach. Some school districts require student teachers to complete an additional background check prior to beginning student teaching, in addition to the FBI background check required by the Department of Education. Students are responsible for any costs associated with additional background check requirements.

Student teachers are required to attend six seminars on campus during the student teaching term, and to complete the final artifact for Standard 10 of the Illinois Professional Teaching Standards, by completing the Impact on Student Learning project.

An additional fee of \$150 is required for Supervised Student Teaching. See schedule of Miscellaneous Fees.

Additional policies and information concerning student teaching can be found in the Department of Education Student Handbook and the Student Teaching Handbook.

## V. REQUIREMENTS FOR TEACHER CERTIFICATION

Graduating seniors should apply for an initial license to teach in Illinois by filing an application with the department’s certification officer prior to graduation. The certification officer will process the application only after the student has fulfilled all degree and/or certification requirements. Applications and specific details are available in the education department and on the education department website.

According to Illinois Administrative Rule 25.100, “beginning February 1, 2012, candidates must have received a grade of C or better in all major and professional education coursework and in any coursework they are using as part of an application for endorsement or an approval. This includes transfer coursework, coursework taken in an alternative certification program, and any undergraduate coursework that counts toward certificate requirements.”

The following must also be completed:

### A. ILLINOIS CERTIFICATION TESTING SYSTEM (ICTS)

Students must pass the state-mandated Illinois Certification Testing System (ICTS) tests developed and implemented by the Illinois State Board of Education (ISBE). This includes the Illinois Test of Basic Skills (300) or the Test of Academic Proficiency (TAP), Subject Matter Knowledge tests, and the Assessment of Professional Teaching. Registration information and study packets are available online at <http://www.icts.nesinc.com>.

**B. SPECIAL CERTIFICATE K-12**

Students qualifying for the special certificate (K-12) in art, music, or physical education must have field experiences at the elementary, middle school and secondary levels. K-12 art, music and physical education students may student teach at two of these levels (5 weeks at each) only if they student teach in fall term. Special Certificate candidates must fulfill the General Education and Professional Education Requirements listed in Secondary Education curriculum.

**Reading Minor**

Elementary education majors may use this minor to fulfill the academic minor or endorsement requirement. Students who want to apply for the Reading Teacher Endorsement must take the Illinois Certification Reading Teacher test. Registration information and study packets are available online at <http://www.icts.nesinc.com>.

- EDN 260 Using Children and Adolescent Literature in K-8 Classrooms (3.00)
- EDN 362 Techniques in Elementary/Middle School Reading Instruction (3.00)
- EDN 365 Practicum: Elementary/Middle School Reading Instruction (1.00)
- EDN 372 Writing as it Relates to Reading (3.00)
- EDN 374 Content Reading Instruction in the Middle School (3.00)
- EDN 462 Reading Assessment Tools and Strategies (3.00)
- EDN 463 Diagnostic Reading Instruction (3.00)
- EDN 464 Practicum in Diagnostic Reading Instruction (1.00)
- ENG 196 Story

And any one of the following:

- ENG 245 Literature, Science, and Culture (3.00)
- ENG 307 Studies in Literature of Cultural Identity (3.00)
- ENG 330 Multicultural Literature of North America (3.00)
- ENG 370 Language and Linguistics (3.00)
- ENG 380 Global Literature (3.00)

**English Language Learner Minor**

Elementary education majors may use this minor to fulfill the academic minor or endorsement requirement. Students who want to apply for the English Language Learning endorsement must take the Illinois Certification English Language Learning test. Registration information and study packets are available at <http://www.icts.nesinc.com>. Students who want to also apply for the Bilingual Education endorsement must successfully complete a bilingual methods course (EDN 386) and pass a language proficiency examination in the non-English language to be taught.

19 credit hours:

- ENG 370 Language and Linguistics
- MCL 380 Theoretical Foundations of Teaching ESL/Bilingual Students
- MCL 382 Cross-Cultural Studies for Teaching English Language Learners
- EDN 383 Methods and Materials for Teaching English Language Learners in ESL/Bilingual Programs
- EDN 384 Practicum in Methods of Teaching English Language Learners

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EDN 385	Literacy Assessment of ESL/Bilingual Students
EDN 482	Content-Based English-as-a-Second-Language Teaching and Learning

**100 Introduction to Education (3.00)**

Introductory course. Investigates current education issues and teaching as a profession. Req: 10 field experience hours. Required course for admission to the Teacher Education Program.

**211 Practicum in a Diverse School Setting (1.00)**

This course is designed to provide students with an extended supervised field experience in an elementary, middle, or secondary school classroom in a high need/diverse school setting. Students actively observe and assist the teacher in a variety of ways. Students are jointly supervised by the cooperating teacher and a supervisor from NCC. Students may co-teach or teach lessons if the cooperating teacher and supervisor determine that the student has the background knowledge and experience to be successful. Students are required to keep an ongoing reflective journal of the experience. A student may repeat this experience up to four times. In order to repeat the course, the student must enroll in the experience at a different school and/or grade level. Req: minimum 50 field experience hours. Prerequisite: EDN 100.

**240 Classroom Management Techniques in Elementary Education (3.00)**

Classroom organization, management theories, effective management principles, and instructional strategies which foster positive relationships with and among students are examined. To prepare pre-service teachers for working in classrooms with unique challenges and diverse cultures, needed pedagogical skills and discipline approaches are included. Prerequisites: PSY 205 or PSY 210; concurrent registration with a methods course of 40 or more field experience hours; and acceptance into the Teacher Education Program.

**242 Classroom Management Techniques in Secondary Education (3.00)**

Classroom organization, management theories, effective management principles, and instructional strategies which foster positive relationships with and among students are examined. To prepare pre-service teachers for working in classrooms with unique challenges and diverse cultures, needed pedagogical skills and discipline approaches are included. Prerequisites: PSY 205 or PSY 220; concurrent registration with a methods course of 40 or more field experience hours; and acceptance into the Teacher Education Program.

**260 Using Children and Adolescent Literature in K-8 Classrooms (3.00)**

This course assists elementary education majors to become familiar with a variety of literature across genre areas and a variety of strategies that can be used to teach using literature across curriculum areas. Students are exposed to a multitude of reader response strategies that can be used when teaching with literature across a variety of subject areas. Prerequisite: ENG 196 and concurrent enrollment in EDN 326 and 328.

**270 Secondary Content Reading (3.00)**

This course examines the current research, curricular goals, and methods of teaching reading in the high school content areas. Students apply strategies for teaching reading within their specific disciplines. Content literacy in a standards-based curriculum and research-based best practices for teaching all secondary readers—struggling, gifted, English-language learning, and challenged—are studied. The course requires 20 hours of practicum experience. Prerequisite: Basic Skills Test (300) or the Test of Academic Proficiency (TAP) passed.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****300 General Middle/High School Methods (3.00)**

This course explores curricular issues and teaching strategies and provides practicum experience for secondary education certification minors through concurrent enrollment in EDN 302. Students are placed at middle schools. Prerequisites: EDN 100; PSY 205 or concurrent enrollment; and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 302.

**302 Practicum: General Middle/High School Methods (1.00)**

This course is designed to provide students with an extended field experience in a middle school classroom supervised jointly by an NCC supervisor and the classroom teacher. Students complete 50 hours of supervised field work, applying research-based methods to actual teaching situations in middle school settings. At least twice during the term, an NCC supervisor observes the students as they conduct lessons and conducts a follow up conference in which the student and supervisor evaluate and discuss the lesson. Prerequisites: EDN 100; PSY 205 or concurrent enrollment. Must be taken concurrently with EDN 300.

**310 Elementary Physical Education Methods (3.00)**

This course covers methods of teaching physical education at the elementary school level, including various teaching strategies, perceptual motor and movement education concepts, basic skills, and game activities appropriate for the elementary school child. Prerequisites: EDN 100 and EDN 300; PSY 205 or concurrent enrollment; and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 311.

**311 Practicum in Elementary Physical Education (1.00)**

The course provides students with a field experience in an elementary physical education classroom to learn methods, teaching styles, and strategies for teaching elementary physical education. Students complete 50 hours of supervised field work applying research-based methods and techniques to actual teaching situations under the joint supervision of the cooperating classroom teacher and the NCC supervisor. Prerequisites: EDN 100, PSY 205 or concurrent enrollment, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 310.

**324 Techniques in Elementary/Middle School — Mathematics (3.00)**

Principles, aims, methods, and techniques of teaching math at the elementary level. In this course students compare and contrast the significance of mathematics in the elementary school curriculum as it relates to current educational and psychological theories about learning. Students relate various theories of learning to methods and materials used in the elementary mathematics classroom. Req: 20 field experience hours. Prerequisites: EDN 100; PSY 205 or concurrent enrollment; MTH 107; MTH 108: Basic Skills test passed. Recommended GPA of 2.5.

**326 Techniques in Elementary/Middle School Science Instruction (3.00)**

A study of content, methodology, and current research on teaching and learning in elementary and middle school science. Emphasis on developing a range of teaching skills appropriate for effective and engaging science instruction.

Students develop, teach, and reflect on lessons. Through a range of experiences examining model programs, curriculum resources, and hands-on activities, students gain an understanding of effective science teaching. Required: 20 field experience hours and concurrent enrollment in EDN 260 and EDN 328. Prerequisites: EDN 100; one science course; PSY 205 or concurrent enrollment; Basic Skills Test (300) or the Test of Academic Proficiency (TAP) passed. Recommended GPA of 2.5.

### **328 Techniques in Elementary/Middle School — Social Studies (3.00)**

A study of the principles, aims, and methods of teaching social studies to students in elementary and middle schools. Its main purpose is gaining an understanding of developing K-8 students' abilities to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. Req: 20 field experience hours and concurrent enrollment in EDN 260 and EDN 326. Prerequisites: EDN 100; one 100- or 200-level U.S. History course; PSY 205 or concurrent enrollment; Basic Skills Test (300) or the Test of Academic Proficiency (TAP) passed. Recommended GPA of 2.5.

### **330 Teaching Children with Special Needs in the General Education Classroom (3.00)**

This course examines the learning characteristics, teaching strategies, accommodations and modifications for successful inclusion of children with special learning needs in the general education classroom. The course content covers children with identified disabilities served under IDEA and Sec. 504, as well as students identified as at-risk or gifted. Required: 10 field experience hours. Prerequisites: PSY 205, and a methods course which includes a field experience.

### **331 Elementary Art Methods (3.00)**

This is an interactive study of art education issues and practices for the elementary portion of K-12 Art Teacher certification. Through discussion, observation, and modeling, students use state goals and curricula to develop a meaningful, integrated art program. The focus is on sequential skill building, expressive content lessons, and teaching strategies based on the physical, social, and emotional needs of the K-5 student. Prerequisites: ART 107, 110, 120; EDN 300; and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 332.

### **332 Elementary Art Practicum (1.00)**

This course is designed to provide students with an extended field experience in an elementary school art classroom supervised jointly by an NCC supervisor and the classroom teacher. Students complete 50 hours of supervised field work, applying research-based methods to actual teaching situations in the elementary school setting. At least twice during the term, an NCC supervisor observes the students as they conduct lessons and conducts a follow up conference in which the student and supervisor evaluate and discuss the lesson. Must be taken concurrently with EDN 331.

### **333 Techniques in Middle/Secondary School Physical Education (3.00)**

This course covers methods of teaching physical education at the middle school and secondary levels. Various teaching strategies, evaluation procedures, and the organization, planning and management of classes and events are emphasized. Prerequisites: EDN 100 and EDN 300, PSY 205, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 371.

**335 Computer Curricular Integration for Teachers K-12**

This course provides preservice teachers with a basic understanding of and hands-on experience with curricular uses of computers in grades K-12. Prerequisite: One of EDN 324, EDN 326, EDN 328, or EDN 300.

**338 Secondary Art Methods (3.00)**

Secondary art education issues and practices are researched and studied. Using state and curriculum goals, students develop grade 6-12 lesson plans of a conceptual and intrapersonal nature. The sequence of learning objectives is challenging and based on successful teaching strategies. Postmodern principles, multiple media, and technological processes are applied to content areas. Art education students develop interdisciplinary lesson plans that improve students' expressive and analytic capacities. Homework assignments support learning with chapter readings, journaling, reporting on current research, and contributing to a final portfolio. Prerequisites: ART 107, 110, 120; EDN 300; and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 373.

**340 Techniques in Secondary Education — English (3.00)**

Current research and methods of teaching English (literature, composition, and language) at the secondary level are explored. Consideration is given to such issues as: instructional planning in a multicultural setting, teaching reading in the content areas, and writing across the curriculum. Prerequisites: EDN 100, PSY 205, EDN 300, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 371.

**342 Elementary/Secondary School Foreign Language (3.00)**

Current research and methods of teaching foreign languages at the elementary and secondary levels are explored. Prerequisites: EDN 100, PSY 205, EDN 300, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 371.

**344 Techniques in Secondary Education — Mathematics (3.00)**

Current research and methods of teaching mathematics at the secondary level are explored. Consideration is given to such issues as: instructional planning in a multicultural setting, teaching reading in the content areas, and writing across the curriculum. Prerequisites: EDN 100, PSY 205, EDN 300, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 371.

**346 Techniques in Secondary Education — Science (3.00)**

Current research and methods of teaching science at the secondary level are explored. Consideration is given to such issues as: instructional planning in a multicultural setting, teaching reading in the content areas, and writing across the curriculum. Prerequisites: EDN 100, PSY 205, EDN 300, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 371.

**348 Techniques in Secondary Education — Social Studies (3.00)**

Current research and methods of teaching social studies at the secondary level are explored. Consideration is given to such issues as: instructional planning in a multicultural setting, teaching reading in the content areas, and writing across the curriculum. Prerequisites: EDN 100, PSY 205, EDN 300, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 371.

**351 Elementary Music Education (3.00)**

A study of music and its function in the elementary school curriculum. Students participate in hands-on experiences in teaching music and develop

pedagogical techniques suitable for students at the elementary level. Prerequisites: MUS 342 and 344, or consent of the Music Department; EDN 300; and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 352.

### **352 Practicum: Experience in Teaching Music (1.00)**

This course is designed to provide students with an extended supervised field experience in an elementary classroom with emphasis on teaching music. Students observe, assist, and teach several music plans under the joint supervision of a cooperating teacher in the school and a supervisor from NCC. Students must develop lesson plans, conduct the lessons, and evaluate their own teaching of these lessons in consultation with the teacher and the supervisor. Students submit written lesson plans along with their reflective self evaluations after the teaching of the lessons. Req. 40 field experience hours. Must be taken concurrently with EDN 351.

### **353 Secondary School Music (3.00)**

A study of music and its function in the secondary school curriculum. Students participate in hands-on experiences in teaching music and develop pedagogical techniques suitable for students at the secondary level. Prerequisites: EDN 300, MUS 202, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 373.

### **362 Techniques in Elementary/Middle School Reading Instruction (3.00)**

This course provides an exploration of the nature of reading and how reading instruction integrates with the other language arts. Students study various methodologies and become familiar with materials for effective reading instruction for students with various learning styles and background experiences. Students are exposed to research, methods and assessment for the five major areas of reading: comprehension, phonemic awareness, phonics, vocabulary, and fluency. Prerequisites: EDN 100, 260, 324, 326 and 328; PSY 205 or concurrent enrollment; and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 365.

### **365 Practicum: Elementary/Middle School Reading (1.00)**

This course is designed to provide students with an extended supervised field experience in an elementary/middle school classroom with emphasis on teaching reading. Students observe, assist, and teach several language arts lessons under the joint supervision of a cooperating teacher in the school and a supervisor from NCC. Students must develop lesson plans, conduct the lessons, and evaluate their own teaching of these lessons in consultation with the teacher and the supervisor. Students submit written lesson plans along with their reflective self-evaluations after the teaching of the lessons. Req: 40 field experience hours. Must be taken concurrently with EDN 362.

### **366 The Teaching of Young Adult Literature (3.00)**

This course examines the relevance of the teaching of young adult literature, the reading processes involved in reading this literature, research of and developments in young adult literature, strategies for promoting deep reading, and pedagogical considerations in teaching young adult literature. Prerequisite: EDN 100 and PSY 205 or PSY 220.

### **367 Techniques in Elementary/Middle School Integrated Language Arts Instruction (3.00)**

This course provides an exploration of the six language arts: reading, writing, listening, speaking, viewing, and visually representing. Students study various methodologies and become familiar with materials for effective language arts

instruction for students with various learning styles, background experiences, and diverse cultures, with a specific emphasis on English Language Learners. Students study the importance of the language arts across all curriculum areas. Prerequisites: EDN 362, and acceptance into the Teacher Education Program. Must be taken concurrently with EDN 369.

**369 Practicum: Elementary/Middle School Language Arts (1.00)**

This course is designed to provide students with an extended supervised field experience in an elementary/middle school classroom with emphasis on teaching language arts. Students observe, assist, and teach several language arts lessons under the joint supervision of a cooperating teacher in the school and a supervisor from NCC. Students must develop lesson plans, conduct the lessons, and evaluate their own teaching of these lessons in consultation with the teacher and the supervisor. Students submit written lesson plans along with their reflective self-evaluations after the teaching of the lessons. Req: 40 field experience hours. Must be taken concurrently with EDN 367.

**371 Practicum: Secondary Content Area Methods/Techniques (1.00)**

The course provides students with an extended field experience in a secondary classroom in the student's major content area (English, foreign language, mathematics, social studies, speech, art, music, or physical education). Students complete 50 hours of supervised field work applying research-based methods and techniques to actual teaching situations under the joint supervision of the cooperating classroom teacher and the NCC supervisor. Req: 50 field experience hours. Must be taken concurrently with one of EDN 333, EDN 340, EDN 342, EDN 344, EDN 346, or EDN 348.

**372 Writing As It Relates to Reading (3.00)**

This course focuses on the connection between reading and writing. Writing is viewed as both a product and a process. Prerequisite: EDN 367.

**373 Practicum: K-12 Methods/Techniques in Art and Music (1.00)**

This course provides students with an extended field experience in a secondary classroom in the student's major content area (art or music). Students complete 40 hours of supervised field work, applying research-based methods and techniques to actual teaching situations, under the joint supervision of the cooperating classroom teacher and the NCC supervisor. Req: 40 field experience hours. Prerequisites: EDN 300 and 302. Must be taken concurrently with one of EDN 338 (art) or EDN 353 (music).

**374 Content Reading Instruction in the Middle School (3.00)**

An examination of content reading instruction in the middle school. Emphasis is on the nature of how to teach students to both learn to read and read to learn. Prerequisite: EDN 362.

**376 Foundations for Teaching Reading in Grades 6-12 (3.00)**

This course provides a foundation for the basic understanding of the reading and writing processes and applications of research-based instructional strategies to facilitate effective literacy learning in 6-12 classroom settings. The goal is to facilitate the student's ability to increase middle and high school students' performance in content areas through the understanding of the reading process, the demands of academic literacy, and the characteristics of adolescent learners. Students in this course are exposed to targeted reading instructions for struggling adolescent readers as well as readers from linguistic and culturally diverse backgrounds. Prerequisite: EDN 100 and PSY 205 or PSY 220.



**381 Elementary/Secondary Field Experience (1.00)**

Supervised field experience of 50 clock hours. Course used for remediation or for students who have more than two terms between field experiences and/or student teaching. Additionally used to meet certification deficiencies. May be taken for credit twice. Requires acceptance into the Teacher Education Program.

**383 Methods and Materials for Teaching English Language Learners in ESL/Bilingual Programs (3.00)**

This course focuses on methods, approaches, and materials used in the teaching of English as a second language. Methods of teaching different language skills as well as theories and practices to differentiate instruction to respond to K-12 English language learners' needs are introduced. Students are engaged in developing, implementing, and evaluating lesson plans and materials. This course requires 50 hours of field experience and concurrent enrollment in EDN 384, Practicum. Prerequisite: MCL 380.

**384 Practicum in Methods of Teaching English Language Learners (1.00)**

This course is designed to provide students with an extended supervised field experience in an elementary, middle, or secondary school classroom with an emphasis on teaching English language learners. Students observe, assist, and teach several lessons under the joint supervision of a cooperating teacher in the school and a supervisor from NCC. Student must develop lesson plans, conduct the lessons, and evaluate their own teaching of these lessons in consultation with the cooperating teacher and the supervisor. Students submit written lesson plans along with their reflective self-evaluations after the teaching of the lessons. Req: 50 field experience hours. Requires acceptance into the Teacher Education Program. Must be taken concurrently with EDN 383.

**385 Literacy Assessment of the ESL/Bilingual Students (3.00)**

This course provides a comprehensive understanding of using assessment data to make informed decisions for the education of English language learners (ELLs). It allows the participants to become aware of critical issues related to the assessment of culturally and linguistically diverse learners. Participants develop the ability to select, construct, administer, interpret, and communicate the results of measurement instruments appropriate for English language learners. Participants investigate a variety of formal and informal assessment tools to determine and monitor ELLs' English proficiency in academic settings. Participants are also involved in diagnosing and providing effective instructions to meet the needs of ELLs. This course includes a 20-hour field experience. Prerequisite: EDN 383.

**386 Methods and Materials for Teaching English Language Learners in Bilingual Programs (3.00)**

This course focuses on language teaching methods and classroom materials for use with English Language Learners (ELLs) in K-12 Bilingual classrooms. Methods of teaching listening, speaking, reading, and writing are presented and practiced. Methods for integrating the teaching of language and academic content are introduced and practiced. Sheltering and scaffolding instruction is emphasized, and students select and critically analyze materials for use in the Bilingual classroom. This course focuses on methods, approaches and materials used in the teaching of English as a second language. Methods of teaching different language skills as well as theories and practices to differentiate instruction to respond to K-12 English Language Learners' needs are introduced. Students are engaged in developing, implementing and evaluating lesson plans and materials. Prerequisite: MCL 380.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****430 Characteristics of Students with High Incidence Disabilities (3.00)**

This course examines the identifying characteristics of students with mild to moderate disabilities (learning disabilities, communication disorders, emotional and behavioral disabilities, cognitive disabilities, autism, ADHD) as defined under the federal Individuals with Disabilities Education Act and Section 504 of the Vocational Rehabilitation Act. The Response-to-Intervention (RtI) process is studied along with the definitions of the different disabilities and incidence rates. Prerequisite: EDN 330.

**432 Methods of Teaching Students with High Incidence Disabilities (3.00)**

This course covers effective instructional methods, strategies, accommodations and modifications, in multiple content areas, as they relate to teaching K-12 students with high incidence disabilities in inclusive settings. Strategies to collaborate with colleagues and with parents/families of students with disabilities are also covered, including co-teaching, family-educator conferences, and working effectively with paraprofessionals. Prerequisite: EDN 430.

**434 Psychological Diagnosis and Educational Assessment of Children with Special Learning Needs (3.00)**

This course prepares students in the field of education with knowledge, skills and experience related to: 1) diagnostic and educational assessment instruments and methods; 2) administration and scoring of diagnostic and educational assessments; 3) interpretation of assessment results; 4) data-based decision making regarding placement, instructional planning and evaluation of students with disabilities; and 5) communication of diagnostic and educational assessment results to colleagues and parents. Prerequisite: EDN 430.

**462 Reading Assessment Tools and Strategies (3.00)**

(Same as EDN 562.) Students are introduced to an examination of the nature of the reading process and the tools and strategies used to evaluate reading development. Emphasis is placed on the use of assessment to strengthen and extend the reading abilities of middle school students. Prerequisite: EDN 367.

**463 Diagnostic Reading Instruction (3.00)**

(Same as EDN 564.) Students are introduced to the nature of literacy development and the learning difficulties children may face as they develop as readers. The focus of the course is on the interactive view of reading ability and disability, which suggests that reading is the process of constructing meaning through interaction between the reader, the text, and the context of the reading situation. Students are exposed to a variety of alternative teaching strategies and materials to help students solve their problems with reading. Emphasis is placed on a holistic and ongoing approach to the diagnostic process and the relationship between diagnostic assessment and instructional planning. Prerequisite: EDN 462.

**464 Practicum in Diagnostic Reading Instruction (1.00)**

(Same as EDN 564.) Students use a variety of alternative teaching strategies and materials while working with elementary/middle school students in a supervised practicum setting. Students conduct a multifaceted diagnostic

assessment to identify individual reading abilities and difficulties and develop a plan for intervention based on assessment results. Emphasis is placed on applying techniques learned in EDN 462/562 and EDN 463/563. Prerequisite: EDN 462. Must be taken concurrently with EDN 463.

#### **475 Philosophy of Education and Teaching (3.00)**

The foundation of this course is education as an institution and its relationship to the teacher, the student, the community, and the evolutionary educational process in our society. Students examine the sociological, philosophical, historical, economic, political, and anthropological perspectives of education. Additionally, the course emphasizes an understanding of the values and ethics necessary for the development of the teacher as leader and facilitator of learning. Prerequisites: For education majors and minors: all EDN courses required for certification except EDN 485, EDN 240/242 and one other EDN course; for non-education majors: Senior standing. ACR: Leadership, Ethics and Values.

#### **482 Content-Based English-as-a-Second-Language Teaching and Learning (3.00)**

This course provides a comprehensive understanding of teaching and learning in the content areas for English language learners (ELLs). Students examine sociocultural and psycholinguistic perspectives in second language learning and research on content-based language instruction. Students learn to apply multiple strategies in integrating subject matter and English language skills using experiential, participatory, and process-oriented approaches for effective bilingual/English language development in academic settings. This course includes a 20-hour field experience. Prerequisite: EDN 383.

#### **485 Supervised Student Teaching (9.00)**

Observe, plan, and teach under the guidance of a cooperating teacher; emphasis on guided teaching in actual classrooms. Ten full weeks following the public school calendar. Includes on-campus seminar requirement. Prerequisite: Acceptance into the Teacher Education Program, and completion of all professional education courses except EDN 475.

#### **497 Internship (0.00-9.00)**

#### **499 Independent Study (1.00-9.00)**

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## **Engineering**

See page 43 for a description of the dual degree program in Engineering.

# English (ENG)

*Professors: Sara Eaton, Richard Guzman, Lisa Long, Francine Navakas,  
John Shindler*

*Associate Professors: Martha Bohrer, Judith Brodhead, Zachary M. Jack,  
Jennifer Jackson*

*Assistant Professors: Matthew Kirkpatrick, Kay O'Donnell, Sohinee Roy  
Adjunct Faculty: Patricia King, Sean A. Labbé*

## Mission Statement

The English department trains students to read and write texts—traditional and emerging—so that they recognize and use methods and conventions of textual analysis. Students develop a variety of rhetorical and stylistic choices to strengthen their writing, drawing on disciplinary, historical, global, and ethical contexts in which all acts of writing and reading can be situated.

Students pursuing a major in English Studies explore language and its effects, analyzing how diverse social texts—literature, film, essays, plays, narratives, journalism—are constructed, interpreted, and critiqued. Drawing on historical traditions and contemporary theory, the study of literature, language, and culture addresses urgent human questions: What ethics and values inform reading and writing practices? How differently do we imagine culture? How can we effectively argue about the conflicting values within and beyond our communities? We encourage students to interpret the world through careful reading and analytic, persuasive, and creative writing.

The English Studies major is a broad field of the study of texts and language, encompassing literature, theory, linguistics, rhetoric, creative writing, and journalism. The pleasures of reading, writing, and textual analysis, and the knowledge of how language works gained from the study of critical theory and linguistics are life skills highly valued in the job market that combine well with many other disciplines throughout the College.

Flexibility within the English Studies major offers students the opportunity to follow their own interests in their choice of upper level electives or elect to pursue an upper level Concentration in either literature or writing, depending on the student's specific interests and career goals. Students interested in becoming a professional writer may specialize in a variety of persuasive and creative writing courses at the upper level that lead to a Writing Concentration. Students who want to teach secondary education or continue to graduate school in English are strongly encouraged to pursue the Literature Concentration at the upper level. Students seeking an English Studies major and Secondary Education minor must select courses according to the certification requirements listed below. The choice of electives to complete the major should be determined in careful consultation with the student's academic advisor.

Students in English Studies can also gain practical experience as Writing Center tutors, classroom Writing Assistants, and writers and editors for the *Chronicle* (the College newspaper), *The Kindling* humor magazine, and the *NCC Review* literary magazine.

Advanced placement credit is possible for students with high performance in the Advanced Placement Program of the College Entrance Examination Board and for others with exceptional preparation.

Degree offered: B.A.

NOTE: ENG 115, ENG 125, and ENG 315 may not be counted toward an English major or minor or toward the 51 credit hour maximum in the department.

## English Studies Major

46 credit hour minimum:

- ENG 196 Reading Literature
- ENG 203 English Literature to 1660
- ENG 205 18<sup>th</sup>-Century Literature
- ENG 207 19<sup>th</sup>- and 20<sup>th</sup>-Century American Literature
- ENG 209 19<sup>th</sup>- and 20<sup>th</sup>-Century British Literature
- ENG 265 Style

One of:

- ENG 200 Writing Across Media
- ENG 270 Writing, Rhetoric, and Culture
- ENG 275 Introduction to Creative Writing, or
- ENG 285 Writing Theories and Practices
- ENG 350 In Theory
- ENG 370 Language and Linguistics
- ENG 480 Senior Portfolio

6 additional electives (18 credit hours) at the 300 and 400 level, of which at least 6 credit hours must be at the 400 level. Within these electives students may choose to fulfill requirements for either of the following concentrations. However, a concentration is not a requirement of the major.

### Optional Literature Concentration

18 credit hours of electives at the 300 and 400 level must include

- at least 6 credit hours in literature, in addition to
- ENG 407 Seminar in Selected Authors, and

One of:

- ENG 401 Seminar in Drama
- ENG 403 Seminar in Fiction, or
- ENG 405 Seminar in Poetry

### Optional Writing Concentration

18 credit hours of electives at the 300 and 400 level must include at least 12 credit hours in writing. At least 6 credit hours must be 400 level writing courses.

### Requirements for Secondary Education Certification in English Language Arts

Within the coursework required for the English Studies major, students seeking Secondary Education certification in Language Arts must fulfill the following specific requirements:

- A. One of the 200-level writing courses must be ENG 285, Writing Theories and Practice.
- B. At least three courses at the 300-level must be literature courses and at least one of these must be American and one must be British literature.
- C. We recommend a course in Drama (and it is required for certification to teach Drama). This must be either ENG 401, Seminar in Drama, or ENG 407, Seminar in Selected Authors where there is drama or a dramatist in the title.

### Print Journalism Emphasis

43 credit hour minimum:

12 credit hours in literature to include:

- ENG 196 Reading Literature
- 9 additional credit hours selected from:
- ENG 203 English Literature to 1660
- ENG 205 18<sup>th</sup> Century Literature
- ENG 207 19<sup>th</sup> and 20<sup>th</sup> Century American Literature
- ENG 209 19<sup>th</sup> and 20<sup>th</sup> Century British Literature

18 credit hours in journalism:

SPC 185	Mass Media and Society
ENG 220	News Writing
ENG 250	News Editing
ENG 260	Integrating Word and Image
SPC 325	Communication Law

One of the following:

ENG 325	News Reporting, or
ENG 335	Magazine Writing

Advanced Writing:

ENG 365	Creative Nonfiction
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Additional course in advanced writing chosen from:

ENG 265	Style
ENG 360	Writing for Social Change, or
ENG 465	Advanced Workshop in Nonfiction

Additional requirements:

Either three terms of ENG 132 College newspaper practicum, or two terms of ENG 132 and a Writing internship (ENG 397/497). In both cases the practica and/or internship may be credit or non-credit.

ENG 480	Senior Portfolio
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### **English Studies Minor**

ENG 196 plus any 15 credit hours in English (except ENG 115, ENG 125, or ENG 315).

### **English Writing Minor**

ENG 196 plus any 15 credit hours in English, nine or more of which are writing courses.

### **Print Journalism Minor**

18 credit hours to include:

SPC 185	Mass Media in Society
ENG 220	News Writing
ENG 250	News Editing
SPC 325	Communication Law
ENG 365	Creative Nonfiction

Plus:

ENG 325	News Reporting <b>-or-</b>
ENG 335	Magazine Writing

Recommended electives:

ART 105	Art through Photography
ENG 260	Integrating Word and Image
ENG 265	Style
ENG 275	Creative Writing
ENG 360	Writing for Social Change
SPC 265	Broadcast News

### **101 English as a Second Language I (3.00)**

Introduction to American academic English for non-native speakers with special attention to speaking and listening skills, American culture, vocabulary building, and idiom practice. Conversation partners assigned to each student.

**103 English as a Second Language II (3.00)**

Advanced practice in writing, reading, speaking, and listening skills in American English for non-native speakers. Focus on essay writing, readings in American culture, vocabulary, and idiom practice.

**105 English as a Second Language III (1.00-3.00)**

Advanced review and practice in writing skills for non-native speakers. Special attention to essentials of English grammar.

**115 First-Year Writing (3.00)****IAI: C1 900**

The study and practice of writing: planning, drafting, and revising for particular aims. Students learn to summarize, interpret, analyze, and question selected readings, with an emphasis on rhetoric. Basic research is introduced, including the use of internet, databases, and more conventional materials. Students may not receive credit for both ENG 115 and ENG 125. Core: Composition.

**125 First-Year Seminar (3.00)**

Gateway course for NCC's integrative curriculum. Focuses on reading, writing, and critical thinking related to a specific topic of inquiry. Topics vary, but emphasis is on rhetoric and interdisciplinary perspectives. Team taught by faculty from English and another department. Students may not receive credit for both ENG 125 and ENG 115. Admission by English department placement. Core: Composition.

**128 College Humor Magazine Practicum (0.00-1.50)**

Practical experience on the staff of the College humor magazine, the *Kindling*. Students may register for 0.00 or 1.00 credit hour for graded work as writers, editors, photographers, artists, and designers. Registration for credit requires four hours of work on the publication per week. Editors may register for 1.5 credit which requires six hours of work on the publication per week. Enrollment is encouraged but not required of staff members. A maximum of six credit hours may be earned in English department practica. Prerequisite: ENG 115 or ENG 125.

**130 College Literary Magazine Practicum (0.00-1.50)**

Practical experience on the staff of the College literary magazine, the *NC Review*. Students may register for 0.00 or 1.00 credit hour for graded work as writers, editors, photographers, artists, or designers. Registration for credit requires four hours of work on the publication per week. Editors may register for 1.5 credit which requires six hours of work on the publication per week. Enrollment is encouraged but not required of staff members. A maximum of six credit hours may be earned in English department practica. Prerequisite: ENG 115 or ENG 125.

**132 College Newspaper Practicum (0.00-1.50)**

Practical experience on the staff of the College newspaper. Students may register for 0.00 or 1.00 credit hour for graded work as writers or editors, photographers, artists, or designers. Registration for credit requires four hours of work on the publication per week. Editors may register for 1.5 credit which requires six hours of work on the publication per week. Registration for credit requires the consent of the instructor. Enrollment is encouraged but not required of all staff members. A maximum of six credit hours may be earned in English department practica. Prerequisite: ENG 115 or ENG 125.

**196 Reading Literature (3.00)**

Introduces students to close reading of literature, including poetry, drama, fiction (short stories, novels, graphic novels, and film), and encourages the appreciation and analytical exploration of literary texts. The course provides the critical vocabulary and methods needed to read and respond to a wide array of literature available to the twenty-first century reader and demonstrates the openness and flexibility of literary genres. Prerequisite: ENG 115 or ENG 125. Core: Humanities.

**200 Writing Across Media (3.00)**

(Same as IMS 200.) An introduction to writing across media that prepares students to produce news and information that meets the needs of various media outlets including print, broadcast, and online. Students are introduced to various types of media writing, including print and broadcast journalism, public relations, and advertising. The course introduces students to issues involved in the growing trend of media convergence, and expands their knowledge of how content is produced for both print and non-print platforms. Prerequisite: ENG 115 or ENG 125.

**203 English Literature to 1660 (3.00)**

An introduction to medieval and early modern English texts, the Continental traditions that influenced them, and the socio-political and intellectual contexts that produced them. Prerequisite: ENG 196.

**205 Eighteenth-Century Literature (3.00)**

A study of American, English, and Anglo-Irish texts and the cultures that produced them in the “long century,” beginning in the Restoration and ending with the emergence of Romanticism. Prerequisite: ENG 196.

**207 Nineteenth- and Twentieth-Century  
American Literature (3.00)**

An introduction to the literature of the United States and the American diaspora from the early national period to the Cold War era. Students examine fiction and nonfiction texts and their relationship to the dominant modes of American romance, realism, modernism, and postmodernism. Prerequisite: ENG 196.

**209 Nineteenth- and Twentieth-Century  
British Literature (3.00)**

A study of Victorian, Commonwealth and Postcolonial literature in historical and cultural context, giving special attention to the emergence of the modern British identity and the idea of empire. Students examine intersections among British writers and their counterparts in such countries as Canada, Ireland, India, and South Africa. Prerequisite: ENG 196.

**214 Children’s Literature (2.00)**

An examination of children’s genres from picture books to junior-high fantasy and fiction. Emphasis on criteria for evaluation and ways to interact with children to promote love of reading. Prerequisite: ENG 196.

**216 Adolescent Literature (2.00)**

A study of literature written for and read by students in grades 6-12, placing the works in their social and historical contexts. Prerequisite: ENG 196.



**220 News Writing (3.00)**

An introduction to the print journalism profession emphasizing journalistic style and techniques with attention to hard news, deadline reporting, and feature writing. Emphasis on writing for publication. Prerequisite: ENG 115 or ENG 125.

**240 Introduction to Film (3.00)****IAI: F2 905**

An introduction to the critical analysis of film through an examination of the technical, formal, and stylistic aspects of cinematic production. Prerequisite: One of ENG 196, ENG 201, or college literature course. Core: Humanities.

**245 Literature, Science, and Culture (3.00)**

This course explores the wide variety of interactions between what some have called “the two cultures”—science and literature. Students analyze science texts (both fiction and essays) along with literature and film that imagines, critiques, and evaluates science and its endeavors. Writers have used scientific ideas to explore ethics, morality, politics, religion, economics, and so on, even as science draws on literary strategies such as metaphor, culture, and language for its insights. Topics may include literature representing the medical, biological, or physical sciences; environmental/green literature; literature examining the emergence of industrial and information technologies; feminist science studies; apocalypse literature; or science, post-human, and/or cyborg fiction. Prerequisite: ENG 115 or ENG 125. Core: Humanities.

**250 News Editing (3.00)**

Basic techniques and responsibilities of a publications editor. Topics include editing for both content and style, working with photos, writing photo captions, and writing headlines. Course includes a review of libel and attention to ethical dilemmas facing journalists. Prerequisite: ENG 220.

**260 Integrating Word and Image (3.00)**

Offers beginning instruction in visual literacy and design skills in theory and practice. Useful for prospective teachers, writers, editors, and arts entrepreneurs, the course engages students in the invention, production, revision, and analysis of purposeful fusions of word and image. Particular attention is paid to rules of legibility, readability, and visual and textual style. Course projects consider text and image in a variety of for-print products, bringing content, audience, and author together in compelling ways. Prerequisite: ENG 196.

**265 Style (3.00)**

An examination of the linguistic structure and rhetorical effects of sentences, paragraphs, and essays in the works of selected writers. Students review English syntax in order to expand their understanding of how stylistic choices affect the creation of meaning. Prerequisite: ENG 115 or ENG 125.

**270 Writing, Rhetoric, and Culture (3.00)**

An introduction to historical and contemporary theories of rhetoric and their application to writing. Students construct and critique written arguments, examining ways culture may be shaped by persuasive discourse. The class offers practice in analyzing a range of texts, identifying their historical or cultural contexts. By way of interpretive reading and critique, students consider central questions in the humanities and liberal arts more generally. Prerequisite: ENG 115 or ENG 125. Core: Humanities.

**275 Creative Writing (3.00)**

An introduction to writing poetry and fiction, to some of the conventions writers use in the two genres, and to the workshop-style writing classroom. Prerequisite: ENG 115 or ENG 125.

**280 Introduction to Women's Literature (3.00)**

(Same as: GWS 280.) A study of the kinds of works written by women historically and the way female experience is expressed: what the author wants to convey to her audience and why she chooses the medium she does. Prerequisite: ENG 196. Core: Humanities.

**285 Writing Theories and Practices (3.00)**

An exploration of how writing is taught, both historically and by way of current theories and pedagogies, along with an examination of contemporary arguments about literacy instruction. Students practice methods of working one-on-one with writers. Prerequisite: ENG 115 or ENG 125. Required for Secondary Education minors seeking certification in English.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****301 Studies in American Literature (3.00)**

Specialized topics in American literature. Content defined by the individual instructor. This course may be repeated once with different content. Prerequisites: ENG 196 and one 200-level literature course.

**303 Studies in British Literature (3.00)**

Specialized topics in British literature. Content defined by the individual instructor. This course may be repeated once with different content. Prerequisites: ENG 196 and one 200-level literature course.

**305 Studies in Contemporary Literature (3.00)**

Specialized topics in contemporary literature. Content defined by individual instructors. This course may be repeated once with different content. Prerequisites: ENG 196 and one 200-level literature course.

**307 Studies in Literature of Cultural Identity (3.00)**

Specialized topics in a literature of cultural identity originating within a particular racial, ethnic, economic, or sexual community. This course may be repeated once with different content. Prerequisites: ENG 196 and one 200-level literature course.

**315 Advanced Writing (3.00)**

This course extends skills introduced in ENG 115, IDS 125, and the General Education experience. Drawing on interdisciplinary readings and practicing cross-disciplinary writing and revision, students examine both their specific area of study, and the larger academic and non-academic communities around them. Using inquiry and dialogue, students focus on the value of writing with others from a variety of fields in order to address complex problems in the public sphere. Prerequisite: ENG 115 or ENG 125. Core: Composition.

**325 News Reporting (3.00)**

Examination of the role of the reporter in the newspaper industry. Topics include advanced fact gathering, interview and research techniques, beat coverage, and team reporting. Prerequisite: ENG 220.

**330 Multicultural Literature of North America (3.00)**

An exploration of one or more North American ethnic culture's practices and values through the lens of literature. Students examine oral, musical, religious, philosophical, and historical conditions, or traditions that have influenced the formation of ethnic literatures and American culture as a whole. Prerequisite: Junior standing. ACR: Intercultural.

**335 Magazine Writing (3.00)**

Students examine the wide range of magazine writing possibilities through developing, researching, writing, and revising articles for specific magazines. Students learn to analyze both magazine audiences and editors and produce polished queries in order to effectively target appropriate magazines for freelance assignments. Prerequisite: One of ENG 220, ENG 265, or ENG 275.

**340 Global Films (3.00)**

An interdisciplinary study of selected films representing various cultures of the world. Prerequisite: Junior standing. ACR: Intercultural.

**350 In Theory (3.00)**

This key course in English studies explores theories that have shaped critical debates in the fields of literary analysis and criticism. Students examine different methods of literary, rhetorical, and cultural analysis, the contexts in which they emerged, and the practices of reading and writing associated with them. Students learn to recognize the historical contexts and political stakes associated with different modes of scholarship and practice applying related reading strategies to a variety of texts. This course is a prerequisite for 400-level courses in English Studies. Prerequisites: At least 2 of ENG 203, 205, 207, or 209.

**360 Writing for Social Change (3.00)**

An exploration of writing that engages in civic life and contributes to meaningful public debates. Students engage in research designed to expand their expertise as cultural critics. Prerequisite: ENG 265.

**365 Writing Creative Nonfiction (3.00)**

Workshop in creative nonfiction writing that emphasizes invention, research, drafting, and revision. Additionally, students examine published models for critique and appreciation of craft. Topic and approach may vary. This course may be repeated once with different content and permission of the instructor. Prerequisite: One of ENG 220, ENG 265, or ENG 275.

**370 Language and Linguistics (3.00)**

An investigation of the essentials of human language: what it includes (sounds, words, sentence patterns, and meanings), how it works, how it varies in social settings, and how it changes across time. Recommended prerequisite: Junior standing. Required for Secondary Education minors seeking certification in English.

**375 Writing Fiction (3.00)**

An advanced workshop in fiction writing that emphasizes invention, research, drafting, and revision. Additionally, students examine published models for critique and appreciation of craft. Topic and approach may vary. This course may be repeated once with different content and permission of the instructor. Prerequisite: ENG 275.

**377 Writing Poetry (3.00)**

An advanced workshop in poetry writing that emphasizes invention, research, drafting, and revision. Additionally, students examine published models for critique and appreciation of craft. Topic and approach may vary. This course may be repeated once with different content and permission of the instructor. Prerequisite: ENG 275.

**380 Global Literature (3.00)**

An interdisciplinary study of world literatures, focusing on selected topics and regions, usually connected to the College's annual international focus. Texts are examined in the context of the history and culture of their regions. Prerequisite: Junior standing. ACR: Intercultural.

**390 Sacred Texts as Literature (3.00)**

A literary study of sacred texts from around the world, including portions of the Bible, Bhagavad Gita and Upanishads, Koran, Tao Te Ching, Dhammapada, and the Analects. Students compare literary structures, strategies, and themes, while considering the cross-cultural influences such texts have had on world literature and art. Prerequisite: Junior standing. ACR: Intercultural.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****401 Seminar in Drama (3.00)**

An intensive study of some aspect of drama or of a particular dramatist. This course may be repeated once with different content. Prerequisite: ENG 350.

**403 Seminar in Fiction (3.00)**

An intensive study of some aspect of fiction in the context of history and critical theory. This course may be repeated once with different content. Prerequisite: ENG 350.

**405 Seminar in Poetry (3.00)**

An intensive study of some aspect of poetry, including individual poets, movements, historical periods or approaches to the genre. This course may be repeated once with different content. Prerequisite: ENG 350

**407 Seminar in Selected Authors (3.00)**

An intensive study of works by a single author or authors sharing a particular connection. This course may be repeated once with different content. Prerequisite: ENG 350.

**409 Seminar in Theory (3.00)**

A study of major theorists or theoretical movements that have shaped the selection of texts and how they are read within cultures. This course may be repeated once with different content. Prerequisite: ENG 350.

**455 Writing in Technical & Professional Settings (3.00)**

(Same as: ENG/MALS 555.) An advanced study and practice of professional writing for various audiences, addressing style, structure, and ethical considerations pertaining to a variety of document forms and publishing platforms. Special attention is given to writing effective grant applications.

**460 Seminar in Special Topics (3.00)**

An intensive study of a selected topic in literature, language, writing, literary criticism, or theory with special attention to issues related to leadership, ethics, or values. This course may be repeated once with different content. Prerequisite: ENG 350. ACR: Leadership, Ethics and Values.

**465 Advanced Creative Nonfiction — Multimedia (3.00)**

An advanced writing seminar wherein student writers transform creative nonfictions into a variety of multi-media forms which may include the following visual and/or audio products: documentary, oral history, monologue, commentary, storyboard, slideshow, spoken word poetry, or theatrical sketch. Students learn to enlarge the contemporary practice of written nonfiction through projects and prompts that encourage creative, hands-on exploration as well as workshop-based analytical and critical skills. Prerequisite: ENG 196; ENG 350 or permission of instructor.

**475 Advanced Workshop in Creative Writing (3.00)**

An intensive, advanced study of one particular aspect of or issue in fiction writing or poetry writing. Topic and approach may vary. This course may be repeated once with different content and permission of the instructor. Prerequisite: ENG 275 and ENG 350.

**480 Senior Portfolio (1.00)**

Compilation of revised writing required of all majors. English majors must register for and complete this credit before graduation. Prerequisites: ENG 350, declared English major, senior standing.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Entrepreneurship and Small Business Management

See Management and Marketing for a description of courses and programs of study in Entrepreneurship and Small Business Management.

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## Environmental Studies (ENV)

*Professor: Timothy Morris*

*Associate Professors: Jeffrey Anstine, William Barnett, Martha Bohrer,  
Matthew Krystal, Zachary Jack, Gerald Thalmann*

### Mission Statement

Environmental Studies prepares students for future roles as citizens, scientists, business people, or policy makers who have learned to assess and address the multiple social, cultural and economic causes and effects of environmental problems. This cross-college program teaches students to evaluate arguments about environmental issues from varied perspectives and integrate multiple disciplines to develop, assess, and institute potential solutions.

A total of 21 credit hours is required for this minor. Students explore scientific and technical environmental problems and their historical background, cultural circumstances, and ethical implications, by taking nine

credit hours distributed equally across three core areas: Sciences, Humanities, and Social Sciences. They may then focus on their particular area of interest as they take nine more credit hours from the list of electives. ENV 300 is an interdisciplinary exploration of particular environmental case studies and is the capstone course required for all minors.

### Environmental Studies Minor

The minor consists of 21 credit hours, including:

ENV 300 Modern Environmental Issues

3 credit hours from each of the following three core areas for a total of 9 credit hours:

#### Sciences

BIO 101 Diversity, Evolution & Ecology  
 BIO/ENV 106 Introduction to Environmental Science  
 CHM 142 General Chemistry II: Environmental Chemistry

#### Humanities

ENG 125\* First-Year Seminar  
 ENG 245\* Literature, Science, and Culture  
 ENV 120 People and Nature  
 HST 185 Peoples and Cultures of Africa  
 HST/ENV 248 American Environmental History

#### Social Sciences

PSC 101 Introduction to American Government  
 SOA 105 Introduction to Cultural Anthropology  
 SOA 155 Native Americans

An additional 9 credit hours from the following electives:

BIO 101 Diversity, Evolution & Ecology  
 BIO/ENV 106 Introduction to Environmental Science  
 BIO 201 Botany  
 BIO 202 Zoology  
 BIO 216 Ecology  
 BIO 301 Plant Physiology  
 BIO 302 Animal Behavior  
 BIO 416 Environmental Biology  
 BUS 390\* Seminar  
 CHM 142 General Chemistry II: Environmental Chemistry  
 CHM 210 Chemical Analysis  
 ECB 110 Business and Society  
 ECB 290\* Special Topics  
 ECB 390\* Special Topics  
 ECN 100 Economics of Social Issues  
 ECN 290\* Special Topics: Contemporary Issues in Economics  
 ECN 390\* Special Topics: Contemporary Issues in Economics  
 ENG 125\* First-Year Seminar  
 ENG 245\* Literature, Science, and Culture  
 ENG 303\* Studies in British Literature  
 ENG 460\* Special Topics  
 ENV 120 People and Nature  
 HST 185 Peoples and Cultures of Africa  
 HST/ENV 248 American Environmental History  
 HST 325 American Cities and Suburbs  
 HTB 115 Human Geography  
 IDS 125\* First-Year Seminar

LEV 495*	Applied Leadership
PHL 110	Ethics
PSC 101	Introduction to American Government
PSC 214	American Political Parties and Interest Groups
SCI 141	Physical Geology
SOA 105	Introduction to Cultural Anthropology
SOA 155	Native Americans
SOA 165	Introduction to Archaeology
SOA 190	Urban Problems

\*When appropriate - consult with ENV program coordinator

### Special Study Opportunities

**Gulf Coast Research Laboratory** — Located in Ocean Springs, Mississippi. Students may arrange for credit study in the laboratory, which offers courses, research facilities, and field trips, particularly in the summer. Room and board are available. Detailed information is provided by the biology faculty upon request. Registration is arranged through the Office of the Registrar.

**Morton Arboretum** — The College maintains this affiliation through the Associated Colleges of the Chicago Area. Located in Lisle, Illinois, the Arboretum offers botany courses for credit on a rotating two-year cycle. Detailed information is provided by the biology faculty upon request. Registration is arranged through the Office of the Registrar.

**Shedd Aquarium** — The College maintains this affiliation through the Associated Colleges of the Chicago Area. Located in downtown Chicago, the Shedd Aquarium is truly one of the world's best aquariums and offers a variety of courses for credit in both freshwater and marine biology, some of which include trips to the Caribbean. Detailed information is available from the biology faculty. Registration is arranged through the Office of the Registrar.

**Study Abroad** — Numerous opportunities are available for study abroad in Environmental Studies programs. Detailed information is available from International Programs. Credit toward the minor may be arranged in consultation with the coordinator of Environmental Studies and the Registrar.

### 106 Introduction to Environmental Science (3.50)

(Same as: BIO 106) This course is an overview of biological and physical processes that affect the environment in the context of current environmental issues. Topics include population, community, ecosystem ecology, conservation biology, water and air pollution, and natural resource management. Core: Science (Lab).

### 120 People and Nature (3.00)

This course is an introduction to the interdisciplinary field of Environmental Studies from a humanities perspective. Students read some of the most important books by American authors about the complicated and changing relationships between people and the rest of nature. These classic environmental texts offer insights into perceptions and uses of nature. This course aims to help students interpret arguments about environmental issues and understand their social, historical, and political context. Core: Humanities.

### 248 American Environmental History (3.00)

(Same as: HST 248.) This broad survey of American history from an environmental perspective examines the ways that different groups of Americans

adapted to and changed the landscape, and analyzes their ideas about nature. Major themes include the new perspective of environmental history, reading the landscape, the role of region in America, and knowing nature through labor. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

### **300 Modern Environmental Issues (3.00)**

This is the capstone course for the Environmental Studies program. Led by professors from different departments with guest appearances by additional members of Environmental Studies faculty, this is an interdisciplinary course that integrates principles and approaches from the sciences, humanities, and social sciences to better understand modern environmental issues. In this course, students examine different ways of thinking about nature and the environment, and seek to understand the complex social, cultural, political, economic, and scientific causes of environmental problems, in order to evaluate potential and alternate social and policy solutions. Students also consider the ethical relationship between humankind and the natural environment and the relevance of various ethics and values to environmental decisions. Prerequisite: One of ENV 120, BIO/ENV 106, BIO 101, or HST/ENV 248. ACR: Leadership, Ethics and Values.

### **397 Internship (0.00-9.00)**

### **399 Independent Study (1.00-3.00)**

### **497 Internship (0.00-9.00)**

### **499 Independent Study (1.00-3.00)**

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## **Exercise Science**

See **Health and Physical Education** for a description of courses and programs of study in Exercise Science.

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## **Finance (FIN)**

*Professors: Peter Barger, Andrew Whitaker*

*Associate Professors: Diane Anstine, Marti Bogart, Doh-Khul Kim*

*Assistant Professors: Patrick Gray, Brandon Sheridan*

*Adjunct Faculty: Keith Feiler*

### **Mission Statement**

The mission of the Economics and Finance departments is to teach economics and finance majors the basic conceptual framework needed for advancement in their careers, to contribute to the curricular needs of the accounting and management and marketing undergraduates, to provide support courses and the finance courses for the masters degree programs, and to offer courses fulfilling the general education requirements of all students at North Central College. The



departments seek to inspire students in each of these areas to cultivate quantitative analytical skills and to communicate their results precisely and elegantly.

Finance is a dynamic and challenging field that seeks to develop within students an understanding of the conceptual framework of modern finance and the applied quantitative skills required for financial decision-making. Students majoring in finance study financial markets and institutions and the financial decision-making process of firms and analyze investments and financial markets. The finance major is appropriate for students interested in careers in financial services (principally with banks, insurance companies, brokerage houses, mutual funds, stock and commodity markets) or general business, or who intend to pursue graduate study in finance, economics, business, or law.

The finance major is housed in the economics department, which offers both a Bachelor of Arts (B.A.) and a Bachelor of Science degree (B.S.) in finance. The B.A. degree is most appropriate for students who are planning on general business careers, and who do not plan to pursue graduate study. The B.S. degree is advisable for students who seek careers in security analysis and portfolio management, or who intend to pursue graduate study.

Degrees offered: B.A. and B.S.

## Finance Major

### B.A. Requirements:

The following courses are required:

ACC 201	Accounting Principles I/Financial
ACC 202	Accounting Principles II/Managerial
ECN 250	Microeconomic Principles
ECN 252	Macroeconomic Principles
ECN 360	Money and Banking
ECN 423	Intermediate Microeconomics
ECN 427	Intermediate Macroeconomics
FIN 350	Corporate Finance
FIN 400	Investments and Portfolio Management

FIN 425	Financial Institutions
FIN 450	Advanced Corporate Finance
FIN 475	Derivatives: Markets, Pricing and Applications

### B.S. Requirements:

In addition to the B.A. degree requirements, the following courses must be completed:

ECN 241	Business and Economic Statistics
ECN 445	Econometrics
MTH 152	Calculus II

Choose one of MTH 153 or MTH 256

Choose one of CSC 160, MTH 153 (if not taken for first choice), one 200- or 300-level mathematics course, or one laboratory science course beyond the general education requirements

## Finance Minor

18 credit hours, including the following courses:

ACC 201	Accounting Principles I/Financial
ECN 241	Business and Economic Statistics
ECN 250	Microeconomic Principles
FIN 350	Corporate Finance

Six additional credit hours in finance, at least three of which must be at the 400-level.

**TYPICAL COURSE SEQUENCE:** Finance majors typically use their freshman year to fulfill general education requirements and complete MTH 121 (a prerequisite for ECN 250 and 252). B.S. majors will want to begin working on the College's general B.S. requirements during their first year — particularly MTH 152 and its prerequisites. Finance students are also encouraged to take FIN 370, FIN 385, ACC 317 and ACC 318 before graduation.

	FALL	WINTER	SPRING
FIRST YEAR:	GENERAL EDUCATION	and MTH 121	
SECOND YEAR:	ECN 250	ECN 252	ECN 241
	ACC 201	ACC 202	(any term)

### **297 Internship (0.00-9.00)**

### **299 Independent Study (1.00-9.00)**

### **340 Small Business Finance (3.00)**

Introduction to finance topics most important for owners and managers of small or startup enterprises. These include cash management, sources and costs of financing, forecasting financial statements, and startup value. Prerequisite: ACC 202.

### **350 Corporate Finance (3.00)**

An introduction to corporate financial management. Topics include financial statement analysis, discounted cash flow analysis, bond and stock valuation, common stock/debt financing, risk and return, cost of capital, and capital budgeting. Prerequisites: ACC 201; ECN 250; ECN 252; and ECN 241 or MTH 341 and 342.

### **365 Theory of Interest (3.00)**

(Same as: MTH 365.) The study of compound interest and annuities; applications to problems in finance and actuarial science. Required for the major in actuarial science. Prerequisites: MTH 152, FIN 350.

### **370 Wealth Management (3.00)**

This is a broad-based course in personal financial planning and personal finance intended for students interested in taking a first step toward careers in personal financial advising as well as students who seek to better manage their own financial affairs. Topics include the financial planning process, personal investing, mutual funds, retirement planning, tax planning, insurance planning, estate planning, investment advising, professional ethics and conduct, and personal financial responsibility. Prerequisite: FIN 350. ACR: Leadership, Ethics, and Values.

### **385 International Finance (3.00)**

Theory and applications in the realm of financial decision making in the international sphere. Topics may include the global financial environment, foreign exchange risk management, financing international transactions, and asset management including short-term and long-term multinational corporate finance decisions. Prerequisite: FIN 350.

### **390 Seminar: Special Topics in Finance (1.00-3.00)**

Topics vary depending on student interest and faculty expertise. Topics and prerequisites are announced in advance and placed in the course schedule. May be repeated with different content. Prerequisite: FIN 350 is normally required.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****400 Investments and Portfolio Management (3.00)**

A broad survey of investments and portfolio management. Topics include stock and bond market analysis and valuation, portfolio analysis and management, efficient markets, international financial markets, and derivative securities. Prerequisite: FIN 350.

**425 Financial Institutions (3.00)**

A study of measuring and managing the risks faced by financial institutions. Topics include the organizational and regulatory structure of the financial services industry. The risks measured may include interest rate risk, market risk, credit risk, off-balance sheet risk, liquidity risk, insolvency risk, foreign exchange risk and sovereign risk. The risk management methods may include liability and liquidity management, deposit insurance and capital adequacy, product or geographic expansion, and the use of derivatives. Prerequisites: ECN 360, FIN 350.

**450 Advanced Corporate Finance (3.00)**

The theory and practice of corporate finance. Study of selected topics in corporate finance including capital budgeting, capital structure and dividend policy, mergers and acquisitions, and financial analysis and planning. Prerequisite: FIN 350.

**475 Derivatives: Markets, Pricing and Applications(3.00)**

This course deals with financial instruments known as derivatives and their use in managing risk and creating leverage. The derivatives market consists of financial contracts in the form of options, forwards, futures, swaps, debt-related securities, and many other types of related instruments. These contracts are used by corporations, investment funds, individuals, and governments to control risk arising from fluctuating interest rates, exchange rates, stock prices, and commodity prices. They are also used by investors and financial institutions to leverage investment positions. This course is designed to expand understanding of derivative related financial instruments and their use in investment and corporate financial management. Upon completion of the course, students will have a clear understanding of derivative markets, the theory of pricing derivative securities, and the use of derivatives in practice. Prerequisite: FIN 350.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

## First Year Experience (FYE)

FYE is North Central's first-year experience program. This program is designed to encourage a successful and seamless transition from high school to college. Continuing throughout the first year, FYE connects students with the information, the people, and the resources needed for a rewarding North Central College education.

### **100 First Year Experience (1.00)**

An introduction to the college academic experience at North Central College. Students begin their academic journey by tackling a current issue and discussing possible responses using several disciplinary approaches. Required for first year students in Fall term.

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## French

See **Modern and Classical Languages** for a description of courses and programs of study in French.

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## Gender and Women's Studies (GWS)

*Professors: Stephen Maynard Caliendo, Beverly Richard Cook, Sara Eaton, Gerald Gems, Sophie Hand, Lisa Long, Heidi Matthews, Francine Navakas, Wioleta Polinska, John Zenchak*

*Associate Professors: Mara Berkland, Jennifer Jackson, Jennifer Keys, Maureen Kincaid, Stephen Macek*

*Assistant Professors: Michael de Brauw, Kelly Howe, Shereen Ilahi, Carin Silkaitis*

### **Mission Statement**

The Gender and Women's Studies program is an interdisciplinary minor that prepares students to think critically about gender as they become global citizens who value life-long learning and social justice.

Gender and Women's Studies offers an interdisciplinary minor in the study of gender and its impact on women and men in history, literature, the arts, the social and natural sciences, religion, philosophy, and culture studies. Courses in this minor bring students together with faculty who are interested in contemporary debates on differing theories of feminisms, sexualities, and gender construction, and on the contributions and politics of women in society. This minor also provides an academic foundation for students wishing to attend graduate programs that emphasize gender and women's studies.

### **Gender and Women's Studies Minor**

21 hours, including:

GWS 100 Women and Men in Society

GWS 490 Seminar (or approved 400-level substitute)

An additional 15 credit hours from the following GWS and elective courses:

- GWS 210 Gender Studies
- GWS 220 Family
- GWS 230 Gender in the Judeo-Christian Traditions
- GWS 250 U.S. Women's History
- GWS 280 Introduction to Women's Literature
- GWS 301 Human Sexuality: A Clash of Values
- GWS 350 Gender and World Religions
- GWS 389 Gender and the Mass Media
- GWS 390 Intercultural Seminar in Gender and Women's Studies
- GWS 395 Leadership, Ethics, and Values in Gender and Women's Studies
- GWS 497 Internship
- GWS 499 Independent Study

Electives:

- ENG 307\* Studies in Literature of Cultural Identity: African American Women Writers
- ENG 405\* Seminar in Poetry: Representations of Women in Poetry
- ENG 409\* Seminar in Theory: Queer Theory
- HPE 272\* Sport and Art: Representations of American Masculinity
- IDS 390\* Topics: Hispanic Women in Translation
- IDS 460\* Seminar: Gender and Art; Feminist Perspectives: Literature, Theory and Public Life
- IDS 490\* Seminar: What are We? Women and Men Writing Back
- LEV 495\* Leadership in Work Environments (subject to approval of the Gender & Women's Study Committee)
- PSC 313 Politics of Race, Gender, and Class
- PSY 400\* Seminar: Psychology of Women
- SPN 490\* Gender & Power in Latin American Performance

\*Designated Topics Courses: Since the subject matter of topics courses changes from term to term, they only count toward the minor if specifically designated to do so by the GWS committee. The topics listed above are a sampling of topics courses approved in the past and likely to be offered in the future. The topics of LEV 495 are determined in part by the student's work/internship experiences, and thus need the approval of the GWS faculty to count toward the minor.

In rare cases, students may seek approval from the committee for other courses to be counted toward the minor.

### **100 Women and Men in Society (3.00)**

"Gender" as practice, performance, and representation has differed for women and men according to race, class, and other divisions throughout time. This interdisciplinary course places critical focus on "gender," or the cultural invention and representation of femininity and masculinity. Lectures and discussions examine areas such as: appearance, health, relationships, birth control, and pornography; access to political institutions and power; gender in the workplace; sexuality and sexual orientation; gender representation in popular culture; the impact of women's perspectives on research, knowledge, history, and other cultural institutions; feminism and cultural politics. Core: Humanities or Social Science.

### **210 Gender Studies (3.00)**

(Same as: SOA 210.) The study of gender as a social product, including theoretical frameworks, gender-defining institutions, and feminism.

**220 Family (3.00)**

(Same as: SOA 220.) The sociological study of the family. Topics examined from a structuralist/feminist perspective includes the history of the family, the relationship between work and family, and the impacts of class and race on family structure. Core: Social Science.

**230 Gender in the Judeo-Christian Traditions (3.00)**

(Same as: REL 230.) The study of how gender affects religious practices, beliefs, and experiences in Christianity and Judaism. Core: Humanities. ACR: Religion and Ethics.

**235 Sexuality and Christianity (3.00)**

(Same as: REL 235.) An examination of contemporary Christian approaches to sexuality in a dialogue with secular philosophies of sexuality. Core: Humanities. ACR: Religion and Ethics.

**250 U.S. Women's History (3.00)**

(Same as: HST 250.) A survey of American women's history from colonial times to the present. An examination of women's legal and political status, educational and occupational opportunities, family relations, and health with special attention on how and why lives and experiences of women have changed over time. An exploration of the history that women share as a group as well as differences among specific groups of women. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**280 Introduction to Women's Literature (3.00)**

(Same as: ENG 280.) A study of the kinds of works written by women historically and the way female experience is expressed: what the author wants to convey to her audience, and why she chooses the medium she does. Prerequisite: ENG 196 or ENG 201. Core: Humanities.

**301 Human Sexuality: A Clash of Values (3.00)**

(Same as: BIO 300.) In traditional topics in human sexuality (e.g., natural essence of sexuality, reproductive biology, sex research, marriage and other arrangements, reproductive issues), there is a clash of values both within a culture and between cultures. This course includes such controversial issues as religious perspectives, pornography, the media, prostitution, and female circumcision. The latter components serve to explore problems resulting from the clash of values. Prerequisite: Junior standing. ACR: Intercultural.

**312 Women and American Politics (3.00)**

(Same as: PSC 312.) Study of women as citizens, candidates, and office holders within the American political system. Topics include, but are not limited to, social movements, electoral politics, and interest group activities. Prerequisite: One of PSC 101, GWS 100, or LEV 121. ACR: Leadership, Ethics, and Values.

**350 Gender and World Religions (3.00)**

(Same as: REL 350.) An analysis of feminist thought in non-Western religious traditions. The course discusses women's redefinition of traditional concepts, rituals and practices in a number of religious traditions across the globe. ACR: Religion and Ethics and Intercultural Seminar. Prerequisite: REL 100 or a course in non-Judeo-Christian tradition.

**389 Gender and the Mass Media (3.00)**

(Same as: SPC 389.) The critical analysis of the complex relations between gender and the mass media. Special emphasis is placed on the social construction of gender, representations of the body, and the cultural significance of the media. Prerequisite: Junior standing or consent of instructor.

**390 Intercultural Seminar in Gender and Women's Studies (3.00)**

Specialized topics considered from a global, intercultural, and/or multicultural position through the lens of gender and women's studies. Content defined by the individual instructor. Prerequisite: Junior standing. ACR: Intercultural.

**395 Leadership, Ethics, and Values Seminar in Gender and Women's Studies (3.00)**

Specialized topics exploring the concepts of leadership, ethics, and values through the lens of gender and women's studies. Content defined by the individual instructor. Prerequisite: Junior standing. ACR: Leadership, Ethics, and Values.

**490 Seminar (3.00)**

Advanced study of an interdisciplinary subject within a seminar format. Content will vary from year to year. Prerequisite: GWS 100, one 300- or 400-level course.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## German

See **Modern and Classical Languages** for a description of courses and programs of study in German.

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## Global Studies (GLS)

*Professor: John Shindler*

*Associate Professors: Brian Hoffert, Robert Moussetis*

*Assistant Professors: Shereen Ilahi, William Muck*

### Mission Statement

North Central College's global studies program operates on the premise that participation in a globalized world demands an understanding of the various issues that confront all the earth's citizens. In order to achieve this objective the global studies program brings together courses from a variety of disciplines so that students come to understand the diversity of our world, the problems that face us, and the possible solutions from which we can choose. Students who major in global studies accept the idea that boundaries, both physical and

intellectual, must be crossed. Upon completion of this major, graduates are prepared to serve in the public, private and non-profit sectors, whether at the international or national level, in the world of business or the world of global politics.

**B.A. Requirements:**

The Global Studies major requires 42-51 credit hours, including a common set of courses (minimum of 21 credit hours) which provide the basis for each of the specialized tracks:

PSC 102 Introduction to International Relations

SOA 105 Introduction to Cultural Anthropology

One introductory elective chosen from:

BUS 135 Introduction to International Business

HST 155 Global History

HTB 175 Cultural Regions of the World

REL 100 Introduction to World Religions

One research methods course chosen from:

PSC 200 Nature of Political Inquiry

SOA 200 Research Methods in Social Sciences

ECN 241 Business and Economic Statistics

PSY 250 Statistics

One global structure course chosen from:

PSC 221 Comparative Political Systems

PSC 320 Global Governance

ECN 324 International Political Economy

PSC 333 International Law

One advanced elective chosen from:

LEV 350 Ethnic and Religious Conflict Resolution

PHL 343 Economic and Social Justice

PSY 310 Cultural Psychology

SPC 317 Intercultural Communication

SOA 421 Indigenous Peoples and the State

GLS 492 Seminar in Global Studies

Students must also complete one of the following tracks:

**East Asia Track** (21-30 credit hours)

EAS 165 Introduction to East Asia

One history course from:

HST 263 Japanese History

HST 265 Modern China

One religion, culture, philosophy, or political science course from:

EAS 292 Japanese Culture

REL 260 Religions of China

REL 265 Religions of Japan

REL 315 Buddhism

HST 330 East Asian Thought

PSC 321 Model UN I (with approval of GLS program coordinator)

PSC 322 Model UN II (with approval of GLS program coordinator)

College level proficiency in Japanese or Chinese through 103. Students may place out of this requirement by testing into CHI or JPN 201

Twelve credit hours earned through study abroad. Students may participate in North Central College's China/Japan program, or some other approved study program in East Asia.



**Developing States Track** (21-30 credit hours)

BUS 135 Introduction to International Business

One history course from:

- HST 175 Latin American History
- HST 185\* People and Cultures of Africa
- HST 363 Mexico and Its Neighbors
- HST 271 Modern Middle East
- HST 265 Modern China

One religion, culture, philosophy, or political science course from:

- HST 185\* People and Cultures of Africa
- REL 250 African Religions
- REL 280 Islam and the Middle East
- PSC 321 Model UN I (with approval of GLS program coordinator)
- PSC 322 Model UN II (with approval of GLS program coordinator)

\*Note HST/SOA 185 may only be used to meet one requirement.

College level proficiency in French or Spanish through 103. Students may place out of this requirement by testing into FRN or SPN 201.

Twelve credit hours earned through study abroad. Students may participate in North Central College's Costa Rica program or some other approved study abroad program in the developing world.

**Europe Track** (21-30 hours)

HST 259 Modern Europe

One history course from:

- HST 251 History of Russia and the Soviet Union
- HST 345 European Intellectual History
- HST 385 World Wars of the Twentieth Century
- HST 392 The Holocaust

One religion, culture, philosophy, or political science course from:

- ART 374 Art of the Twentieth Century I
- PSC 321 Model UN I (with approval of GLS program coordinator)
- PSC 322 Model UN II (with approval of GLS program coordinator)

College level proficiency in French, German, or Spanish through 103. Students may place out of this requirement by testing into FRN, GER, or SPN 201.

Twelve credit hours earned through study abroad. Students may participate in North Central College's England program or some other approved study abroad program in Europe.

**International Business Track** (18-30 credit hours)

BUS 135 Introduction to International Business

ECN 100 Economics of Social Issues

ACC 201 Principles of Accounting I

BUS 162 Management of Organizations

Two courses selected from:

- BUS 482 International Management
- ECN 324 International Political Economy
- ECN 340 International Economics

One of the following:

Twelve credit hours earned through an approved study abroad program OR college level proficiency in a language through 103. Students may place out of this requirement by testing into 201.

**International Relations Track** (30 credit hours)

PSC 222 American Foreign Policy

ECN 324 International Political Economy

One course on the developing world selected from:

- HST 175 Latin American History
- SOA 185 People and Cultures of Africa
- HST 265 Modern China
- HST 271 Modern Middle East
- REL 280 Islam and the Middle East

One course on the developed world selected from:

- ECN 340 International Economics
- HST 259 Modern Europe
- HST 263 Japanese History
- HST 270 U.S. Diplomatic History
- PSC 321 Model UN I
- PSC 322 Model UN II

Twelve credit hours earned through study abroad. Students may participate in any of North Central College's programs or other approved study abroad program.

### **Global Studies Minor (21 credit hours)**

- PSC 102 Introduction to International Relations
- SOA 105 Introduction to Cultural Anthropology
- GLS 492 Seminar in Global Studies

One introductory elective chosen from:

- BUS 135 Introduction to International Business
- HST 155 Global History
- HTB 175 Cultural Regions of the World
- REL 100 Introduction to World Religions

One research methods course chosen from:

- PSC 200 Nature of Political Inquiry
- SOA 200 Research Methods in Social Science: Quantitative
- BUS 241 Business and Economic Statistics
- PSY 250 Statistics

One global structure course chosen from:

- PSC 221 Comparative Political Systems
- PSC 320 International Organizations
- ECN 324 International Political Economy
- PSC 333 International Law

One advanced elective chosen from:

- LEV 350 Ethnic and Religious Conflict Resolution
- PHL 343 Economic and Social Justice
- PSY 310 Cultural Psychology
- SOA 421 Indigenous Peoples and the State
- SPC 317 Intercultural Communication

### **Global Perspectives Program**

The Global Perspectives Program at North Central College provides students with an opportunity to internationalize their degree. No matter what major students choose, they can receive official recognition for academic and co-curricular activities that bring significant global dimensions to their careers at the college.

Program Requirements:

#### 1. Courses (13 credits):

- Required: SPC 317 Intercultural Communication
- Three of: ART 264; EAS 292; ECN 324 OR 340; ENG 307, 340, 370, 380, OR 390; FIN 385; FRN 330, 331, OR 338; GER 320; GLS 365; GWS 350 OR 390; HPE 360; HST 154, 155, 165, 175, 185, 249, 251, 263,

265,267, 271, 330, 345, 363, 370, 385, OR 392; LEV 240 OR 350; BUS 482 OR 488; MUS 156; PHL 300; PSC 221, 320, 321, 322, OR 333; PSY 310; REL 255, 260, 265, 270, 280, OR 315; SPN 331 OR 333; SCI 345; SOA 421; THE 363; or any ACR-Intercultural course offered on campus.

Capstone Seminar GLS 490, 1.00 credit:

Enrollment in GLS 490 in the student's senior year. The final portfolio is completed in the course, documenting all requirements. Students also produce an interdisciplinary project that explores significant international dimensions of their major.

2. Foreign Language:

18 credits of academic study in a language other than the student's native language.

3. Study Abroad:

Completion of any study abroad program for a minimum of 10 weeks, approved by the Office of International Programs.

4. International/Intercultural Internship:

Fifty (50) hours (minimum) of a domestic internship in an organization engaged in international or intercultural work, to be completed before or after the study abroad program.

5. Campus International Programming:

Participation in eight (8) campus international events. Students must be key organizers for at least two events and attend a minimum of six more.

**160 D-Term Study Abroad (2.00-3.00)**

This course is designed to provide students with an opportunity to pursue a field of study outside the United States at an introductory level. Each course requires some pre-departure and post-study abroad sessions; time spent out of the country may vary from 10 to 21 days. Destinations and content change according to instructor. Repeatable with different content. Consent of instructor required. Core: May count towards Humanities or Social Science depending on the topic.

**177 Topics in Global Awareness (1.50-3.00)**

Intensive study of a cultural topic designed to help students develop a sense of global systems and interdependence in the context of a particular discipline. Content defined by the individual instructor. Repeatable with different content. Core: May count towards Humanities or Social Science depending on the topic.

**260 D-Term Study Abroad (2.00-3.00)**

This course is designed to provide students with an opportunity to pursue a field of study outside the United States at an introductory level. Each course requires some pre-departure and post-study abroad sessions; time spent out of the country may vary from 10 to 21 days. Destinations and content change according to instructor. Repeatable with different content. Consent of instructor required. Core: May count towards Humanities or Social Science depending on the topic.

**277 Seminar: Study Abroad (0.00-2.00)**

A workshop in intercultural learning designed for students enrolled in North Central College study abroad programs. Students explore the concept of culture, compare cultural values, investigate social relations and communication styles,.

prepare for adjustment, and begin to develop intercultural competence. Journals are kept while students are in their host cultures; required activities and a final reflective essay are completed upon return. Required of all students who plan to study abroad.

**287 Topics in Chinese Culture (1.50)**

Intensive study of cultural topics required of students in NCC-in-China/Japan program who are studying only one or no language.

**288 Topics in Japanese Culture (1.50)**

Intensive study of cultural topics required of students in NCC-in-China/Japan program who are studying only one or no language.

**360 D-Term Study Abroad (2.00-3.00)**

This course is designed to provide students with an opportunity to pursue a field of study outside the United States at an introductory level. Each course requires some pre-departure and post-study abroad sessions; time spent out of the country may vary from 10 to 21 days. Destinations and content change according to instructor. Repeatable with different content. Consent of instructor required. Core: Some 100- and 200-level coursework in a student's major recommended.

**362 D-Term Study Abroad ACR-Intercultural(2.00-3.00)**

This course is designed to provide students with an opportunity to pursue a field of study outside the United States at an introductory level. Each course requires some pre-departure and post-study abroad sessions; time spent out of the country may vary from 10 to 21 days. Destinations and content change according to instructor. Consent of instructor required.

**363 Seminar in Costa Rica (3.00)**

Seminar taught in English by the NCC faculty member. Course content varies according to the expertise and areas of interest of the faculty member. ACR: Intercultural.

**365 Topics in Global Studies (3.00)**

Intensive study of a selected international topic from a variety of disciplinary perspectives, including those of the humanities and social sciences. Prerequisite: Junior standing. ACR: Intercultural.

**367 Modern Britain (3.00)**

Selected topics in modern British culture and society designed to give context for student's study in England. Required of all students on NCC-in-England program. ACR: Intercultural.

**387 Seminar in China and Japan (3.00)**

Seminar taught in English by the NCC faculty member. Course content varies according to the expertise and areas of interest of the faculty member. ACR: Intercultural.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)**

**490 Global Perspectives Capstone Seminar (1.00)**

Designed for students in the Global Perspectives Program, this seminar is devoted to the completion of the required portfolio and culminates in an interdisciplinary project that focuses on the international dimensions of a student's major. Prerequisite: Participant in the Global Perspectives Program; senior standing.

**492 Seminar in Global Studies (3.00)**

Topics in global studies such as international relations theory, globalization, democratization, and global change. Seminar serves as capstone for global studies majors. Prerequisite: Junior/Senior standing. ACR: Intercultural.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Graphic Arts

See **Interactive Media Studies** for a description of courses and programs of study in Graphic Arts.

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## Health and Physical Education (HPE)

*Professors: Allen Carius, Gerald Gems, Heidi Matthews*

*Associate Professors: Frank Gramarosso, James Kulawiak*

*Assistant Professors: Karen Bunkenburg, Jenni Kapanen,*

*Matthew Klosterman, Kari S. Kluckhohn*

*Instructors: Kevin Bratland, Mark Broucek, John Fitzgerald,*

*Robert Simon, Haley Zimmerman*

*Visiting Faculty: Kendall Selsky, William E. Wienke, Tammy Wynard*

### Mission Statement

The department of Health and Physical Education is dedicated to developing well-educated, lifelong learners and competent professionals. The program provides students with educational opportunities and experiences that deepens the understanding and appreciation of a commitment to physical activity and wellness, and enhance the skills and habits required for leading and promoting a healthy lifestyle in a variety of health and sports related professions.

The department contributes to personal development by inculcating the values of a healthy lifestyle. A variety of majors prepare students for teaching and/or coaching in schools, work in fitness/health clubs, preparation for graduate school, and athletic training and rehabilitation.

Degree offered: B.A. and B.S.

Major requirements: 40-51 credit hours are required, plus education course work as necessary. Students must choose a major in athletic training, exercise science, sport management, or teaching physical education K-12.

Additional requirements for B.S. degree:

A student may earn a B.S. in Athletic Training or Exercise Science by fulfilling the B.A. requirements for the major and taking the following support courses:

- a. MTH 152
- b. PSY 250
- c. PSY 255
- d. PSY 141 and 142 or CHM 141 and 142
- e. One of the following: PSY 210, 220, or 230.

Minor requirements: A minimum of 19 credit hours are required. Most minors require more than 19 credit hours. Minors are available in coaching, health education, physical education, and wellness. Other minors are recommended for sport management majors.

Unless specifically required for an HPE major, HPE activity courses (HPE 100-135) do not count toward the major or minor or toward the maximum number of credits allowed in HPE.

### **Teaching Physical Education Major: K-12 Certification Program**

The student can teach physical education at the elementary, middle, or secondary school level.

A maximum of 51 credit hours in HPE is allowed.

HPE 121	Wellness
HPE 137	First Aid
BIO 147	Anatomy and Physiology
HPE 247	Human Anatomy
HPE 250	Sport Management
HPE 255	Teaching/Coaching Team Sports
HPE 257	Teaching/Coaching Individual Sports
HPE 276	Techniques and Methods of Teaching Rhythmic Movement
HPE 279	Introduction to Water Safety
HPE 290	Techniques and Methods of Teaching Physical Education to the Exceptional Child
HPE 310	Measurement and Evaluation in Physical Education
HPE 317	Kinesiology
HPE 331	Curriculum Development, Methods and Evaluation in Health and Physical Education
HPE 347	Physiology of Exercise <b>-or-</b>
HPE 195	Motor Learning and Human Motion

At least 2 electives from HPE 100-135 or equivalent, for a total of at least 4 credit hours, to a maximum of 8 credit hours. HPE 121 does not count toward this requirement.

Additional requirements:

Physical education teaching majors must demonstrate physical fitness with a minimum grade of B in a cardiovascular course (HPE 100-104, 120, 121) or by proficiency exam.

Required coursework for teacher certification (these courses provide a minor in secondary education):

EDN 100, PSY 205, PSY 220, EDN 242, EDN 300, EDN 302, EDN 310, EDN 311, EDN 333, EDN 371, EDN 475, and EDN 485.

150 clinical hours: 50 (K-5), 50 (6-8), 50 (9-12).

See Education Department section of catalog for other requirements.

Recommended activities:

Athletic involvement is strongly encouraged.

## Athletic Training Major

### B.A. Requirements:

Requires 51.5 credit hours in HPE; **students must complete a minimum of 120.5 total credit hours to graduate.**

HPE 137	First Aid
BCM 140	Nutrition
BIO 147	Anatomy and Physiology
HPE 220	Athletic Training Clinical Experience I (three terms of HPE 220 are required for a total of three credit hours)
HPE 225	Introduction to Athletic Training I
HPE 247	Human Anatomy
HPE 280	Human Physiology
HPE 285	Applied Anatomy and Assessment Techniques
HPE 317	Kinesiology
HPE 325	Introduction to Athletic Training II
HPE 330	Athletic Training Clinical Experience II (three terms of HPE 330 are required for a total of three credit hours)
HPE 340	Assessment of Lower-Extremity and Back Injuries and Conditions
HPE 341	Assessment of Upper-Extremity, Head and Neck Injuries and Conditions
HPE 347	Physiology of Exercise
HPE 350	Medical Aspects of Sportsmedicine
HPE 351	Athletic Training Administration
HPE 410	Fitness Evaluation
HPE 425	Therapeutic Modalities
HPE 430	Therapeutic Exercise and Rehabilitation
HPE 440	Athletic Training Clinical Experience III (three terms of HPE 440 are required for a total of three credit hours)
HPE 497	Internship in Athletic Training

### Required Support Courses:

PSY 100	Psychology: Science of Behavior
PSY 250	Statistics
PSY 255	Research Design and Experimentation

### Prerequisite Courses include:

BIO 100	Principles of Biology
MTH 118	Finite Mathematics or equivalent

### B.S. Requirements:

In addition to the requirements for the B.A. degree:

MTH 152; PSY 250; PSY 255; PHY 141 and 142 **or** CHM 141 and 142; and one of: PSY 210, PSY 220 or PSY 230.

The Commission on Accreditation of Athletic Training Education (CAATE) accredited program in athletic training is designed to prepare students for a career in the field of athletic training, or to serve as the pre-professional course of study for other allied health professions. The program leads to a Bachelor of Arts or Bachelor of Science degree. The athletic training education program begins with one year of pre-athletic training courses and clinical observations. The students must then apply for admission to the program, which involves a competitive selection process. Once admitted, the program consists of three years of professional and clinical education. Because of enrollment limitations, students who have completed the pre-athletic training year cannot be assured of admission to the professional and clinical education phase of the program. Once admitted into the program, students must obtain a physical examination, to be

kept on file in the program files. Students are expected to obtain all required immunizations (HBV included).

Admission to the athletic training education program is contingent upon the student satisfactorily completing the following prerequisites:

- a. Completion of one year of attendance at North Central College with a minimum cumulative gpa of 2.500 or higher (including transfer credits) and a 2.750 gpa or higher in all HPE and athletic training courses.
- b. Complete 50 hours of supervised observation in the North Central College athletic training facilities.
- c. Complete HPE 137, HPE 225, and HPE 325.
- d. Complete BIO 100 with a grade of "C" or better.
- e. Completion of all pre-admission skill competencies and proficiencies.
- f. Complete the North Central College written "Athletic Training Education Program Application."
- g. Write a brief essay discussing the student's reason for pursuing a career in athletic training and what the student's professional goals are.
- h. Submit two letters of recommendation. These letters must come from sources outside the NCC Athletic Training Staff.
- i. Complete an interview with the Athletic Training Education Program Committee.
- j. Complete and submit the "Technical Standards for Admission" form.

During the course of the program, students are required to accumulate a minimum of 950 hours of supervised clinical experience with the North Central College intercollegiate athletic program or an affiliated site. These hours include the clinical experience course sequence and the required internship. Upon completion of the program, or during the Spring term of the senior year, students may apply to take the BOC certification exam.

Detailed information regarding admission and other ATEP policies is posted on the program website ([http://www.northcentralcollege.edu/majors/athletic\\_training](http://www.northcentralcollege.edu/majors/athletic_training)) and in the "Athletic Training Student Handbook." There are additional fees associated with the ATEP (travel expenses for clinical assignments, uniforms, liability insurance, background check, conferences).

## Exercise Science Major

### B.A. Requirements:

A maximum of 51 credit hours in HPE allowed.

BIO 100	Principles of Biology
HPE 103	Weight Training
HPE 222	Foundations of Exercise Science
BCM 140	Nutrition
HPE 137	First Aid
BIO 147	Anatomy and Physiology
HPE 195	Motor Learning and Human Motion
HPE 247	Human Anatomy
HPE 250	Sport Management
HPE 280	Human Physiology
PSY 250	Statistics
PSY 255	Research Design -or-
SOA 200	Research Methods in Social Science
HPE 317	Kinesiology
HPE 347	Physiology of Exercise
HPE 354	Applied Nutrition and Body Weight Management
HPE 410	Fitness Evaluation
HPE 420	Exercise Program Design for the Fitness Professional
HPE 497	Internship

Prerequisite course:

MTH 118 Finite Mathematics or equivalent



**Recommended Electives:**

PSY 280	Drugs and Behavior
PSY 385	Health Psychology

**B.S. Requirements:**

In addition to the requirements for the B.A. degree:

MTH 152; PSY 250; PSY 255; PHY 141 and 142 **or** CHM 141 and 142; and of of: PSY 210, PSY 220 or PSY 230.

**Sport Management Major**

A maximum of 51 credit hours in HPE allowed.

BUS 205	Introduction to Business Law
HPE 150	History of Physical Education and Sport
ACC 201	Accounting I/Financial
LEV 230	Conflict Resolution
SPC 230	Business and Professional Communication
ECN 241	Business and Economic Statistics
HPE 250	Introduction to Sport Management
HPE 251	Introduction to Sport Management II
HPE 320	Sport and Recreation Marketing
HPE 322	Sport Law and Organization
HPE 260	Psychological Aspects of Coaching
BUS 262	Management of Organizations
HPE 162	Sport in Modern Society
BUS 168	Marketing
BUS 378	Sales and Sales Management
BUS 384	Human Resource Management
HTB 490	Leadership, Ethics and Values in Sport and Fitness
HPE 497	Internship

Three additional hours in BUS at the 300-level or higher.

Prerequisite course:

ECN 250	Microeconomic Principles
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Recommended Minors:

Business Administration, Marketing, International Business, Conflict Resolution, Leadership, Finance, Accounting, Organizational Communication, Speech Communication, Coaching, or Physical Education

**Teaching Health Education Minor**

Students seeking certification in physical education and/or health education should consult with the department of Education prior to registration as certification requirements may differ from the requirements for the minor.

All of the following are needed to teach health:

HPE 137	First Aid
HPE 230	Community Health
HPE 231	School Health
BIO 300	Human Sexuality
PSY 280	Drugs and Behavior
HPE 331	Curriculum Development, Methods and Evaluation in Health Education
HPE 352	Advanced Concepts of Health

Plus four courses from the following:

BCM 140	Nutrition
BIO 216	Ecology-How Organisms Interact with Their Environment
BIO 222	Estuarine Biology
BIO 228	Desert Ecology
BIO 416	Ecology-Environmental Biology

BIO 440	Virology and Immunology
PSY 230	Psychology of Adulthood and Aging
PSY 324	Abnormal Psychology

Required Support Courses:

Minor in secondary education.

### **Coaching Minor**

23-26 credit hours, including:

HPE 137	First Aid -or-
HPE 225	Introduction to Athletic Training I
HPE 150	History of Physical Education and Sport
HPE 195	Motor Learning and Human Motion
HPE 250	Sport Management
HPE 255	Teaching/Coaching Team Sports
HPE 257	Teaching/Coaching Individual Sports
HPE 260	Psychological Aspects of Coaching
HPE 262	Sport in Modern Society

Coaching Internship (one to three credit hours). Internship should be done with the age group in which the future coach wishes to work.

### **Physical Education Minor**

19-23 credit hours, including:

HPE 137	First Aid
HPE 150	History of Physical Education and Sport
HPE 195	Motor Learning and Human Motion
HPE 250	Sport Management
HPE 255	Teaching/Coaching Team Sports
HPE 257	Teaching/Coaching Individual Sports
One HPE 200	or higher-level course as an elective

### **Wellness Minor**

21.5-22.5 credit hours, including:

BCM 140	Nutrition
PSY 280	Drugs and Behavior
HPE 121	Wellness
HPE 103	Weight Training

one cardiovascular course chosen from HPE 100-104

one lifetime activity course chosen from HPE 113, 118, 274, 276, 279

since a maximum of eight credit hours of physical education activity courses may count toward graduation requirements, if HPE 113 or 118 is taken to fulfill the lifetime activity requirement, a minimum of 121 credit hours is needed to graduate

three credit hours from Religion, Philosophy, or Leadership, Ethics and Values\*

three credit hours from Sociology and Anthropology or a three credit hour internship in community service\*

\*To be agreed upon with faculty advisor when the minor is planned.

### **All students taking HPE coursework:**

A maximum of eight credit hours may be earned in physical education activity courses.

### **Varsity Athletics**

Students who participate in varsity athletics may register for two credit hours at the start of the main sports season for that sport. This credit counts towards the eight credit hour physical education activity limit. Students must register for varsity athletics credit within the first two weeks of the term, per CCIW/NCAA guidelines.

#### **100 Multi-Activities (2.00)**

Physical education activity course.

#### **101 Jogging (2.00)**

Physical education activity course.

#### **102 Cardiovascular Cross Training (2.00)**

Physical education activity course.

#### **103 Weight Training (2.00)**

Physical education activity course.

#### **104 Cycling (2.00)**

Physical education activity course.

#### **109 Downhill Skiing (2.00)**

Physical education activity course.

#### **110 Badminton (2.00)**

Physical education activity course.

#### **111 Bowling (2.00)**

Physical education activity course.

#### **113 Golf (2.00)**

Physical education activity course.

#### **114 Power Volleyball (2.00)**

Physical education activity course.

#### **115 Rock Climbing (2.00)**

Physical education activity course.

#### **116 Self Defense (2.00)**

Physical education activity course.

#### **117 Racquetball (2.00)**

Physical education activity course.

#### **118 Tennis (2.00)**

Physical education activity course.

#### **119 Scuba Diving (2.00)**

Physical education activity course.

#### **120 Outdoor Education (3.00)**

A course designed to achieve personal growth and self-directed learning experiences through shared educational adventures in the outdoors. Emphasis is on the development of wilderness and problem-solving skills and ecological awareness in noncompetitive, personal growth, cooperative activities. Physical education activity course.

**121 Wellness (3.00)**

Emphasis on a holistic approach to health and wellness. Recognition of the importance of lifestyle and self-responsibility for achieving health and wellness. Development and implementation of a wellness plan with an emphasis on a cardiovascular activities program. Physical education activity course.

**124 Basketball (2.00)**

Physical education activity course.

**125 Varsity Baseball (2.00)**

Physical education activity course.

**126 Varsity Basketball (2.00)**

Physical education activity course.

**127 Varsity Cross Country & Track (2.00)**

Physical education activity course.

**128 Varsity Football (2.00)**

Physical education activity course.

**129 Varsity Golf (2.00)**

Physical education activity course.

**130 Varsity Soccer (2.00)**

Physical education activity course.

**131 Varsity Softball (2.00)**

Physical education activity course.

**132 Varsity Swimming (2.00)**

Physical education activity course.

**133 Varsity Tennis (2.00)**

Physical education activity course.

**134 Varsity Volleyball (2.00)**

Physical education activity course.

**135 Varsity Wrestling (2.00)**

Physical education activity course.

**136 Varsity Lacrosse (2.00)**

Physical education activity course.

**137 First Aid (2.00)**

Proper techniques and methods employed through the immediate and temporary care given to an injured person

**145 Musical Theatre Dance I (2.00)**

(Same as: THE 145.) An introductory course in jazz, ballet, and tap techniques for the stage. The course includes instruction in the history and theory of musical theatre, dance and the basic building blocks of choreography. This course assumes no prior dance experience and is open to all students interested in dance training for performance. This course may be repeated for credit once.

**150 History of Physical Education and Sport (3.00)**

Consideration of historical and philosophical foundations and the effect on present day sport and physical education. Core: Social Science.

**195 Motor Learning & Human Motion (3.00)**

Emphasis on learning theories, motivation, and attitudes in movement skills. Basic physical laws of force and balance in human motion.

**216 Advanced Self-Defense (2.00)**

An advanced section designed to develop and perfect self-defense skills. Personal awareness and current laws relating to self-preservation are discussed in-depth. Individual rights and the judicial system are examined. Prerequisite: HPE 116.

**220 Athletic Training Clinical Experience I (1.00)**

Guided and supervised clinical experiences in recognition, evaluation, disposition, treatment, and rehabilitation of injuries to the physically active. This experience is completed in the NCC athletic training facilities and contracted affiliated settings. Prerequisites: Sophomore standing; acceptance into the Athletic Training program. Repeatable up to a total of three credit hours.

**222 Foundations of Exercise Science (3.00)**

This course introduces students to the field of exercise science as a discipline and profession. Topics include the role of physical activity on morbidity and mortality, methods and techniques the fitness professional will use to develop positive lifestyle behaviors in their clients, basic components of fitness, liability concerns and considerations, professional roles and certifications, careers in fitness and health, and facility management, among others. Prerequisite: HPE 137 or concurrent enrollment.

**225 Introduction to Athletic Training I (3.00)**

An introductory course to the profession of athletic training. Topics include history, terminology, evaluation, legal issues, insurance, emergency planning, pharmacology, and pre-participation examinations. Laboratory work includes emergency procedures, taping, and wrapping. Prerequisite: HPE 137 or concurrent enrollment.

**230 Community Health (3.00)**

Examines basic elements of community health education, planning, and evaluation. This analysis includes geographic, social, political, economic, epidemiologic, and health service components.

**231 School Health (3.00)**

Contemporary issues with a direct bearing on the school health program. Policies and practices required in meeting the health needs of today's school age population.

**245 Musical Theatre Dance II (2.00)**

(Same as: THE 245.) An extension of Musical Theatre Dance I. This course has its emphasis in jazz, tap, and ballet techniques as applied to musical theatre at an intermediate level. This course also covers choreography in jazz and tap and auditioning techniques. This course may be repeated for credit once. Prerequisite: THE/HPE 145 or instructor consent.

**246 Jazz Dance (0.00-1.50)**

(Same as THE 246) This course offers a concentration on jazz dance from an historical, theoretical, and performance perspective. This course builds and expands upon the tap dance portion of THE 245. Repeatable course. Prerequisite: THE 245 or instructor consent

**247 Human Anatomy (3.00)**

A detailed study of anatomy of the human body. The names, locations, and functions of the structures as they relate to exercise are studied. Prerequisite: BIO 147.

**248 Tap Dance (0.00-1.50)**

(Same as THE 248) This course offers a concentration on tap dance from an historical, theoretical, and performance perspective. This course builds and expands upon the tap dance portion of THE 245. Repeatable course. Prerequisite: THE 245 or instructor consent.

**250 Introduction to Sport Management (3.00)**

This course is designed to be the foundation or introductory course for sport management majors. The historical development of sport management as a profession and as an academic discipline is traced. The diverse variety of opportunities in sport management is presented. Selected functional areas of contemporary sport management are surveyed relative to supervisory responsibilities of the sport management professional.

**251 Introduction to Sport Management II (3.00)**

This course is an examination of and extension of the introductory course and explores concepts in facility and event management, media/public relations, ethical challenges in sport management as well as an in-depth look at intercollegiate and professional sports. Prerequisite: HPE 250.

**252 Ballet (0.00-1.50)**

(Same as THE 252) This course offers a concentration on ballet from an historical, theoretical, and performance perspective. This course builds and expands upon the ballet portion of THE 245. Repeatable course. Prerequisite: THE 245 or consent of instructor.

**255 Teaching/Coaching Team Sports (3.00)**

A study of team sports including fundamental skills, strategies, methodologies, and other procedures used on the field of play.

**257 Teaching/Coaching Individual Sports (3.00)**

A study of individual sports including fundamental skills, strategies, methodologies, and other procedures used on the field of play.

**260 Psychological Aspects of Coaching (3.00)**

An examination of the psychological principles which influence the athlete, coach, and performance.

**262 Sport in Modern Society (2.00)**

The study of sociological and cultural aspects of sport in modern society. Prerequisite: HPE 150.

**272 Sport and Art (2.00)**

This course examines the aesthetic relationships between sport and art and analyzes sports subjects and their representation in art. Topics of interest may

include visual art, film, and literature. An example might be an analysis of the works of Frederic Remington, Thomas Eakins, and George Bellows and their role in the representation of American masculinity.

**274 Lifeguard Training (2.00)**

Red Cross certification in the proper techniques and methods employed in lifeguarding. Prerequisite: Swimming ability (CPR and first aid card required for Red Cross certification).

**276 Techniques and Methods of Teaching Rhythmic Movement (3.00)**

Techniques of moving to sounds and patterns with emphasis on circle, square, folk, and ballroom dancing.

**279 Introduction to Water Safety(2.00)**

The emphasis in this course is on basic strokes and preparation in the materials and methods of teaching aquatics. Appropriate for all swimmers; required for physical education students.

**280 Human Physiology (3.00)**

The study of the control and function of human organ systems. Lecture only. The course is organized around an organ system approach, beginning with cells and moving up to the more complex organ systems. Prerequisite: HPE 247.

**285 Applied Anatomy and Assessment Techniques (1.50)**

The focus of this course is the practical study of surface anatomy. Topics include anatomical landmarks, palpation techniques, joint range of motion (active, passive and resistive), range of motion evaluation, and manual muscle testing. Must be taken concurrently with HPE 247. Prerequisite: BIO 147.

**290 Techniques and Methods of Teaching Physical Education to the Exceptional Child (3.00)**

Theory and teaching of physical education activities to culturally diverse, gifted, and physically, mentally, emotionally, and learning disabled students. Req: 10 clinical hours; these hours do not count toward the 150 clinical hours required for teacher certification. Prerequisite: PSY 210 or HPE 195; Admission to the Teacher Education Program.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****310 Measurement & Evaluation (3.00)**

This course is designed to aid students in gaining knowledge about the skills in measurement processes and techniques, particularly as they relate to physical education. Prerequisite: Acceptance into the Teacher Education Program.

**317 Kinesiology (3.00)**

Analysis of human muscular movement and methods of correcting individual defects. Prerequisite: HPE 247.

**320 Sport and Recreation Marketing (3.00)**

This course is designed to assist students in creating and critiquing marketing, promotion and public relation efforts specific to sport. Emphasis is placed on the five "p's" of sport marketing: price, promotion, product, place, and public relations. Prerequisites: BUS 168, HPE 250, HPE 251.

**322 Sport Law and Organization (3.00)**

This course is designed to provide students the requisite knowledge of legal issues surrounding sport and the sporting industry. Topics include negligence, liability, and waivers; the application of federal legislation, including Title IX and the Americans with Disabilities Act; social issues such as drug testing and hazing; employment law; and risk management. Students are provided a synopsis of applicable case law to support the issues and legislation presented. Prerequisites: BUS 205, HPE 250, HPE 251.

**325 Introduction to Athletic Training II (3.00)**

A continuation of HPE 225. Topics include protective equipment, nutrition, strength and conditioning, drugs, ergogenic aids, and environmental illness. Laboratory work includes equipment fitting, taping, and bracing. Prerequisite: HPE 225.

**330 Athletic Training: Clinical Experience II (1.00)**

Guided and supervised clinical experiences in recognition, evaluation, disposition, treatment and rehabilitation of injuries to the physically active. This experience is completed in the NCC athletic training facilities and contracted affiliated settings. Prerequisite: HPE 220. Repeatable up to a total of three credit hours.

**331 Curriculum Development, Methods, and Evaluation in Health and Physical Education (3.00)**

Development of skills in planning, implementing and evaluating the curriculum design process by studying the philosophical bases, objectives, selection and sequencing of activities, materials, and evaluation of various curriculums. Particular emphasis on comprehensive school health programs and health instruction. Prerequisite: Acceptance into Teacher Education Program.

**340 Assessment of Lower Extremity and Back Injuries and Conditions (3.00)**

A study of the anatomy, mechanism, etiology, pathology, evaluative techniques and initial management of injuries/conditions to the lower extremity and back. Prerequisites: HPE 247, HPE 285.

**341 Assessment of Upper Extremity, Head and Neck Injuries and Conditions (3.00)**

A study of the anatomy, mechanism, etiology, pathology, evaluative techniques and initial management of injuries/conditions to the upper extremity, head and neck. Prerequisites: HPE 247, HPE 285.

**347 Physiology of Exercise (3.00)**

Emphasis on cardiovascular efficiency, energy metabolism, fitness, training, fatigue, and recovery. Prerequisites: HPE 247, HPE 280.

**350 Medical Aspects of Sports Medicine (3.00)**

A survey of skin conditions; disease; conditions affecting the digestive system, the reproductive system, the endocrine system, the respiratory system and the cardiovascular system; special populations; and congenital conditions. Additional topics include pharmacology and counseling/psychosocial interventions. A lecture format is used, with guest speakers on several topics. Prerequisite: HPE 325.

**351 Athletic Training Administration (3.00)**

An examination of the methods and strategies in the planning, coordination, and supervision of an athletic training program. Topics include professional development, leadership and ethics, program development and management,



facility planning and management, record keeping/information management, insurance, legal issues, emergency planning, and pre-participation examinations. Prerequisite: HPE 325.

### **352 Advanced Concepts of Health (3.00)**

Covers the scope of vital health issues, the potential for prevention, the role of education, and the need to deal with health problems within the context of the entire health care system. Prerequisite: HPE 121.

### **354 Applied Nutrition and Body Weight Management (3.00)**

Individuals who are prescribing fitness programming must understand the concepts associated with managing a healthy weight. This course explores the effects of body composition and nutrition on aspects of health, performance, and injury prevention. Tools for assessment of body composition and methods of programming for gaining lean body mass or losing body fat are discussed. Prerequisites: BCM 140, HPE 347.

### **360 Sport in Society (3.00)**

(Same as: SOA 360.) An historical study of sport across time and cultures. A comparative analysis of sport and its uses in ancient, medieval, and modern societies is undertaken. Work-leisure patterns that developed over the course of American history are examined. Primary consideration of the urban, industrial, and commercial processes that contributed to culture formation with particular emphases on class and gender relations, commercialized leisure practices, and the impact of the mass media in the formation of value systems. ACR: Intercultural.

### **362 Sport, Politics, and Power (2.00)**

This course is designed to examine the uses of sport as a political tool in the creation of, maintenance of, or resistance to power in both global and local spheres.

### **397 Internship (0.00-9.00)**

### **399 Independent Study (1.00-9.00)**

### **410 Fitness Evaluation (3.00)**

Comparison of fitness tests and techniques followed in schools, health/fitness clubs, and cardiac rehabilitation programs. Development of fitness assessment proficiencies and certification requirements of various certifying boards. Practical fieldwork. Exposure to fitness computer software programs. Prerequisites: HPE 247, HPE 347.

### **420 Exercise Program Design for the Fitness Professional (3.00)**

A thorough study of the techniques used to design exercise programs for improvement of muscular system and cardiovascular system performance. The focus of the class is exercise prescription for the general adult population, however special populations are examined. Topics include designing programs to enhance speed, agility, strength, power, endurance, and hypertrophy. Body weight management programs and nutritional interventions are discussed. The proper use of medicine balls, kettle bells, therapeutic balls, and elastic tubing and bands is also discussed. Prerequisites: HPE 247, 317, 347, and 410.

### **425 Therapeutic Modalities (3.00)**

A study of the theoretical and practical principles underlying the use of therapeutic modalities, including indications, contraindications, precautions, and physiological effects. Proficiency in selection and application of appropriate therapeutic modalities is evaluated. Prerequisites: HPE 247, HPE 280, HPE 285.

**430 Therapeutic Exercise and Rehabilitation (3.00)**

An examination of the role therapeutic exercise and rehabilitative techniques play in the care and management of injuries and conditions. Topics include measurement in rehabilitation, principles of rehabilitation, classification of exercises, and program development. Prerequisites: HPE 247, HPE 280, HPE 285.

**440 Athletic Training Clinical Experience III (1.00)**

Guided and supervised clinical experiences in recognition, evaluation, disposition, treatment and rehabilitation of injuries to the physically active. This experience is completed in the NCC athletic training facilities and contracted affiliated settings. Prerequisite: HPE 330. Repeatable up to a total of three credit hours.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## History (HST)

*Professor: Ann Durkin Keating,*

*Associate Professors: William Barnett, Brian Hoffert, Bruce Janacek*

*Assistant Professors: Luke Franks, Shereen Ilahi*

### Mission Statement

The History department is dedicated to informing students of knowledge of the past that provides context and prepares them to be lifelong learners. Students are exposed to major historical perspectives and are prepared to locate and analyze written, visual, and material evidence, understanding and appreciating continuities, change, and even contradictions in historical evidence and our understanding of the past.

History is one of the integrating disciplines of the liberal arts. It bridges the humanities and the social sciences. It relates political, economic, intellectual, cultural, and social forces as they shape civilizations from age to age. Its study develops an appreciation for the traditions of a civilization and a perspective on current events. It provides a strong background for graduate training and the professions, especially law and teaching, or for such vocations as museum work and research. It also provides support of the study of literature, philosophy, and the arts.

History requires a broad liberal arts knowledge, and students are encouraged to use their general education requirements to provide a firm base for their historical studies. In addition, North Central College offers special opportunities which can enhance a liberal arts education including: the local history program and internships, foreign language study, study abroad opportunities, Model U.N., and interdisciplinary courses.

Degree offered: B.A.

## History Major

At least 33 credit hours in history, including HST 200 and six credit hours in each of the following areas: United States, Europe, and non-western. At least one of the two courses in each area must be at the 200-level or higher. Majors need to take at least two courses (three credit hours each) at the 300-level and the history capstone, HST 470. The capstone seminar requires primary-source research on a topic usually developed in one of the student's 200 or 300-level courses. Majors must complete a satisfactory portfolio in history that includes sample course work and a self-evaluation (see department handout). Students may offer a maximum of two courses from other disciplines as part of their history major, provided that such courses contribute directly to the overall coherence of their major program. The chairperson of the department must approve such courses for the major.

History majors interested in graduate school should gain at least a reading proficiency in a foreign language.

## Social Science/History Major

A broad overview of the social sciences with a specialty in history. This major is intended for students seeking teacher certification in the Social Sciences but is open to all students. Candidates for teacher certification in Social Science are required to pass two content area examinations: one in Social Science and a second in a specialty area. The Social Science/History major prepares students for the general examination in Social Science and the specialty examination in History. Students wanting to prepare for a specialty examination in another social science discipline should consult with the chair of history about the advisability of crafting an individualized major.

Social Science Coursework (minimum of 27 hours)

1. Methodology: SOA 200
2. Political Science: PSC 101;  
PSC 211, 212, 213, or 214;  
PSC 221 or 222.
3. Economics: ECN 100
4. Geography: HTB 175
5. Sociology: SOA 100; Recommended elective: SOA 380
6. Anthropology: SOA 105
7. Psychology: PSY 100

History Coursework (minimum of 33 hours)

1. European: Six credit hours; at least three must be at or above the 200 level
2. Non-Western: Six credit hours in Asian, Latin American, African, or Middle Eastern history; coursework must cover at least two areas; at least three hours must be at or above the 200-level
3. United States: HST 221, 223 and 225.
4. Illinois: HST 245
5. Seminars: Six credit hours at the 300 level
6. Capstone: HST 470

Additional Requirement:

Majors must complete a satisfactory portfolio in history that includes sample course work and a self-evaluation (see department handout).

Note: Students interested in teacher certification must complete the secondary education minor.

## History Minor

At least 18 credit hours in history, including at least one three credit hour course at the 200-level or higher in each area: United States, European, and non-western. At least three credit hours must be taken at the 300-level or above.

**Local History Program:** Through course offerings, internship possibilities, and an annual local history conference, the history department offers a local history program. This program helps students to see the relationships between local life and the larger picture of regional and national history, as well as providing practical experience in historical research techniques through independent study and internships. In addition, the local history program brings together academic and independent historians and builds bridges between the college and community through colloquia and special programs.

### 101 Western Civilization I (3.00)

**IAI: H2 901**

The development of ancient Western civilization, from its cultural origins to the sixth century of the Christian era. Core: Humanities or Social Science.

### 104 Western Civilization II (3.00)

**IAI: H2 902**

The development of European civilization from the Middle Ages to early modern Europe. Core: Humanities or Social Science.

### 108 Western Civilization III (3.00)

**IAI: H2 902**

The development of Western capitalism, industrialism, and Enlightenment ideas and values; the challenge to these in the 20th century; and the worldwide expansion and contraction of European power. Core: Humanities or Social Science.

### 115 Topics in U. S. History (3.00)

This course provides an opportunity to explore a specific topic in U.S. history with particular attention to cultural, social, and political factors. Topics may include significant figures in American history (i.e. Abraham Lincoln, Jane Addams), time frames (i.e. 1960s, 1850s), themes (i.e. gender, religion), or places (i.e. the West, Chicago). Repeatable with different content. Core: Humanities or Social Science.

### 120 Chicago History (3.00)

This introduction to Chicago history explores the development of the metropolitan area through a variety of media, including sports, literature, social criticism, architecture, economics, business, and the built environment. Class time is devoted to discussion on the readings, videos, and tours. Core: Humanities or Social Science.

### 140 Modern Ireland (3.00)

An overview of the major political, economic, social, and cultural developments in Irish history from 1600 to the present. Topics include the rise of violent nationalism, the Great Famine, the war for independence/civil war, and the "Troubles" in Northern Ireland. Core: Humanities or Social Science.

### 154 Global Perspectives: Premodern Era (3.00)

This course provides a broad historical perspective of the world before c. 1800. The course surveys long distance trade, the rise of slavery in the Western Hemisphere and the colonization that occurred in the New World, Africa, and Asia. Particular attention is paid to the economic, social, and political factors that led to these developments, as well as to the cultural and artistic achievements that flowed from them. Core: Humanities or Social Science.

**155 Global Perspectives: Modern Era (3.00)**

Colonialism, urbanization, nationalism, globalization, and the interconnection of trade and immigration patterns are considered in this overview of modern world history. Core: Humanities or Social Science.

**165 Introduction to East Asia (3.00)****IAI: S2 908N**

(Same as: EAS 165, HTB 165.) An introduction to major themes in the cultural history of China and Japan. Foundational texts of East Asian philosophy, religion, and literature are read and discussed in their historical context. Important works of East Asian art and film are viewed and analyzed. The goal is to develop a basic familiarity with the evolution of Chinese and Japanese civilizations from their ancient foundations to their modern manifestations. Core: Humanities or Social Science.

**175 Latin American History (3.00)**

Overview of Latin-American history from pre-Columbian times to the present. Attention is given to the heritage of native cultures, the legacy of colonialism, the impact of modernization and urbanization, and relations with the United States. Core: Humanities or Social Science.

**185 Peoples and Cultures of Africa (3.00)****IAI: S2 906N**

(Same as: SOA 185.) An introductory survey of the cultural diversity and complexity of sub-Saharan Africa. Attention is given to the long period of independent development of traditional societies, the forms and extent of European domination, and the post-1945 struggles to regain independence and create new cultural identities. Core: Humanities or Social Science.

**200 Historical Methods (3.00)**

This course introduces students to working with archival material, both in physical and virtual settings. Upon completion of the course, students are prepared to complete research in advanced history seminars and the HST 470 capstone course as well as compete successfully for internships in archives, historical societies, and museums. Prerequisite: One 100- or 200-level history course.

**210 City Life (3.00)**

(Same as: HTB 210.) Survey of the living environment of the modern city, to focus on ways in which writers, thinkers, architects, planners, and artists have conceived of the conditions of life in urban areas, and ways in which those conditions could be improved. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**221 U.S. History to 1865 (3.00)**

The development of American society from the colonial era to the end of the Civil War. Attention to the political, social, cultural, and intellectual life of the United States during the colonial period, the revolutionary era, the early Republic, and the Civil War. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**223 U.S. History from 1865-1945 (3.00)**

This course examines the major political, economic, and social developments in the United States from the end of the Civil War to the end of World War II in order to understand the creation of modern America. During this critical period, the United States was transformed from a rural nation into an urban and industrial nation. In the late nineteenth century, America had little involvement in world affairs, but by the end of World War II, it was the most powerful military and economic force in the world. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**225 U.S. History since 1945 (3.00)**

This course examines the major events in social, economic, political, and cultural history in the United States since World War II. The topics analyzed include the Cold War and American prosperity in the 1950s, the Civil Rights movements by African Americans and others in the 1960s, and the impact of the Vietnam War. We also study the collapse of the New Deal coalition, conservative responses to this era's upheavals, the shift from an industrial economy to a service economy, and America's role in the world since the end of the Cold War. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**245 Illinois History (3.00)**

A history of Illinois from the French colonial period to the 20th century with a focus on its social and economic aspects. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**248 American Environmental History (3.00)**

(Same as: ENV 248.) This broad survey of American history from an environmental perspective examines the ways that different groups of Americans adapted to and changed the landscape, and analyzes their ideas about nature. Major themes include the new perspective of environmental history, reading the landscape, the role of region in America, and knowing nature through labor. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**249 African-American History (3.00)**

History of African-Americans, including the background of Africa, slavery, emancipation, and the current struggle for racial equality. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**250 U.S. Women's History (3.00)**

(Same as: GWS 250.) A survey of American women's history from colonial times to the present. An examination of women's legal and political status, educational and occupational opportunities, family relations, and health with special attention on how and why lives and experiences of women have changed over time. An exploration of the history that women share as a group as well as differences among specific groups of women. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**255 Greek and Roman History (3.00)**

(Same as: CLS 255.) The rise, predominance, and fall of Greece and Rome, with emphasis on the workings of their governments. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**256 Medieval and Renaissance Europe (3.00)**

An introduction to late medieval Europe, discussing the twelfth-century Renaissance; urbanization; social and political transformations; the Black Death; the Italian Renaissance; and political, social, and artistic changes in Northern Europe. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**257 Reformation Europe (3.00)**

This course examines the forces and influences in the late middle ages that led to the break with the Medieval Church in the early sixteenth century. The course focuses on the theological, political, social and cultural effects of the Reformation in the regions of Europe most affected by this event: Germany, France, and England. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**258 Early Modern Europe (3.00)**

This course examines the history of early modern Europe in the generations that followed the Reformation, c. 1550-1792. The course focuses on the social and cultural changes that resulted from the Reformation with particular emphasis on the regions that experienced the greatest growth, expansion and influence during the period: the Netherlands, England, and France. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**261 Traditional China (3.00)**

A survey of the political and cultural development of Chinese civilization from prehistory through to the Ming dynasty (17th century). Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**263 Japanese History (3.00)**

(Same as: HTB 263.) An examination of the political and cultural evolution of Japanese civilization from prehistory to the present. Some of the themes explored are Japan's traditional pattern of adapting Chinese political and cultural forms according to contemporary needs, the role of the samurai in Japanese history, and the modernization of Japan from 1868 to the present. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**265 Modern China (3.00)**

An examination of China's transition from the "traditional" civilization of the dynastic period (up to 1911) to the "modern" nation that has emerged in the 21st century. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**267 Topics in Global History (3.00)**

This course provides an opportunity to explore a specific topic in global history. Topics may include urbanization, industrialization, nationalism, warfare, gender, ethnicity, race, religion, or migration patterns. Particular attention is paid to the economic, social, and political factors related to the chosen topic, as well as to the cultural and artistic achievements that flowed from them. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**268 India since 1750 (3.00)**

This is a survey of the history of India from 1750 to the present. Topics include British rule in India, the nationalist movement, issues of race and gender, and India-Pakistan since independence. This course helps fulfill the non-western requirement for History majors. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**270 U.S. Diplomatic History (3.00)**

After examining the early history of American diplomacy, this course focuses on the modern era. Topics discussed include the emergence of the United States as a great power, American participation in the World Wars, the Cold War era and the process of decolonization, and Vietnam. The relationship between domestic politics and American diplomacy is also explored. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**271 Modern Middle East (3.00)****IAI: S2 919N**

Napoleon's invasion of Egypt in 1798 to the present, with special attention to nationalistic movements, pan-Islam, and the Arab-Israeli conflict. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**280 Nineteenth Century Europe (3.00)**

This is a survey of the rise of modern nationalism, imperialism, class conflict, and war in Europe during what historians call "the long nineteenth century," from 1789 to 1918. Topics emphasized are the French Revolution, the creation of nations, issues of class, gender, and race, the "new" Imperialism, and the First World War. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**281 Twentieth Century Europe (3.00)**

This is a survey of Europe since 1918. Topics emphasized are the impact of the First World War and the Russian Revolution, the rise of fascism, analysis of the Nazi regime, and changes in Europe since 1945. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**299 Independent Study (0.00-9.00)****312 Immigration and U.S. Ethnic Identity (3.00)**

Examination of the U.S. immigration history from colonial times to the present. Exploration of the world conditions that led to the major waves of American immigration. Comparison of immigrant experiences to those of African-Americans and Native Americans opens to wider focus on the concept of ethnic identity in U.S. history. Prerequisite: One 200-level course in history, political science, sociology and anthropology, or English.

**315 Research and Local History (3.00)**

Introduction to the study of local history. Emphasis is placed on both the study of individual communities over the course of their history and the ways in which individual communities are a part of the wider sweep of historical trends and events. Prerequisite: One 200-level history course.

**320 U.S. Social Movements (3.00)**

A detailed examination of major social movements in the modern United States. Emphasis on the African American civil rights movement, the women's movement, the environmental movement, and recent conservative movements. Prerequisite: One 200-level course in history, political science, sociology and anthropology, or English.

**323 History of Ideas in America (3.00)**

An examination of broad intellectual and cultural developments in American history. Major themes include the creation of the United States as an agrarian republic, efforts to reform social and economic systems including slavery, responses to urban-industrial transformations, tensions between religious traditions and modern science and technology, and debates about the role of government in American life. Primary texts, including literature and art, are used as sources. Prerequisite: One 200 level course in history or instructor consent.

**325 American Cities and Suburbs (3.00)**

Topics discussed include the development of an urban network, the expansion of city services, the drive-in culture of modern suburbia, and the enduring problems of urban poverty. Prerequisite: One 200-level course in history, political science, sociology and anthropology, or English.

**330 East Asian Thought (3.00)**

An historical survey of the East Asian intellectual tradition based on the reading of primary sources in translation and focusing on the cross-fertilization of ideas between the three major intellectual traditions of Confucianism, Taoism



and Buddhism. Recommended prerequisite: Previous course in East Asia, Intellectual History, or History of Ideas. ACR: Intercultural.

### **345 European Intellectual History (3.00)**

An examination of the role of education and learning from antiquity to the modern era, with a particular emphasis on historical knowledge and education. Past topics include, but are not limited to, the lost library of Alexandria, the Dead Sea Scrolls, medieval universities, Renaissance humanist academies, and modern historical assumptions and techniques. Prerequisite: One 200-level history course or instructor consent.

### **347 Science, Religion, and Magic (3.00)**

An examination of the relationship between science and religion with particular attention to late medieval and early modern Europe. Core primary texts as well as current historical studies are the foundation for discussion and research. The roles of astrology, alchemy, heresy, and witchcraft in the context of religious belief and scientific thought are also considered. The goal of this course is to provide a broad historical understanding of the theological, philosophical, and intellectual crises and debates that occurred as a result of the Reformation and the Scientific Revolution. Prerequisite: One 200-level history course or instructor consent.

### **348 The Age of Discovery: Europe 1300-1700 (3.00)**

This course examines the concept of discovery, broadly defined, from the years 1300-1700. It examines the impact and consequences of European exploration of the East and West. The course moves beyond the scope of exploration to consider intellectual discoveries in science and theological and social discoveries that define and clarify concepts such as, but not limited to, rationality and belief, and orthodoxy and heresy. Prerequisite: One 200-level history course or instructor consent. ACR: Intercultural.

### **363 Mexico and its Neighbors (3.00)**

(Same as: SOA 363.) Continuity and change, diversity and commonality among the indigenous peoples of Mexico, Guatemala, and the Southwestern U.S. from first human occupation to the present. Emphasis on indigenous politics and transnational flows of people, culture, and material. Prerequisite: Any 100-level social science course. ACR: Intercultural.

### **370 Seminar in Global History (3.00)**

This seminar examines history on a global scale, with a focus on the period since World War II. Special attention is paid to cultures outside the U.S., as well as to an interdisciplinary perspective, through themes that can include exploration, religion, women's studies, urbanization, or economic development. Prerequisite: Junior standing. ACR: Intercultural.

### **385 The World Wars of the Twentieth Century (3.00)**

World War I ended Europe's global domination, brought the U.S. to world leadership, and sowed the seeds of subsequent political crises from Nazism to the breakup of Yugoslavia. This seminar considers reasons for the outbreak of war in 1914 and the impact of that struggle both short-term and long term. The focus here is primarily on political questions. Prerequisite: One 200-level history course or instructor consent. ACR: Intercultural.

### **392 Seminar: Holocaust (3.00)**

(Same as: HTB 392.) The study of the unique and universal aspects of the Holocaust with an emphasis on the relationship among the perpetrators, the victims, and the bystanders. Prerequisite: Junior standing. ACR: Leadership, Ethics and Values.

**395 Advanced Research in Local History (3.00)**

Advanced work in the methods and outlooks of historians engaged in local research in primary sources. Independent research project required. Prerequisite: HST 315 or instructor consent.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****470 Capstone Seminar (3.00)**

This capstone course for the history major includes advanced investigation of the ways in which historians have approached their materials and craft, including issues related to leadership, ethics, and values. Course centers on an individualized research project. Prerequisite: Senior standing as a history major. ACR: Leadership, Ethics, and Values.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## History of Ideas (HOI)

*Professors: Peter Barger, David Fisher, Karl Kelley, Robert Lehe, Timothy Morris, Francine Navakas, Nancy Peterson, Wioleta Polinska, Richard Wilders*

*Associate Professors: William Barnett, Brian Hoffert, Jennifer Jackson, David Janzen, Bruce Janacek*

### Mission Statement

The History of Ideas program is dedicated to directing students to explore and examine the major trends, ideas, and philosophies of the past from antiquity to the present through primary texts, and prepares them to be lifelong learners. Students learn to ask questions, analyze, form and defend arguments from multiple perspectives and disciplines.

North Central College offers an interdisciplinary sequence of five honors courses in the history of ideas dealing with ideas central to religion, art, philosophy, literature, and the social sciences. The courses emphasize reading of primary texts and reflection on classics within the liberal arts tradition. The seminar format encourages lively discussion of intellectually engaging issues.

The courses are open to College Scholars and other students seeking a stimulating interdisciplinary experience. Education majors may take one or more courses in the sequence to meet selected general education requirements for state certification. Consult the education department for details.

The history of ideas sequence may form the foundation of a minor. Interested students should consult the coordinator of History of Ideas to plan a course of study.

## History of Ideas Minor

21 credit hours, including:

HOI 102, 103, 201, 202, 203 (History of Ideas sequence)

Two additional courses, at least one at the 300-level or above, to be drawn from:

SCI 210 Landmark Discoveries in Natural Science

ECN 210 History of Economic Thought

HST 330 East Asian Thought

HST 323 History of Ideas in America

HST 345 European Intellectual History

MTH 310 History of Mathematics

PHL 260 Ancient and Medieval Philosophy

PHL 270 Early Modern Philosophy

PHL 280 Modern Philosophy

IDS 490 Seminar

IDS 499 Independent Study

or

Appropriate IDS or other topics course, to be approved by History of Ideas Committee. Such courses normally include the following elements: focus on primary texts, in the context of intellectual history, with an emphasis on critical thinking and discussion.

### **102 History of Ideas I: Greek and Hebrew Thought (3.00) IAI: HF 902**

An examination of the artistic, literary, philosophical, religious and social/political thought of the ancient Greeks and Hebrews. Honors course. Core: Humanities. ACR: Religion and Ethics.

### **103 History of Ideas II: Roman and Christian Thought (3.00) IAI: HF 902**

An examination of the artistic, literary, philosophical, religious, and social/political thought of the Romans and Christians. Honors course. Core: Humanities. ACR: Religion and Ethics.

### **201 History of Ideas III: Medieval and Renaissance Thought (3.00) IAI: HF 902**

An examination of the artistic, literary, philosophical, religious, and social/political thought of the medieval period. Honors course. Core: Humanities. ACR: Religion and Ethics.

### **202 History of Ideas IV: Early Modern Thought (3.00) IAI: HF 903**

An examination of the artistic, literary, philosophical, religious, and social/political thought of the early modern period. Honors course. Core: Humanities or Social Science.

### **203 History of Ideas V: 19th and 20th Century Thought (3.00) IAI: HF 903**

An examination of the artistic, literary, philosophical, religious, and social/political thought of the 19th and 20th centuries. Honors course. Core: Humanities or Social Science.

# Honors (HON)

The honors curriculum requires students to earn a total of 21 credits through honors courses, most of which satisfy general education or major requirements. One or more requirements may be waived for transfer and ongoing students who join the program after their first term at North Central. Each student in the program who completes the curriculum and maintains both a cumulative GPA and an honors GPA of 3.00 or higher is recognized as a “College Scholar” at commencement and on all official transcripts distributed by the Office of the Registrar.

The program requirements are as follows:

## Honors First-Year Experience:

FYE 100 The City, Excellence, and the Good Life (1.0 cr)  
Two or more courses from the History of Ideas sequence (at least one 100-level and one 200-level) (6.0 cr)

## Honors Second Year Courses:

HON 200 What is Truth? (1.0 cr)  
ECN 210 H History of Economic Thought **-or-**  
SCI 210 H Landmark Discoveries (3.0 cr)

## Honors Third Year Course:

HON 300 Thesis Design Workshop (1.0 cr)  
IDS 3xx/4xx One Interdisciplinary Honors Seminar during third or fourth year (3.0 cr)  
Study Abroad **-or-**  
An additional Honors IDS Seminar (3.0+ cr)

## Senior Honors Thesis:

HON 400 Honors Thesis (3.0 cr)

### **200 What is Truth?(1.00)**

Required second year course for the College Scholars Honors Program. The course’s themes, “What is Truth?” and “What is Knowledge?” are developed through readings and in-class discussions that examine the nature and limits of truth and knowledge claims in the natural sciences, social sciences, and humanities. Students engage theoretical and practical issues of research methodology in the disciplines and gain an overview of how researchers in various disciplines defend their arguments. Honors course. Prerequisites: College Scholar, Sophomore standing

### **300 Thesis Practicum (1.00)**

Required third year course for the College Scholars Honors Program. The course’s aim is to facilitate the design of honor thesis projects. Through readings, in-class discussions and short assignments, students develop their own thesis topic and complete a substantial “Thesis Proposal” in fulfillment of an honors program requirement. Honors course. Prerequisites: College Scholar, Sophomore or Junior standing.

### **400 Honors Thesis (3.00)**

Required culminating project for the College Scholars Honors Program. The honors thesis reflects “peer reviewed” work in a particular discipline or “peer reviewed” interdisciplinary scholarship. College scholars select a thesis director and second reader to guide and assess the thesis project. Honors course. Prerequisites: College Scholar, Junior or Senior Standing.

# Human Resource Management

See **Management and Marketing** for a description of courses and programs of study in Human Resource Management.

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## The Division of Human Thought and Behavior (HTB)

The Division of Human Thought and Behavior combines the academic areas generally associated with the humanities, the social sciences, health and education. Through an examination of the distinctive subject matter of each discipline, the division provides students with a comprehensive, holistic grasp of human nature, the social world, and professional practice.

### **115 Human Geography (3.00)**

**IAI: S4 900N**

This course is designed as an exploration to develop understanding of how cultures and individuals order their environment. Examines the locational aspects of material culture, social organizations, belief systems, art, and language. Core: Social Science.

### **165 Introduction to East Asia (3.00)**

(Same as: EAS 165, HST 165.) An introduction to major themes in the cultural history of China and Japan. Foundational texts of East Asian philosophy, religion, and literature are read and discussed in their historical context. Important works of East Asian art and film are viewed and analyzed. The goal is to develop a basic familiarity with the evolution of Chinese and Japanese civilizations from their ancient foundations to their modern manifestations. Core: Humanities or Social Science.

### **175 Cultural Regions of the World (3.00)**

Major world regions and the geographical organization of their physical environments. Stresses how cultures and individuals interact with the environment to determine resource and land use. Examines the effect of human settlement and migration on ecosystems. Core: Humanities or Social Science

### **200 Research Methods in Social Sciences: Quantitative (3.00)**

(Same as: SOA 200.) An assessment of the strengths and limitations of various modes of quantitative data collection including experiments, questionnaires, content analysis, and the use of secondary data. Emphasis is placed on ethical issues, becoming a critical consumer of research, and developing the ability to design and carry out an independent study.

### **(210 City Life (3.00)**

(Same as: HST 210.) Survey of the living environment of the modern city, to focus on ways in which writers, thinkers, architects, planners, and artists have conceived of the conditions of life in urban areas, and ways in which those conditions could be improved. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**215 Regional Geography (3.00)**

This course provides an in-depth focus on one world region. It explores physical features as well as the human response to them. This course may be repeated with a different region. Prerequisite: HTB 115 or 175.

**253 Symposium on Ethical/Legal/Moral Responsibility (3.00)**

Addressing some of the nonscientific aspects of social research, this symposium examines ethical/moral concerns, including the norms of voluntary participation and protection of subjects from harm, and legal/political concerns such as respondents' rights to privacy and the use of scientific findings to support ideology. Selections from important social scientific works are used as a basis for dialogue.

**263 Japanese History (3.00)**

(Same as: HST 263.) An examination of the political and cultural evolution of Japanese civilization from prehistory to the present. Some of the themes explored are Japan's traditional pattern of adapting Chinese political and cultural forms according to contemporary needs, the role of the samurai in Japanese history, and the modernization of Japan from 1868 to the present. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****310 Death and Dying (3.00)**

(Same as: REL 310.) An examination of general topics related to death and dying, with a special emphasis on the study of selected ethical and theological issues. Prerequisite: Junior standing. ACR: Religion and Ethics.

**392 The Holocaust (3.00)**

(Same as: HST 392.) The study of the unique and universal aspects of the Holocaust with an emphasis on the relationship among the perpetrators, the victims, and the bystanders. Prerequisite: Junior standing. ACR: Leadership, Ethics and Values.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****490 Leadership, Ethics, and Values in Sport and Fitness (3.00)**

This interdisciplinary course covers philosophical, historical, and sociological roots of contemporary gender, race, and moral issues in the realm of sport and fitness. Leadership theory, the role of leadership and followership, values clarification, and ethical decision making to promote critical analysis and behavioral change is fostered through discussion, group projects, and individual written assignments. Prerequisite: Junior standing. ACR: Leadership, Ethics and Values.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Individualized Major Program (IND)

An individualized major is intended for students with clearly defined academic or career objectives who feel that their specific needs are not met by the existing departmental, divisional, and interdisciplinary majors. A student at North Central College may propose a plan for an Individualized Major that must be approved by a subcommittee of the Undergraduate Academic Standing Committee and must satisfy the following conditions:

1. Students applying for an Individualized Major must be in good academic standing at the time of application. The proposal must be submitted to the Office of Academic Affairs prior to enrollment in the last 27 credit hours needed to fulfill graduation requirements.
2. Students applying for an Individualized Major must have completed a minimum of 16 credit hours at North Central College at the time of application. Additional guidelines, the application forms for Individualized Major and the Faculty Recommendation form are available on the Registrar's website and in the Registrar's office.
3. The proposed major must include at least 30 credit hours but not more than 51 credit hours. At least 12 credit hours must be at the 300-level or above. The major must include a 3 credit hour capstone experience, typically an independent study (IND 499).
4. No more than 9 credit hours of the individualized major may be used to meet general education core requirements and/or another major's or minor's requirements.
5. The proposal must include a comprehensive statement justifying the overall major as well as a list of the specific courses included in the proposed major. The subcommittee of the Undergraduate Academic Standing Committee must approve any significant revisions in individualized majors.
6. Applications for individualized majors are available in the Registrar's Office. The application must include a signature by the student's advisor and a faculty sponsor. In addition, the faculty sponsor must submit the Individualized Major Recommendation Form to the Office of Academic Affairs.

### **499 Independent Study (1.00-9.00)**

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## Information Systems (IFS)

*Professors: Stephen C. Renk, Caroline St. Clair*

*Associate Professors: Godfrey C. Muganda, Judy C. Walters*

Information systems are becoming increasingly important across all disciplines as computers become more powerful, affordable, and useful for data management, analysis, and decision-making. The IFS curriculum merges technical and application fundamentals so students can become effective developers and users of computer applications and systems.

### **102 Introduction to Information Technology (2.00)**

An overview of current computer utilization in our society focusing on presentation, acquisition, and analysis of information. Emphasizes hands-on computer experiences, including word processing, hypertext document preparation, and Internet use.

**104 Problem Solving Using Spreadsheets (1.50)**

Introduction to spreadsheets and their use in solving problems drawn from a variety of disciplines. Includes principles of spreadsheet design, different ways of visualizing and summarizing data, analysis of what-if scenarios, and planning. Prerequisite: High school algebra.

**106 Information Management Using Databases (1.50)**

Introduction to database management systems and their use in storing and managing information. Topics include requirements analysis, database table design, selection of appropriate data storage types, referential integrity, and data queries. Includes an introduction to security and ethical considerations in databases. May not be taken concurrently with or after CSC 460. Prerequisite: High school algebra.

**109 Image Processing (1.50)**

(Same as: ART 109.) Processing of photographic and digital imagery to enhance communication and meaning. Topics include representation of digital images, digital manipulation techniques, use of images in web pages and video production, and digital editing applications such as Adobe Photoshop.

**115 Web Page Development (1.50)**

A hands-on course which enables students to create web pages. Includes an introduction to the Internet and the World Wide Web; HTML and HTML editors; and artistic, organizational, technical and ethical considerations of website design. Major project required. Prerequisite: Familiarity with word processors and web browsers.

**116 Website Design and Development (1.50)**

A project course which builds upon the knowledge from IFS 115 to design and create websites for delivery across multiple platforms, from traditional computer displays to mobile devices such as PDAs and cell phones. Includes requirements analysis, design specifications, graphics optimization, XHTML, DHTML, CSS, and an introduction to Ajax and JavaScript. Prerequisite: IFS 115.

**125 Computer Animation with Flash (1.50)**

(Same as: IMS 125.) An introduction to the fundamentals of animated computer graphics for web based delivery. Topics include: vector graphics, file compression, gradients, layers, drawing, animation, motion tweening, and interactivity in a timeline-based editor. Emphasis is placed upon using Flash to develop compact interactive animations that graphically communicate ideas.

**141 Designing Graphics (1.50)**

(Same as: ART 141.) An introduction to digital graphics. Emphasizes hands-on computer experience with drawing and editing tools that allow students to create computer based graphic arts, design and page layout.

**220 Video Editing and Production (1.50)**

(Same as: IMS 220.) Principles of video editing and production. Topics include: cuts and splices, transitions, composition, video and text overlays, audio synchronization, multi-channel editing, streaming video, and chroma-keying. Professional editing packages such as Adobe Premier and Final Cut Pro are used to produce short videos in formats suitable for delivery via CD/DVD, Web, and TV/Cable broadcast.



**230 Digital Audio Editing and Production (1.50)**

(Same as IMS 230.) Principles of audio capture and manipulation. Topics include physics of sound and hearing, analog to digital conversion, audio sampling and compression, sound decomposition and recomposition, sound effects, distortion and noise filtering, and multi-track editing and production.

**297 Internship (0.00-4.00)****299 Independent Study (1.00-4.00)****320 Multimedia Presentations (1.50)**

Design, production, and delivery of multimedia presentations. Using a hands-on approach, students learn to create and integrate text, graphics, audio, and video into presentations to enhance communication. Prerequisite: One CSC or IFS course.

**397 Internship (0.00-4.00)****399 Independent Study (1.00-4.00)****497 Internship (0.00-4.00)****499 Independent Study (1.00-4.00)**

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## Interactive Media Studies (IMS)

*Professors: Stephen Renk, Caroline St. Clair*

*Associate Professors: Stephen Macek, Zachary Jack*

*Assistant Professors: Hale Ekinici, John Madormo, Kay O'Donnell*

### Mission Statement

Interactive Media Studies is an interdisciplinary program that blends Art, Computer Science, English, and Speech Communication to offer a major and minor addressing multimedia based communication. Students learn to critically analyze multimedia and its application, and to use interactive digital technologies to express themselves with audio, video, text, graphics, and animation delivered via the web and other digital media systems.

The Interactive Media Studies program draws from course work in a number of traditional disciplines across the college, combining graphic design with the history and language of visual communication and the role of the media in reflecting and shaping cultural experience. Students learn to use graphics and media technology in socially responsible ways, expand their conceptual and organizational abilities, and improve their communication and presentation skills through the required courses, internships, and choices of tracks based on interest. The program culminates in a portfolio workshop course to prepare students for entry to fields such as journalism, information systems, graphic or Web design, advertising, and public relations.

Degree offered: B.A.

## Interactive Media Studies Major:

The major consists of a minimum of 40 credit hours to include the required core courses and track requirements. All courses are three credit hours unless otherwise noted.

### Core Courses:

IMS 100	Introduction to Visual Literacy
ART 107	2-Dimensional Design
IMS 109	Image Processing (1.5)
IFS 115	Web Page Development (1.5)
IMS 125	Computer Animation with Flash (1.5)
ART 141	Designing Graphics (1.5)
ENG 196	Story <b>-or-</b>
IMS 200	Writing Across Media
IMS 260	Introduction to New Media
SPC 325	Communication Law
IMS 490	Portfolio Workshop

Two terms of practica or internships, chosen from:

ENG 128	College Humor Magazine (0.0-1.0)
ENG 130	College Literary Magazine (0.0-1.0)
ENG 132	Newspaper Practicum (0.0-1.5)
IMS 113	Multimedia Practicum (0.0-1.5)
SPC 113	Cardinal Video Practicum (0.0-1.5)
IMS 297/397/497	Internship (0.0-9.0)

Note: Internships cannot be used to fulfill the 300/400 level track requirements.

Within the major, students must then select one of the following tracks:

### A. Graphic Arts Track:

ART 110	3-Dimensional Design
ART 143	Beginning Typography
ART 205	Digital Photography
IMS 343	Digital Illustration and Prepress Production
ART 344	2-Dimensional Computer Graphics/Animation (1.5)
ART 345	3-Dimensional Computer Graphics/Animation

Coursework from interactive media not found in the graphics track:

3 credit hours at 200-level or above

3 credit hours at 300-level or above

Recommended electives:

ART 117	Silver Photography
IMS 297/397/497	Internship (0.0-9.0)

### B. Interactive Media Technology Track:

CSC 160	Computer Science I (3.5)
CSC 225	Web and Animation Programming with Flash (1.5)
IFS 320	Multimedia Presentations (1.5)

Select at least eight credit hours from:

IFS 116	Website Design and Development (1.5)
CSC 161	Computer Science II (3.5)
CSC/IMS 215	Intro to Web Programming (3.0)
CSC 415	Web Applications (3.0)
IMS 220	Video Editing and Production (1.5)
IMS 230	Audio Editing and Production (1.5)
CSC 425	Computer Graphics
CSC 435	Windows Game Programming
CSC 436	Human/Computer Interaction

Coursework from interactive media not found in the technology track:  
6 credit hours (two courses) at the 200-level or above  
Recommended: A minor in Computer Science.

C. Convergent-Media Track:

SPC 185 Mass Media and Society

IMS 200 Writing Across Media

Select three credit hours from:

ENG 220 News Writing

ENG 275 Creative Writing

SPC 267 TV Screenwriting (1.5)

SPC 268 Film Screenwriting (1.5)

SPC 277 Broadcast Copy Writing

Select three credit hours from:

ART 143 Beginning Typography

ART 205 Digital Photography

IFS 116 Website Design and Development (1.5)

IMS 230 Audio Editing and Production (1.5)

IFS 320 Multimedia Presentations (1.5)

SPC 269 TV and Video Production

Select three credit hours from:

ENG 201 Critical Methods in English Studies

ENG 240 Introduction to Film

ENG 270 Writing, Rhetoric, and Culture

SPC 391 Seminar in Broadcast Media

CSC 436 Human Computer Interaction

Select six credit hours from:

ENG 335 Magazine Writing and Production

ENG 465 Advanced Creative Nonfiction-Multimedia

SPC 410 Rhetorical Criticism

SPC 412 Media Criticism

SPC 491 Seminar in Broadcast Media

**Interactive Media Studies Minor:**

21 credit hours to include:

IMS 100 Introduction to Visual Literacy

IMS 260 Introduction to New Media

IFS 115 Designing Web Pages (1.5)

IMS 125 Computer Animation with Flash (1.5)

Select twelve or more additional hours from the Interactive Media Studies interdisciplinary courses of which 4.5 hours must be at the 300 level or above.

**Integrated Bachelor's/Master's Program**

North Central College's integrated B.A. or B.S./M.S. in Web and Internet Applications program allows a student to earn both a bachelor's degree (in any discipline) and the Master of Science degree in Web and Internet Applications normally in five years of study. Admission to this program is open to all academically strong students who have completed CSC 160, CSC 161, CSC 220 and CSC 230, with an overall G.P.A. of at least 3.333.

**100 Introduction to Visual Literacy (3.00)**

(Same as: ART 100.) An art survey of the theories and practice of visual forms, especially as applied in interactive media. Theoretical instruction may include narratology, ut pictura poesis (relationships between word and image), and/or postmodernism; students engage these and other theories in constructing imagery.

**113 Multimedia Practicum (0.00-1.50)**

Practical experience on the staff of the IMS online multimedia publication. Students may register for 0.00 or 1.00 credit hours for graded work as writers, editors, photographers, animators, artists, or designers. Registration for credit requires four hours of work on the publication per week. Editors may register for 1.5 credit hours of work on the publication. Enrollment is encouraged but not required of staff members. A maximum of six credit hours may be earned in IMS 113 multimedia practica. Prerequisites: IMS major or minor, and instructor consent.

**125 Computer Animation with Flash (1.50)**

(Same as: IFS 125.) Course covers the fundamentals of animated computer graphics for web based delivery. Topics include: vector graphics, gradients, layers, drawing, animation, motion tweening, and interactivity in a timeline-based editor. Emphasis is placed upon using Flash to develop compact interactive animations that graphically communicate ideas.

**200 Writing Across Media (3.00)**

(Same as: ENG 200.) An introduction to writing across media that prepares students to produce news and information that meets the needs of various media outlets including print, broadcast, and online. Students are introduced to various types of media writing, including print and broadcast journalism, public relations, and advertising. The course exposes students to issues involved in the growing trend of media convergence and expands their knowledge of how content is produced for both print and non-print platforms. Prerequisite: ENG 115 or ENG 125.

**215 Introduction to Web Programming (3.00)**

(Same as: CSC 215) Topics include the use of PHP and Ruby for server-side generation of content. Also covers HTML/CSS and Javascript for client-side presentation, SQL databases for information management and retrieval, management of shopping carts and client sessions, and security. Extensive programming required. Prerequisite: CSC 161. Recommended: IFS 115.

**220 Video Editing and Production (1.50)**

(Same as: IFS 220.) Principles of video editing and production. Topics include: cuts and splices, transitions, composition, video and text overlays, audio synchronization, multi-channel editing, streaming video, and chroma-keying. Professional editing packages such as Adobe Premier and Final Cut Pro are used to produce short videos in formats suitable for delivery over CD/DVD, Web, and TV/Cable broadcast.

**230 Digital Audio Editing and Production (1.50)**

(Same as IFS 230.) Principles of audio capture and manipulation. Topics include: physics of sound and hearing, analog to digital conversion, audio sampling and compression, sound decomposition and recomposition, sound effects, filtering distortion and noise, and multi-track editing and production.

**260 Introduction to New Media (3.00)**

(Same as: SPC 260.) This course offers an overview of the Internet and other forms of new media, and examines their impact on human communication, culture, politics, and daily life. It covers the major themes in the sociological and cultural study of new media, and includes some instruction in basic web design skills.

**297 Internship (0.00-3.00)****299 Independent Study (1.00-9.00)****343 Digital Illustration and Prepress Production (3.00)**

(Same as ART 343.) An in-depth exploration of digital illustration techniques and their uses as both tool and medium. The general focus is on technical operations and standardized procedures in preparation for offset printing. Digital illustration (primarily raster-based graphics) and their applications in publication design contexts constitute the bulk of the investigations; however, traditional illustration techniques are also utilized as an introduction in this advanced course. Prerequisite: IMS 109.

**390 Special Topics (3.00)**

Exploration of a topic of current interest. Topics vary depending on student and faculty interest. May be taken more than once with different content. Prerequisite: Varies with topic.

**397 Internship (0.00-3.00)****399 Independent Study (1.00-9.00)****490 Portfolio Workshop (3.00)**

Working independently or in a small group, under the direction of an IMS faculty advisor, students create original interactive media presentations. Required of all IMS majors. Prerequisites: Senior status; declared IMS major.

**497 Internship (0.00-3.00)****499 Independent Study (1.00-9.00)**

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## Interdisciplinary Studies (IDS)

*Professors: Thomas Cavenagh, Timothy Morris, Francine Navakas,*

*Lawrence Van Oyen, Richard Wilders*

*Assistant Professors: Kristin Geraty Bonacci, Michael de Brauw,*

*Katherine Heller, Shereen Ilahi*

Interdisciplinary studies courses emphasize the interconnections between academic disciplines and enrich inquiry by offering analysis from a variety of disciplinary perspectives. Some courses are created among departments within a division. Others develop around a College-wide theme or interest. Integrative minors, concentrations, and course clusters offer experiences in connected learning. Special programs which offer an interdisciplinary focus include College Scholars; East Asian Studies; Environmental Studies; Gender and Women's Studies; the History of Ideas; International Business; Global Studies; Interactive Media Studies; Leadership, Ethics and Values; and Urban and Suburban Studies. Course descriptions and requirements for interdisciplinary academic majors or minors are listed under the program titles to which they apply. Individualized majors with an interdisciplinary emphasis are reviewed by the Director of Integrative Programs. The director is also available to assist in identifying special on- and off-campus opportunities for interdisciplinary work at the undergraduate and graduate levels.

**125 First-Year Seminar (3.00)**

Gateway course to North Central College's integrative curriculum. Topics vary, but emphasis is on critical thinking and application of interdisciplinary approaches to the study of a problem or issue. Students may not receive credit for both ENG 125 and IDS 125. Prerequisite: ENG 115. Core: Interdisciplinary requirement.

**299 Independent Study (1.00-9.00)****360 Topics (3.00)**

Intensive study of an interdisciplinary topic. Content varies from year to year. Typically, the course carries an honors designation.

**390 Topics (3.00)**

Intensive study of an interdisciplinary topic. Content varies from year to year. Typically, the course carries an honors designation.

**399 Independent Study (1.00-9.00)****460 Seminar (3.00)**

Advanced study of an interdisciplinary subject within a seminar format. Content varies from year to year. Typically, the course carries an honors designation.

**490 Seminar (3.00)**

Advanced study of an interdisciplinary subject within a seminar format. Content varies from year to year. Typically, the course carries an honors designation.

**499 Independent Study (1.00-9.00)**

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## International Business

See **Management and Marketing** for a description of courses and programs of study in international business.

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## Japanese

See **Modern and Classical Languages** for a description of courses and programs of study in Japanese.

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## Journalism

See **English** for a description of courses and programs of study in Journalism.

# Latin

See **Modern and Classical Languages** for a description of courses and programs of study in Latin.

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## Leadership, Ethics, and Values (LEV)

*Professors: Stephen Maynard Caliendo, Thomas D. Cavenagh,*

*Richard Guzman, Ann Durkin Keating, Ramona Wis*

*Associate Professors: Judith Brodhead, Kenneth Campbell, Jennifer Keys*

### Mission Statement

The Leadership, Ethics, and Values program is committed to advancing the college mission statement of creating “productive, principled, and involved citizens and leaders over a lifetime.”

The academic component of the LEV program is an integral part of North Central College’s institutional commitment to the development of ethical leaders. The overall goal of the courses is to help students understand the many aspects of the leadership process, and to help them develop the skills and qualities necessary for responsible leadership.

### Leadership, Ethics, and Values Program Concentrations in Ethics and Leadership

Completion of an interdisciplinary Ethics or Leadership Concentration allows a student to obtain a formal transcript designation with fewer courses and requirements than a full academic minor in the context of a challenging, coherent, and meaningful LEV experience involving coursework and co-curricular efforts. Both concentrations consist of tightly focused collections of academic and educational co-curricular experiences in ethical or leadership analysis and application. In most cases, the courses taken to satisfy the concentration will also satisfy general education requirements. The concentrations afford our students a splendid resume credential that we believe has real significance in a wide variety of professional settings.

Students must maintain a ‘B’ average in the courses taken to acquire the concentration. Requirements for the concentrations come in three areas: coursework, applications, and portfolio.

### Leadership Concentration

#### Courses (four total):

Required:	LEV 121	Issues in Leadership
	LEV 390	Seminar in Leadership Theory

Two of: Choose two courses from the list of courses satisfying the LEV ACR requirement. These two courses may not be taken within the same discipline.

#### Application:

One of: Service in an NCC organizational leadership position (e.g., student government, residence life staff, service trip coordinator, board member of campus ministry organization, etc.)

Service in an NCC athletic leadership position (e.g., Team Captain, Member of SAAC, Member of SAM, etc.)  
 Completion of LEV 250: Precepting, or service in some other approved academic leadership position

Service in an approved off-campus leadership position  
 Service as an LEV MicroLoan advisor  
 Completion of an LEV approved Verandah course involving significant leadership components, **-or-**  
 Completion of an LEV approved internship experience, preferably LEV 495, involving significant leadership components.

Note: Students are encouraged to propose additional leadership applications to satisfy this component of the Leadership Concentration to the Director of the Leadership, Ethics, and Values Program.

Leadership Portfolio including all of the following:

Written responses to two “leadership designated” cultural events not to exceed 2 pages each  
 Evidence of participation in two annual leadership concentration colloquia (College Scholars may participate in two honors colloquia when approved by the Director of the Leadership, Ethics & Values Program)  
 Copies of major written work submitted in all leadership concentration required courses  
 A concluding/capstone personal statement not to exceed 3 pages  
 A resume  
 Completion of all requirements for either a North Central College B.S. or B.A. degree.

**Ethics Concentration**

Courses (four total):

Required:	PHL 110	Ethics
One of:	PHL 210	Professional Ethics
	REL 115	Christian Ethics
	REL 125	Religious Ethics
	REL 225	Urban Ethics and Religion
Two of:	BIO/PHL 300	Human Sexuality: A Clash of Values
	ECN 350	Public Finance and Social Welfare
	ENG 245	Literature, Science and Culture
	ENG 360	Writing for Social Change
	LEV 350	Ethnic & Religious Conflict Resolution
	PHL 310	Ethical Theory
	PHL 361	Science & Religion: Conflict or Dialogue
	PSC 336	Civil Rights, Liberties and Justice
	REL 375	Topics in Religious Ethics
	SOA 375	Protest and Change

Application:

One of: Participant on national *Ethics Bowl* team  
 Participant on College sponsored or approved service trip  
 Service as Dispute Resolution Center Associate  
 Completion of an LEV approved Verandah course involving significant service or ethics work, or  
 Completion of an LEV approved internship experience, preferably LEV 495, involving significant service or ethics work.



Note: Students are encouraged to propose additional leadership applications to satisfy this component of the Ethics Concentration to the Director of the Leadership, Ethics, and Values Program.

Ethics Portfolio including all of the following:

Written responses to two “ethics designated” cultural events not to exceed 2 pages each  
 Evidence of participation in two annual ethics concentration colloquia (College Scholars may participate in two honors colloquia when approved by the Director of the Leadership, Ethics, & Values Program)  
 Copies of major written work submitted in all ethics concentration required courses  
 A concluding/capstone personal statement not to exceed 3 pages  
 A resume  
 Completion of all requirements for either a North Central College B.S. or B.A. degree.

### **Leadership Minor**

This minor offers students interdisciplinary preparation for the demands of leadership in various organizational settings such as business, government, education, and non-profit organizations. The minor consists of at least 17 credit hours.

Required courses:

LEV 390 Seminar on Leadership Theory  
 LEV 495 Leadership in Work Environments

Decision-Making and Conflict Resolution (one required):

BUS 262 Management of Organizations  
 LEV 230 Conflict Resolution

Ethics (one required):

PHL 110 Ethics  
 PHL 210 Professional Ethics

Communication (one required):

SPC 200 Interpersonal Communication  
 SPC 214 Group Process

Applied elective (two credit hour minimum)

Any applied leadership course relevant to the special interests of the student subject to approval by the director of the LEV Program; e.g., a fourth course from among those listed above in decision-making and conflict resolution, ethics, or communication or:

LEV 121 Contemporary Issues in Leadership  
 LEV 250 Preceptor  
 LEV 330 Conflict Resolution Clinic  
 PSC 211 American Presidency  
 SOA 190 Urban Problems  
 REL 115 Christian Ethics  
 PSY 270 Industrial Psychology  
 SPC 230 Business and Professional Communication  
 SPC 330 Organizational Communication Theory

### **Conflict Resolution Minor**

This minor offers students applied interdisciplinary and preprofessional preparation to engage in a variety of conflict resolution models including negotiation, mediation, and facilitation. Additionally, it complements academic

majors in a variety of disciplines in which students may seek graduate education. The minor consists of 22 credit hours.

Required Courses:

PHL 210	Professional Ethics
LEV 230	Conflict Resolution
LEV 330	Conflict Resolution Clinic (must be taken twice)
LEV 495	Leadership in Work Environments (LEV 390 is not a prerequisite for Conflict Resolution Minors)

One of:

BUS 105	Business Law
SOA 190	Urban Problems

One of:

SPC 200	Interpersonal Communication
SPC 230	Business and Professional Communication
SPC 317	Intercultural Communication

One of:

PSC 103	Introduction to Law
PSC/PHL 241	Philosophy of Law
LEV 350	Ethnic and Religious Conflict Resolution

### **Social Change and Public Advocacy Minor**

This minor prepares students to be activists in making changes in social systems. The minor consists of 24 credit hours.

Required Courses:

LEV 121	Contemporary Issues in Leadership
SOA 375	Protest and Change

Ethical Analysis: three hours from the following:

PHL 110	Ethics
PHL 210	Professional Ethics
REL 115	Christian Ethics

Analysis of Social Systems: three hours from the following:

ECN 100	Economics of Social Issues
PSC 101	Introduction to American Government
SOA 190	Urban Problems
GWS/SOA 210	Gender Studies
PHL/PSC 241	Philosophy of Law
PSY 330	Community Psychology

Critique of Social Systems: three hours from the following:

SOA 280	Racial and Ethnic Minorities
HST 320	U.S. Social Movements
PHL/PSC 343	Economic and Social Justice
SOA 380	Social Class
IDS 460	when topic is "Feminist Perspectives"

Communication Skills

(Persuasive presentations): three hours from the following:

ENG 220	News Writing
ENG 260	Integrating Word and Image
ENG 360	Writing for Social Change
IFS 115	Web Page Development (1.50 credit hours)
SPC 285	Argumentation and Debate
SPC 287	Advanced Public Speaking

Communication Skills:

(Understanding Persuasive Process): three hours from the following:

ENG 270	Writing, Rhetoric and Culture
LEV 230	Conflict Resolution
SPC 367	Persuasion Theories

Capstone: three hours from the following:

LEV 390	Leadership Theory
LEV 495	Leadership in the Workplace
XXX 397/497	Internship (need approval of LEV program Director to use internship outside of LEV for this minor)

### **121 Issues in Leadership (3.00)**

An examination of leadership needs in American communities, corporations, and political life. Studies of several leaders who have met diverse challenges form the basis of developing a normative perspective on leadership in our society. Core: Social Science.

### **230 Conflict Resolution (3.00)**

An inquiry into the theories and skills relating to the resolution of conflict in the community and the workplace. A variety of approaches are used to understand and analyze issues and develop skills including lecture/discussion, negotiation exercises, and simulated mediations. The course focuses on developing the ability to practice as a mediator. Prerequisite: Sophomore standing. Core: Communication or Social Science.

### **240 Leadership & Culture (3.00)**

This course provides an overview of the basic elements of leadership with emphasis on recognizing cultural variety and developing effective leadership approaches suited for cross cultural contexts. The course provides a basic overview of leadership definition, types of leadership, and leadership traits. Then it explores leadership across cultures in terms of: leadership theories, communication, motivation, exploration of non-Western cultures, and effective leadership approaches.

### **250 NCC Preceptor (1.00-2.00)**

Students who have recently taken an undergraduate course at NCC are selected by the instructor to help facilitate the teaching of that course in the following term. Preceptors attend the class lectures of their precepted class, lead discussion/problem sessions, and participate in weekly seminars with other preceptors to reflect on their teaching and leadership experience. This course may be taken twice for credit. Students may sign up for the course more than two times, but will receive no additional credit.

### **301 Servant Leadership (3.00)**

Introduction to the basic principles of servant leadership, or principle-centered leadership, and the application of these principles to personal and professional life. Students examine the “ten characteristics of servant leadership,” learn to distinguish between leadership and management, learn how to use power in a non-coercive way and discuss ways to lead groups to a unified goal. Prerequisite: Junior standing; ACR: Leadership, Ethics and Values.

### **325 Leadership and Place (3.00)**

(Same as: USS 325.) Leadership and Place traces the influence of home towns and home places on contemporary and historical leadership paradigms while considering such ethical questions as: What role does place play in forming a responsible and responsive leader? How does one lead responsibly and well far from home? How and where do rural, urban, and suburban ethical standards and value judgments converge and diverge? Where have the leaders of the past come from and where are they likely to be found in the future? Paying close attention to small communities and neighborhoods as key loci in the production of twentieth-century civic leaders and as ethical centers in a Jeffersonian republic, course texts, lectures, and discussions feature real-life case studies designed to

engage students in debates weighing ethical and moral positions viewed through the lens of place. Leadership and Place uniquely encourages students in the study of personal (inside-out) as well as cultural (outside-in) place-based, ethical perspectives while inviting them to consider the foundational role home communities play in ethical leadership on the local, regional, and national level. Prerequisite: Junior Standing. ACR: Leadership, Ethics and Values.

### **330 Conflict Resolution Clinic (2.00)**

An advanced, skills-oriented course focusing on the resolution of actual, rather than simulated conflicts. The course continues the conflict resolution theory and skill development commenced in LEV 230 by applying both to conflicts on the college campus and eventually, in community courts and businesses. The course continues the LEV 230 focus on developing the ability to practice as a mediator. Repeatable course. Prerequisite: LEV 230.

### **350 Ethnic and Religious Conflict Resolution (3.00)**

Considers the ways in which conflict, both domestic and abroad, is created and/or exacerbated as well as resolved by religion and ethnicity. The course draws on the resources of many traditional disciplines in understanding the causes and solutions to ethnic and religious conflict, including political science, law, sociology, and communication theory, as well as the newer field of peace studies. Students consider a range of religious and cultural contexts in which conflict exists or has existed, including, but not limited to, Northern Ireland, the Middle East, Southeast Asia, and the American Southwest. Prerequisite: Junior standing. ACR: Intercultural.

### **390 Seminar on Leadership Theory (3.00)**

The goal of the seminar is to gain familiarity with the considerations involved in framing a comprehensive theory of leadership with special emphasis upon the connections between leadership, values, and ethics. In independent projects students relate major theories about leadership to the study of specific leader/constituent relationships. ACR: Leadership, Ethics, and Values.

### **495 Leadership in Work Environment (3.00)**

A structured seminar reflection upon experience of leadership relations gained in an approved internship. Students spend approximately 10 to 12 hours per week in their internship placement. One two-hour class meeting per week. Prerequisite: LEV 390 or junior standing.

### **499 Independent Study (1.00-9.00)**

# Management and Marketing (BUS)

*Professors: Michael J. Duane, Thomas Cavenagh*

*Associate Professors: Jeffrey D. Anstine, Kenneth Campbell, Jean Clifton,  
Thomas Clifton, Mary Galvan, Robert Moussetis, Donnavieve Smith,  
Brian Hanlon*

*Assistant Professor: Xiaoye Chen*

*Adjunct Faculty: Gary Ernst, Jeffrey Woodruff*

## Mission Statement

The mission of the department of Management and Marketing is to provide a high quality business education that promotes the development of students as managers, marketers, entrepreneurs, and leaders as well as socially responsible individuals. Consistent with North Central College's mission, the department is committed to offering programs that are not only rooted in the liberal arts but actively stress the world of work and the necessary practical skills so that graduates can succeed in their careers and future educational pursuits.

Degrees offered: B.A. and B.S.

Both B.A. and B.S. degree programs are offered in management, entrepreneurship and small business management, marketing, international business, human resource management, and management information systems. Each major requires a minimum of 36 credit hours within the Division of Economics and Business. A minimum of six credit hours in the major must be at the 400-level.

## Management Major

Management emphasizes organizational performance and analysis. Graduates are employed in a wide range of companies and public and private agencies. Students who pursue graduate study normally work toward the M.B.A. degree or an M.S. degree in management.

### B.A. Requirements:

ACC 201, ACC 202, ECN 250, ECN 252, FIN 350, BUS 162, BUS 168, BUS 205, BUS 384, BUS 460, BUS 241, BUS 482 and BUS 475; and a minimum of two electives from any ACC, BUS, ECN, or FIN courses at the 300/400 level. Support courses should be selected from English, sociology, mathematics, psychology, LEV, and speech communication.

### B.S. Requirements:

Beyond the B.A. requirements, students must complete CSC 160; MTH 152; one mathematics elective beyond MTH 152 or one computer science elective beyond CSC 160; and one of: ACC 307, BUS 446, or ECN 445.

### TYPICAL COURSE SEQUENCE

ASSUMES THE STUDENT HAS THE NEEDED PREREQUISITES

	<u>FALL</u>	<u>WINTER</u>	<u>SPRING</u>
FIRST YEAR:		BUS 162	BUS 168
SECOND YEAR:	ACC 201 BUS 205	ACC 202 ECN 250	ECN 252
THIRD YEAR:	BUS 241	FIN 350	BUS 384
FOURTH YEAR:	BUS 460 Elective	BUS 475 BUS 482	Elective

## General Business Minor

A minimum of 24 credit hours within the Division of Economics & Business, 12 of which must be in the management and marketing department.

## Entrepreneurship and Small Business Management Major

The study of entrepreneurship and small business focuses on new enterprise development or entrepreneurial initiatives in ongoing businesses. Graduates of the program should plan on being employed with a small, privately-held company; an innovative, forward-thinking company; or self-employed by launching their own enterprise. Courses in the curriculum examine competitive analysis, strategy development, managerial control mechanisms, financial analysis, as well as operational challenges associated with the varying stages of growth and development in entrepreneurial ventures.

### B.A. Requirements:

A minimum of 42 credit hours to include: ACC 201, ACC 202, BUS 241, ECN 250, ECN 252, BUS 135, BUS 162, BUS 168, BUS 205, BUS 384, BUS 393, BUS 395, BUS 397, BUS 495, FIN 350.

Recommended support courses:  
ECB 195, ECB 197.

### B.S. Requirements:

Beyond the B.A. requirements, students must complete CSC 160; MTH 152; one mathematics elective beyond MTH 152 or one computer science elective beyond CSC 160; and one of: ACC 307, BUS 446, or ECN 445.

### TYPICAL COURSE SEQUENCE ASSUMES THE STUDENT HAS THE NEEDED PREREQUISITES

	<u>FALL</u>	<u>WINTER</u>	<u>SPRING</u>
FIRST YEAR:		BUS 162	BUS 135
SECOND YEAR:	ACC 201 BUS 168	ACC 202 ECN 250	BUS 205 ECN 252
THIRD YEAR:	BUS 241	BUS 384	BUS 395
FOURTH YEAR:		BUS 495	BUS 397

## Marketing Major

Marketing contributes to the success of any business or not-for-profit organization. As a dynamic part of the free enterprise system, marketing stimulates competition between companies to create and satisfy the needs of consumers. Businesses identify the needs and wants of consumers and seek to fulfill them in a timely and economic manner. Tools available to the marketer include development of products and/or services, formulation of distribution methods, creation and guidance of promotional efforts, and determination of proper pricing structures. To become successful in this field requires a sound understanding of fundamental business practices, good interpersonal skills, and comprehensive communication skills, as well as specific marketing course work. An appreciation of the global economy and current trends and forces changing today's marketplace is also essential. Students who wish to pursue graduate study normally work toward an M.S. degree in marketing or an M.B.A. degree.

### B.A. Requirements:

ACC 201, ACC 202, ECN 250, ECN 252, BUS 135, BUS 241, BUS 168, BUS 205, BUS 372, BUS 378, BUS 393, BUS 455, BUS 470, BUS 460, and a minimum of one elective course from: BUS 395, BUS 485, BUS 488 and 300/400 ECN.

Recommended electives:

ENG 265, ENG 270, ENG 455, PSY 240, SPC 100, SPC 185, SPC 200. The study of a foreign language is highly recommended.

**B.S. Requirements:**

Beyond the B.A. requirements, students must complete CSC 160; MTH 152; one mathematics elective beyond MTH 152 or one computer science elective beyond CSC 160; and one of: ACC 307, BUS 446, or ECN 445.

**TYPICAL COURSE SEQUENCE**

ASSUMES THE STUDENT HAS THE NEEDED PREREQUISITES

	<u>FALL</u>	<u>WINTER</u>	<u>SPRING</u>
FIRST YEAR:		BUS 168	BUS 135
SECOND YEAR:	ACC 201	ACC 202	BUS 205
	ECN 250	ECN 252	
THIRD YEAR:	BUS 241	BUS 372	BUS 393
FOURTH YEAR:	BUS 460	Elective	BUS 470
	BUS 378	BUS 455	

**Marketing Minor**

A minimum of 18.5 credit hours to include: BUS 135, BUS 168, BUS 372, BUS 393, BUS 455 and one elective in the Division of Economics and Business.

**International Business Major**

The international business major is an interdisciplinary area that integrates five areas of study from a global perspective: business, modern languages, history, politics, and culture. Graduates may be employed by domestic firms operating internationally, by multinational firms doing business in the United States, by state or federal agencies involved with international trade and economic development, or by international organizations (United Nations, World Bank, etc.). Increasingly, even domestic firms are seeking International Business graduates for their business, language, and multi-disciplinary skills. Students interested in graduate study may pursue the M.B.A., an M.S. degree in international business, an M.S. degree in international relations, and/or the J.D. degree.

**B.A. Requirements:**

1. Core requirements: 30 hours from ACC 201, ACC 202, BUS 162, BUS 168, BUS 205, BUS 241, ECN 250, ECN 252, FIN 350, and BUS 460.
2. International Business requirements: 12 hours from BUS 135, BUS 482, BUS 488, and either FIN 385 **or** ECN 340.
3. Enrichment Courses or International Study: nine hours, achieved either through study abroad or three courses from the following list: ART 245, ART 270, HST 165, HST 175, HST 185, HST 249, HST 259, HST 261, HST 263, HST 265, HST 271, MUS 156, PHL 220, PSC 102, PSC 221, PSC 320, PSC 333, REL 255, REL 270, REL 280, REL 315, REL 345, SOA 105, SPC 317.
4. Language Requirement and additional electives: 12 hours, composed as follows:
  - (a) 3-6 credit hours of modern language study over and above the College requirement, with a minimum of three credit hours at the MCL 201 level or higher. The appropriate placement level is determined by the MCL faculty. Exceptional cases may appeal to MCL faculty for special consideration.
  - (b) An additional 0-9 credit hours of electives (to reach a total of 12 credit hours) from additional foreign language study (recommended) or from coursework selected from the list of enrichment courses above.

**B.S. Requirements:**

Beyond the B.A. requirements, students must complete CSC 160; MTH 152; one mathematics elective beyond MTH 152 or one computer science elective beyond CSC 160; and one of: ACC 307, BUS 446, or ECN 445..

**TYPICAL COURSE SEQUENCE**

ASSUMES THE STUDENT HAS THE NEEDED PREREQUISITES

	<u>FALL</u>	<u>WINTER</u>	<u>SPRING</u>
FIRST YEAR:	— — —	BUS 162	BUS 135
SECOND YEAR:	ACC 201 ECN 250	ACC 202 ECN 252	BUS 205 BUS 168 BUS 241
THIRD YEAR:	Study Abroad	FIN 350 BUS 482	BUS 488
FOURTH YEAR:	BUS 460	FIN 385 -or- ECN 340	— — — — — —

**International Business Minor**

The minor is designed for students having either a major or a minor in a foreign language or equivalent proficiency. ACC 201, ECN 100 (or ECN 250 and ECN 252), BUS 162, BUS 168, ECN 340, BUS 482, and BUS 488 are required.

**Human Resource Management Major**

The human resource management major is interdisciplinary, combining courses from economics and business, psychology, sociology, history, communications, and ethics to prepare students to manage the human resources of organizations in the private or government sectors. Students study the legal, theoretical, and practical aspects of staffing, training, motivating, rewarding, assessing performance, and disciplining employees in union and non-union settings. Students also study one or more of these functional areas in greater depth through an internship or an independent study project. Those interested in graduate studies may pursue the MBA, the MA of Industrial Relations, or the MA of Industrial and Organizational Psychology.

**B.A. Requirements:**

BUS 162, BUS 205, BUS 384, BUS 241 or PSY 250, PSY 270, PSY 320, PHL 110, BUS 424, BUS 434; one of BUS 393, PSY 255, or SOA 200; BUS 497 or BUS 499; one of SPC 230, SPC 317, SPC 330, or LEV 230; one of HST 320, HST 358, or SOA 380; ACC 201 or ACC 202.

Recommended electives:

ENG 455 and ECN 330.

**B.S. Requirements:**

Beyond the B.A. requirements, students must complete CSC 160; MTH 152, one mathematics elective beyond MTH 152 or one computer science elective beyond CSC 160; and one of : ACC 307, BUS 446, or ECN 445.

**TYPICAL COURSE SEQUENCE**

ASSUMES THE STUDENT HAS THE NEEDED PREREQUISITES

	<u>FALL</u>	<u>WINTER</u>	<u>SPRING</u>
FIRST YEAR:	PSY 100 ENG 115	MTH 130 ENG 116	BUS 162 PSY 270
SECOND YEAR:	ACC 201 PHL 110 BUS 241	BUS 205 Research choice	LEV 230 SPC choice
THIRD YEAR:	BUS 384 PSY 320	BUS 424 PHL 110	HST choice
FOURTH YEAR:	Elective Elective	BUS 434 BUS 497/499	



## Human Resource Management Minor

PHL 110, BUS 241, PSY 270, BUS 384, BUS 424, and two additional electives from the major.

## Management Information Systems Major

MIS in its broadest terms consists of coordinated methods of gathering, processing, and disseminating past, present, and projected information to assist managers in decision making. It is usually, but not necessarily, computerized, with information being provided in various formats, including written reports and informal oral methods. This involves obtaining information from within the business structure across departmental boundaries as well as outside the organization. It considers governmental, ethical, cultural, and competitive issues. The degree requires extensive course work in business and computer science, and recommended course work in speech, psychology, communication, law, and English.

### B.A. Requirements:

ACC 201; ACC 202; BUS 241; ECN 250; ECN 252; BUS 162; BUS 168; BUS 475; CSC 455; BUS 446; BUS 460; BUS 490 or BUS 465; one of ACC 307, FIN 350, BUS 393, ECN 445, or BUS 420; and a computer science minor consisting of at least 23.5 credit hours to include: IFS 104; CSC 160; CSC 161; one of CSC 215 (prerequisite IFS 115), CSC 255, or CSC 306 (prerequisite CSC 210); CSC 220; CSC 453; CSC 460; and CSC 469.

### B.S. Requirements:

Completion of the B.A. degree requirements and MTH 152.

### TYPICAL COURSE SEQUENCE ASSUMES THE STUDENT HAS THE NECESSARY PREREQUISITES

	FALL	WINTER	SPRING
FIRST YEAR:	IFS 104	CSC 160	CSC 161
SECOND YEAR:	ECN 250	ECN 252	BUS 168
	ACC 201	ACC 202	
	CSC 306	BUS 241	CSC 220
THIRD YEAR:	BUS 162	BUS 320	BUS 446
		CSC 453	BUS ELECTIVE
FOURTH YEAR:	CSC 469	BUS 475	BUS 490
	CSC 460	BUS 460	CSC 455

## Management Information Systems Minor

18.5 credit hours, including: CSC 160, BUS 162, BUS 168, BUS 446, BUS 460, and BUS 490.

### **135 Introduction to International Business (3.00)**

An introduction to the study of Globalization and Business. The course exposes the student to the broad issues of globalization; illustrates the advantages and disadvantages of globalization; relates globalization to culture, politics, ethics, labor, legal settings, geography, and international organizations; and finally, provides the context of business as it operates globally.

### **162 Management of Organizations (3.00)**

A study of management principles and functions in formal organizations. Setting objectives, planning, organizing, delegating, decision making, budget setting, and controlling as practiced in for-profit and not-for-profit organizations. Prerequisites: Sophomore standing; ECN 250 recommended.

**168 Marketing (3.00)**

The scope and methods of product development, pricing, distribution, and promotion of goods and services by for-profit as well as not-for-profit organizations. Prerequisite: Sophomore standing.

**195 Entrepreneurial Focus (1.50)**

Through readings, guest speakers, and classroom discussion students examine the benefits and opportunities that can be found through self-employment. Students also investigate how entrepreneurs manage to start successful businesses.

**197 Entrepreneurial Experience (1.50)**

This course expands student understanding of the opportunities and challenges provided through entrepreneurship and increases awareness of managerial skills needed to launch a new business.

**205 Introduction to Business Law (3.00)**

An introductory survey of the major aspects of the law governing business and commerce including the domestic and international legal environment, the range of dispute resolution processes, legal liability including business torts and crimes, contracts, employment law including employment discrimination, business entities focusing on corporations and general partnerships, and intellectual property with particular attention to copyright and trademark law.

**241 Business and Economic Statistics (3.00)**

(Same as: ECN 241.) This course is designed to provide students with the ability to apply and interpret descriptive and inferential procedures, probability distributions, statistical sampling and design, hypothesis testing, and regression. Primary objectives are to improve the statistical capabilities of students as well as their abilities to apply statistical concepts in a business setting. Prerequisites: MTH 121 or higher. or appropriate placement. Note: Students may not receive credit for both BUS 241 and PSY 250. Core: Mathematics.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****372 Consumer Behavior (3.00)**

Theories and research regarding the consumer's buying decision process: problem recognition, search for information, evaluation and decision, and postpurchase assessment. Additional topics include consumer perception, personality, life style, communication patterns, and their implications for marketing strategy. Prerequisites: BUS 135 or concurrent enrollment; BUS 168, PSY 100.

**378 Sales & Sales Management (3.00)**

A survey of the basic principles of selling, consumer analysis, sales presentations, leadership, and management of the sales organization. Emphasis is placed on the selection process, training methods, control components, and motivational factors for the sales force, with an integrated approach identifying ethical issues, societal values, and leadership strategies to encourage and enhance behavior among all individuals in the sales organization. Prerequisite: BUS 168. ACR: Leadership, Ethics, and Values.

**384 Human Resource Management (3.00)**

An examination of the basic functions of personnel and labor relations. Discussions focus on valuing, employing, developing, motivating, and

maintaining human resources in organizations. The history of the American labor movement and the collective bargaining process is also examined. Prerequisites: Junior standing, ECN 250.

### **390 Seminar (3.00)**

#### **393 Market Research (3.50)**

A study of research methods used in marketing, including research design, gathering and interpreting of field and/or secondary data, presentation of research conclusions, and projections for the future. In order to successfully participate, students must be exposed to marketing principles and theories and preferably have some exposure to consumer behavior activities. Prerequisites: BUS 241, BUS 168; BUS 372 recommended.

#### **395 Small Business & Entrepreneurship (3.00)**

A study of the skills and business strategies necessary for creating a successful small business. Additional topics include analysis of the economic climate, securing technical and financial assistance, new product development, and business concepts applicable to entrepreneurial situations in a corporate environment. Prerequisites: ACC 202, BUS 168, ECN 250.

### **397 Internship (0.00-9.00)**

### **399 Independent Study (1.00-9.00)**

#### **420 Production/Operations Management (3.00)**

A study of the production process and its relationship to scientific decision making. Emphasis on plant layout, planning, quality control, inventory management, and integration of market demand with scheduling. Prerequisites: BUS 162, BUS 241.

#### **424 Staffing and Employment Law (3.00)**

An in-depth analysis of the economic, psychological, and management theory and legal concepts related to the staffing of public and private sector organizations, including a review of employee assessment techniques currently practiced. Prerequisite: BUS 384.

#### **434 Compensation and Performance Management (3.00)**

A study in the historical development of compensation theory and its application to the design and implementation of reward structures in modern organizations. An examination of method and practice in management of employee performance. Prerequisite: BUS 384.

#### **446 Operations Research (3.00)**

(Same as: BUS 546). An introduction to the application of mathematical models in managerial decision making. Includes statistical design theory, linear programming, the transportation problem, inventory models, the Markov process, and queuing theory. Prerequisite: BUS 241.

#### **455 Promotional Strategy (3.00)**

A study of the theories and techniques applicable to the development of the promotional mix. Topics include the analysis and development of promotional objectives, budgets, message and media design, and measurement of the effectiveness of advertising, personal selling, sales promotion, public relations, and publicity efforts. Prerequisites: Junior standing, BUS 168, BUS 372, BUS 393.

**460 Management Information Systems (3.00)**

An applications course which combines information theory and practice to prepare the student to analyze managerial information needs and find the most effective ways of meeting those needs. Applications in areas of functional management and decision making by various problem solving methods is emphasized. Prerequisite: Senior standing.

**465 MIS Field Project (3.00)**

An advanced course providing actual experience with information systems used in business. Management concerns in systems design, development, and evaluation of information systems are emphasized from a strategic perspective. Prerequisite: CSC 453.

**467 Project Management (3.00)**

(Same as: BUS 567). Skills and knowledge needed to effectively manage projects. Topics include methods of planning, scheduling, tracking, and controlling projects. Addresses group process issues and leadership concerns. Prerequisite: BUS 241 or BUS 541.

**470 Marketing Management (3.00)**

An integrative course in marketing, addressing the process of strategic marketing planning for new and existing products/services through the use of case analysis. Management of the marketing mix through the marketing plan is stressed throughout the course. To be taken as the final course in marketing major. Prerequisite: Senior standing.

**475 Business Strategy (3.00)**

An integrative course in business, dealing with strategic policy formulation and implementation, long-range planning, and environmental scanning through the use of case analysis. Prerequisite: FIN 350, Senior standing.

**480 Business Law Topics (3.00)**

(Same as: BUS 580.) An advanced course in selected business law areas. Topics may include cyberlaw, the law of commercial speech, employment discrimination law, and topics in international business law. Prerequisites: BUS 205, BUS 162, and BUS 168.

**482 International Management (3.00)**

Application of management principles to the conduct of business and not-for-profit operations on a multinational scale, and involving economic, political, and cultural differences. Prerequisites: BUS 162, ECN 250, and ECN 252.

**485 Marketing Topics (3.00)**

An advanced course in selected marketing areas. Topics may include current marketing issues, service marketing trends, international marketing issues, new product development strategies, product life cycle management techniques, management information systems support, and marketing ethics issues. Prerequisites: BUS 135 and BUS 168.

**488 International Marketing (3.00)**

A study of the applications of marketing on an international level. Strategies for penetrating foreign markets and establishing international marketing programs are the focus of this course. Prerequisites: BUS 168, BUS 135, ECN 250, ECN 252, and ACC 202.

**490 Seminar (3.00)****495 Business Plan Development (3.00)**

A study in the application and integration of marketing, management, financial, and operational resources needed to prepare a business plan. Students evaluate the obstacles and issues facing an entrepreneur in business start-ups or in capitalizing on market opportunities. Taken as the final course in the entrepreneurship and small business management major. Prerequisites: FIN 340, BUS 395, Senior standing.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Management Information Systems

See **Management and Marketing** for a description of courses and programs of study in management information systems.

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## Mathematics (MTH)

*Professors: R. Devadoss Pandian, Richard J. Wilders*

*Associate Professors: Mary T. McMahon, David J. Schmitz*

*Assistant Professors: Katherine C. Heller, Neil R. Nicholson, Matthew A. Pons*  
*Adjunct Faculty: Jaclyn Murawska, Richard J. Wyllie*

### Mission Statement

The mission of the department of Mathematics is two-fold:

I. To support the mission of the institution by providing general education and service courses in mathematics which provide each student with the mathematical experience appropriate to that student's interests and abilities;

II. To provide mathematics majors and minors with a strong grounding in the tools and methods of mathematics so as to enable them to succeed in mathematics or a related field, and to provide as many majors as possible with a significant independent research experience.

The study of mathematics can reveal its beauty and wonder and can develop a student's potential for logical thought. College mathematics has evolved from arithmetic and geometry, two of the seven original Liberal Arts, to a variety of abstract and applied topics. Applications of mathematics occur in science, engineering, medicine, business, statistics, psychology, social science and other areas. A bachelor's degree in mathematics can lead to graduate study in mathematics or statistics, secondary teaching, actuarial science, industrial or governmental research, or careers in business.

Each student works with a faculty advisor to plan an individual major leading to one or more of the above objectives.

Degrees offered: B.A. and B.S.

The B.A. degree program is offered in mathematics and applied mathematics and the B.S. degree program is offered in mathematics, applied mathematics, and actuarial science.

## Mathematics Major

### B.A. Requirements:

At least 40 credit hours in mathematics, including:

Required core courses:

Calculus:	MTH 141 or MTH 151, MTH 152, MTH 153, and MTH 254
Mathematical Proofs:	MTH 280
Algebra:	MTH 300 and MTH 421
Real Analysis:	MTH 461
Seminar:	MTH 490
Problem Solving:	MTH 375 (at least 1 credit hour)

Electives (select one group):

Group 1: At least four of the following courses: MTH 305, MTH 315, MTH 323, MTH 341, MTH 342, MTH 355, MTH 422, MTH 462, MTH 473

Group 2: (required for secondary education minors) MTH 305, MTH 310, MTH 341, MTH 342, and completion of the secondary education minor (see description of Education Department programs).

### B.S. Requirements:

At least 44 credit hours in mathematics, including:

Required core courses:

Calculus:	MTH 141 or MTH 151, MTH 152, MTH 153, and MTH 254
Complex Variables:	MTH 323
Mathematical Proofs:	MTH 280
Algebra:	MTH 300 and MTH 421
Real Analysis:	MTH 461
Seminar:	MTH 490
Problem Solving:	MTH 375 (at least 2 credit hours)

Electives:

Choose at least two of: MTH 422, MTH 462, MTH 473

Choose at least one pair: MTH 341 and MTH 342, or  
MTH 315 and MTH 355

Required Support Courses for the B.S. degree:

CSC 161, and at least one course in Computer Science at the 200-level or above of at least 3.00 credit hours.

### NOTES:

No course numbered below MTH 141 may be counted toward the B.A. or B.S. degree.

Students intending to go to graduate school in mathematics are strongly encouraged to take MTH 323, MTH 422, MTH 462, and MTH 473.

## Mathematics Minor

At least 18 credit hours in mathematics, with at least nine credit hours numbered 200 or higher, including MTH 256, and no more than three credit hours numbered below MTH 141. ECN 440 or ECN 445 may be included in the 18 credit hours required for the minor.

## Applied Mathematics Major

### B.A. Requirements:

1. MTH 141 or 151, MTH 152, MTH 153, MTH 254, MTH 280, MTH 315, MTH 341, MTH 342, MTH 355 and MTH 461;
2. A minor or major outside of the math department;
3. Three-credit-hour capstone experience in
  - a 400 level course with topics involving significant applications of mathematics in the other major/minor field **-or-**
  - a 400 level independent study project involving significant applications of mathematics in the other major/minor.

The option needs to be approved by the chair of the mathematics department before the end of junior year.

### B.S. Requirements:

CSC 161, and at least one course in Computer Science at the 200-level or above of at least 3.00 credit hours.

## Actuarial Science Major

### B.S. Requirements:

45 credit hours from Mathematics, Economics and Finance, including: MTH 141 or 151, MTH 152, MTH 153, MTH 254, MTH 300, MTH 341, MTH 342, ECN 250, ECN 252, ECN 360, ECN 445, FIN 350, FIN 400, FIN 425 and MTH/FIN 365.

#### Required Support Courses:

CSC 161, plus at least one course in Computer Science at the 200-level or above of at least 3.00 credit hours..

#### Required Prerequisites:

ACC 201 and ACC 202.

#### Recommended Electives:

SPC 214, SPC 230 and CSC 230.

Credit is given for students with high performance on the Advanced Placement Calculus exams or through the CLEP program. Consult a member of the mathematics faculty about these options.

### **All students taking MTH coursework:**

Courses below calculus may not be taken for credit once a term of calculus has been successfully completed.

#### TYPICAL COURSE SEQUENCE FOR THE FIRST TWO YEARS ASSUMES THE STUDENT HAS THE NECESSARY PREREQUISITES

	FALL	WINTER	SPRING
FIRST YEAR:	140 or 151	141 or 152	152 or 153
SECOND YEAR:	153 or 254	254 or 341	300 or 342
		280	

### **095 Intermediate Algebra (3.00)**

A standard course in intermediate algebra (high school Algebra II) covering equations, exponents and radicals, rational expressions, graphing, and logarithms. It is designed to prepare students for MTH 111 or 121. This course does not count toward a major or minor in mathematics. It does not count toward graduation. It does count toward full-time status. Prerequisite: One year high school algebra or placement test.

**107 Elementary Mathematics I (3.00)**

Essentials of mathematics for the prospective elementary teacher to include cognitive reasoning, sets, logic and structure of arithmetic through the real numbers including numeration systems, percents, proportions, and number theory. Emphasis on problem solving techniques. Prerequisites: Intermediate Algebra, high school geometry, Elementary Education major.

**108 Elementary Mathematics II (3.00)****IAI: M1 903**

Continuation of MTH 107 to include Euclidean and transformational geometry, measurement and the metric system, basic algebra, probability, and applied statistics. Emphasis on problem solving. Prerequisites: MTH 107, high school geometry, Elementary Education major. Core: Mathematics.

**111 Quantitative Reasoning (3.00)**

This course is designed to fulfill the general education core requirement in mathematics for students whose majors do not require specific skills in mathematics. The course focuses on mathematical reasoning. A maximum of four of the following topics are covered in-depth: graph theory, logic, game theory, linear programming, and statistics. Use of the computer or an algebraic calculator is a part of this course. Prerequisite: MTH 095 or two years high school algebra. Core: Mathematics.

**118 Finite Mathematics (3.00)**

An introduction to mathematical and critical thinking skills with applications. Topics include symbolic logic, set theory, elementary combinatorics, probability and statistics, mathematics of finance, applications of linear functions and equations, and may include applications of matrices. Prerequisite: MTH 095 or 2 years of high school algebra. Core: Mathematics.

**121 College Algebra (3.00)**

This course covers the algebra skills needed for the study of calculus. Topics include linear, quadratic, and absolute value equations and inequalities; graphs of linear, quadratic, and rational functions; graphs, properties, and applications of exponential and logarithmic functions. Students may not receive credit for both MTH 121 and MTH 140. Prerequisite: MTH 095 or two years high school algebra.

**122 College Trigonometry (3.00)**

This course covers the topics in trigonometry and the theory of equations needed for the study of calculus. Topics include definitions and graphs of the trigonometric functions, solutions of triangles, conic sections, systems of equations, DeMoivre's theorem, and theory of equations. Students may not receive credit for both MTH 122 and MTH 140. Prerequisite: MTH 121 or 2 1/2 years high school algebra.

**130 Calculus for Business and Social Sciences (3.00)**

An introductory course in the elements of the differential and integral calculus, including applications in business and social sciences. To include: limits and continuity, differentiation and integration of algebraic functions, max/min theory, exponential functions and their calculus. Students may not receive credit for MTH 130 and either MTH 141 or MTH 151. This course does not prepare students for MTH 152. Prerequisite: One of MTH 121, MTH 140, or three years high school algebra. Core: Mathematics.



**140 Integrated Calculus I: Calculus of Limits (3.00)**

An integrated calculus course which combines the study of algebraic and trigonometric functions with a formal development of the limit. Students may not receive credit for MTH 140 and any of MTH 121, MTH 122, or MTH 151. Prerequisites: Four years of high school mathematics, including trigonometry and geometry.

**141 Integrated Calculus II: Calculus of Derivatives (3.00)**

An integrated calculus course which combines the study of exponential, logarithmic and inverse trigonometric functions with a formal development of the derivative. Students may not receive credit for MTH 141 and any of the following: MTH 122, MTH 130, or MTH 151. Prerequisite: MTH 140 or consent of the instructor. Core: Mathematics.

**151 Calculus I (3.00)****IAI: M1 900**

Fundamental concepts of calculus including limits, continuity, and differentiation with applications. The Calculus I, II, and III sequence is recommended for students in the Division of Science as well as for students in other divisions desiring a strong preparation in mathematics. Students may not receive credit for MTH 151 and any of the following: MTH 130, MTH 140, or MTH 141. Prerequisites: MTH 121 and MTH 122; or four years high school math including algebra, geometry, and trigonometry. Core: Mathematics.

**152 Calculus II (3.00)****IAI: M1 900**

Continuation of Calculus I with emphasis on integration and its applications. Required for the B.S. degree in any department. Prerequisite: MTH 141 or MTH 151. Core: Mathematics.

**153 Calculus III (3.00)****IAI: M1 900**

Continuation of Calculus II with an emphasis on infinite series. Prerequisite: MTH 152. Core: Mathematics.

**230 Discrete Structures I (3.00)****IAI: M1 905**

(Same as: CSC 230.) Fundamental topics in mathematics and computer science including formal logic, proof techniques, sets, relations and functions, combinatorics, graphs, logic circuits, and finite state machines. Prerequisites: CSC 160, MTH 121 or higher or appropriate placement. Core: Mathematics.

**231 Discrete Structures II (3.00)**

(Same as: CSC 231.) A second course in discrete mathematics that introduces more advanced topics as well as covering some of the material introduced in CSC/MTH 230 in more depth. Topics include growth of functions and complexity of algorithms; number theory; recursive definition and algorithms; proof techniques; program verification; discrete probability; finite state automata; and formal grammars and language recognizers. Hands-on labs allow students to apply one or more course topics to build practical working systems. Prerequisite: CSC/MTH 230.

**254 Calculus IV (3.00)**

Functions of two or more variables, partial derivatives, multiple integrals, and line integrals. Vector analysis, divergence and Stokes's theorems. Prerequisite: MTH 153. Core: Mathematics.

**256 Introduction to Differential Equations and Linear Algebra (3.00)**

First and second order differential equations, complex numbers, matrix and vector algebra, systems of linear equations, vectors, eigenvalues and eigenvectors. Students may not receive credit for both MTH 256 and MTH 315. Prerequisite: MTH 152.

**280 The Nature of Proof in Mathematics (3.00)**

The study of the nature of proof in mathematics. Students learn to find examples and counterexamples of abstractly defined objects and to generalize from those examples to conjecture theorems of their own. Specific proof techniques are taught within the context of subject matter chosen by the instructor. Prerequisite: MTH 152.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****300 Linear Algebra (3.00)**

Vector spaces, linear transformations, inner products, eigenvalues and eigenvectors, Gram-Schmidt process, and orthogonal transformations. Prerequisite: MTH 153. MTH 280 recommended.

**305 College Geometry (3.00)**

Euclidean and non-Euclidean geometry in two and three dimensions. Axiomatics and the nature of proof. Required for secondary education majors in mathematics. Prerequisite: MTH 153.

**310 History of Mathematics (3.00)**

An examination of the historical origins and genesis of important mathematical concepts from the ancient Greeks to modern times. Emphasis on the methodologies and philosophies of those involved in the creative process. Required for secondary education majors in mathematics. Prerequisite: MTH 153.

**315 Ordinary Differential Equations with Applications (3.00)**

First and second order differential equations; algebraic, numerical and graphical solutions; series solutions; applications. Students may not receive credit for both MTH 315 and MTH 256. Prerequisite: MTH 254 and MTH 300.

**323 Complex Variables (3.00)**

Algebra, geometry, and calculus with complex numbers. Transformations of the complex plane, analytic functions, Cauchy theory of integration, power series, and residue theory. Prerequisite: MTH 254.

**341 Probability & Statistics I (3.00)**

Basic laws of probability, discrete distributions, random variables, mathematical expectation, moment generating functions, Chebyshev's inequality, and Markov chains. Prerequisite: MTH 254.

**342 Probability & Statistics II (3.00)**

A continuation of MTH 341 to include continuous distributions, central limit theorem, estimations, hypothesis testing, and applications. Prerequisite: MTH 341.

**355 Applied Mathematical Techniques (3.00)**

(Same as: PHY 355.) Topics in applied mathematics, including series solutions, systems of linear and nonlinear differential equations, integral transforms with emphasis on the Laplace transform, Fourier series, partial differential equations, and survey of some advanced topics. Prerequisites: MTH 254, MTH 256.

**365 Theory of Interest (3.00)**

(Same as: FIN 365.) The study of compound interest and annuities; applications to problems in finance and actuarial science. Required for the major in actuarial science. Prerequisites: MTH 152; MTH 153 and FIN 350 are recommended.

**375 Problem Solving Seminar (1.00-3.00)**

An intensive seminar in problem solving. Intended to provide participants with the ability to solve non-routine problems. Useful preparation for mathematics competitions. Prerequisite: Junior or senior mathematics major, or instructor consent.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****421 Abstract Algebra I (3.00)**

Elementary theory of rings, fields, and groups, including modular arithmetic, polynomial rings, factorization, ideals and quotient rings, homomorphisms, and subgroups. Prerequisites: MTH 280 and at least one 300-level mathematics course.

**422 Abstract Algebra II (3.00)**

Advanced theory of rings, fields, and groups, including symmetric and alternating groups, structure theorems for finite abelian groups, principal ideal domains, unique factorization domains, the field of quotients of an integral domain, vector spaces, extension fields, finite fields, and the Galois Theory. Prerequisite: MTH 421.

**461 Real Analysis I (3.00)**

Sets, functions, properties and elementary topology of the real number system. Rigorous analysis of limits, sequences, series, continuity, differentiation, and integration theory. Prerequisites: MTH 280 and at least one 300-level mathematics course.

**462 Real Analysis II (3.00)**

A continuation of the topics from MTH 461. Prerequisites: MTH 300, MTH 461.

**473 Topology (3.00)**

Set theory, metric spaces, general topological spaces, continuous functions, connectedness, compactness, separation axioms, and metrization. Prerequisites: MTH 254, MTH 280, MTH 300.

**490 Seminar (3.00)**

Exploration of topics not included in other mathematics courses. Specific topics are determined by the interest of the students and faculty. Repeatable with different topic. Prerequisite: MTH 421 or MTH 461 or consent of instructor.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

# Modern and Classical Languages

*Professor: Norval Bard, Beverly Richard Cook, Sophie Hand,*

*Fukumi Matsubara, Gregory Wolf*

*Assistant Professors: Michael de Brauw, Alberto Fonseca, Silvia Goldman*

*Visiting Faculty: Jinai Sun, Monica Vuksanovich*

*Adjunct Faculty: Patricia Bayona, Silvana C. Benzoni, Jelena Sanchez*

## Mission Statement

The Modern Language programs prepare students to be informed global citizens by developing the linguistic and cultural skills needed to interact in personal and professional contexts throughout the world. Our programs provide instruction in a highly interactive and challenging environment while strongly advocating international experience.

The Classics program prepares students to be informed global citizens by developing an understanding of some of the cultures and languages that have played a formative role in the shaping of our contemporary world. The Classics program provides stimulating and challenging instruction in a highly interactive and interdisciplinary environment.

The department of Modern and Classical Languages offers majors and minors in French, German, Japanese, Spanish, and Classical Civilization, and a minor in Chinese.

Degree offered: B.A.

Study of a second language enables students to fulfill the goals of a traditional liberal arts education while preparing them to meet the professional challenges of the future. North Central College's commitment to fostering intercultural awareness across the curriculum makes language study particularly relevant for students in various disciplines, including Art, Business, English, History, Global Studies, Music, Philosophy, Political Science, Religious Studies, Sociology and Anthropology, and Theatre. Many graduate programs in these fields require competency in a second language, and an increasing number of employers are actively seeking graduates who can demonstrate proficiency in another language.

Certification for the teaching of language at the secondary level is available in French, German and Spanish. The Department of Modern & Classical Languages also offers courses that support the minor in English Language Learning (ELL) that language students may find interesting.

Upon completion of the major program, students should possess the speaking, writing and reading skills necessary to function effectively in a broad range of personal and professional contexts. Students will also have a fuller understanding of and appreciation for the social, political, and ethnic history of another culture. The language program at North Central College provides many opportunities for students to develop their language skills in informal settings outside the classroom. Language tables, film festivals, and field trips to museums, exhibits, theaters, concerts, and restaurants throughout the greater Chicago area are important components of our program.

The Roberta I. Myers Language Resource Center provides access to the latest technology designed to enhance the language learning experience. Students can listen to audio samples, watch video from around the world, and work with language tutors and other students in the LRC. Multi-media stations support the creation and editing of a variety of audio-video projects.

Students who would like to continue a language previously studied must take a placement exam. New freshmen and transfer students without college-level foreign language course work who studied French, German, Japanese or Spanish prior to enrolling at NCC may receive credit for work completed in high school. To receive credit, students may choose one of the following options: (1) College Level Examination Program (CLEP) (see CLEP Guidelines), or (2) Advanced Placement Test (AP) (see AP Guidelines). Note: Students who receive credit for work completed in high school and who wish to major or minor in language are strongly encouraged to take additional course work beyond the minimum major/minor requirements.

**Study Abroad** is encouraged by North Central to enrich the academic and personal experiences of students. The College currently sponsors the following study abroad opportunities: student exchanges in Nagoya, Chiba, Kyoto, Iwate, and Tokyo, Japan; Seoul, South Korea; Singapore; Taichung, Taiwan; Belfast, Northern Ireland; Angers, France; Istanbul, Turkey; Seville, Spain; Canterbury, England; Nairobi, Kenya; Athens, Greece; and Växjö, Sweden; term study abroad/ internship programs in San José, Costa Rica; Canterbury, England; Beijing, China; and Kyoto, Japan; and direct enrollment programs in Australia, England, Germany, Ghana, India, Ireland, Italy, Jordan, Mexico, Peru, People's Republic of China, and Scotland. In addition, programs are available through ANAC (Association of New American Colleges), Global Student Teaching, and SIROL.

Study abroad must be planned and arranged in consultation with the study abroad advisor by the end of the winter term of the year preceding the academic year in which the student plans to study abroad. Such study, undertaken without prior approval of the study abroad advisor, may not be accepted for credit at North Central.

### **Major in French**

A major in French consists of at least 30 credit hours, at the level of 201 or above, including three credit hours at the 400-level.

### **Major in German**

A major in German consists of at least 24 credit hours, at the level of 103 or above, including three credit hours at the 400-level.

### **Major in Japanese**

A major in Japanese consists of at least 30 credit hours at the 103 level or above, including six credit hours at the 400-level, three of which must be JPN 490. A minimum of one term of study in Japan, and EAS 292 are also required.

### **Major in Spanish**

A major in Spanish consists of at least 30 credit hours at the level of 201 or above, including three credit hours at the 400-level, and a minimum of one ten-week term of study in a Spanish-speaking country. During the term abroad, a minimum of six credit hours must be earned in the Spanish language.

Students seeking a major in the modern languages are strongly encouraged to take additional language coursework beyond the minimum major requirements.

### **Minor in Modern Languages**

A minor in Chinese, French, German, Japanese, or Spanish consists of at least 18 credit hours, including six credit hours at the 300-level.

### Classical Civilization Major

Classical civilization traces the intellectual and cultural roots of Western civilization through the study of ancient Greece and Rome. The program offers courses in Greek and Latin languages and literatures, ancient history and mythology. The study of Classical Civilization complements many other disciplines, including foreign language, literature, history, religion and art and prepares students for a variety of careers.

A major in Latin and Classical Civilization consists of at least 27 credit hours, including:

Core of 18 hours, consisting of:

12 credit hours in Latin language courses taken from:

LAT 101, 102, 103, 201, 220, 299, 399, 499.

6 credit hours of additional Latin or Classical Civilizations coursework, consisting of 3 credit hours at the 400-level and 3 credit hours at the 300- or 400-level, taken from:

CLS 310, 399, 410, 499; or LAT 399, 499.

Electives: 12 credit hours selected from:

CLS 250	Classical Mythology
ART 272	Art History I: Prehistoric to Medieval Art
HOI 102	History of Ideas I: Greek and Hebrew Thought
HOI 103	History of Ideas II: Roman and Christian ThoughtI
HST 256	Medieval and Renaissance Europe
HST 255	Greek and Roman History
PHL 260	Ancient and Medieval Philosophy
THE 359	Theatre History and Literature I

### Classical Civilization Minor

A minor in Latin and Classical Civilization consists of 18 credit hours, including:

Core of 12 hours, consisting of:

9 credit hours in Latin language courses taken from:

LAT 101, 102, 103, 201, 220, 299, 399, 499.

3 credit hours of additional Latin or Classical Civilizations coursework, at the 400-level, taken from:

CLS 410, 499, or LAT 499.

Electives: 12 credit hours selected from:

CLS 250	Classical Mythology
CLS 310	Topics in Greek and Roman Culture
ART 272	Art History I: Prehistoric to Medieval Art
HOI 102	History of Ideas I: Greek and Hebrew Thought
HOI 103	History of Ideas II: Roman and Christian ThoughtI
HST 256	Medieval and Renaissance Europe
HST 255	Greek and Roman History
PHL 260	Ancient and Medieval Philosophy
THE 359	Theatre History and Literature I

## MODERN AND CLASSICAL LANGUAGES (MCL)

### 380 Theoretical Foundations of Teaching ESL/Bilingual Students (3.00)

This course provides students with an overview of the theoretical foundations of ESL and bilingual education. Students are introduced to the historical, philosophical, political, social, and educational issues that have contributed to models serving language minority students. A focus on second language acquisition and its impact on learning is provided. Historical trends and legal issues related to second language learning and bilingual education in the United States are discussed.

**382 Cross-Cultural Studies for Teaching English Language Learners (3.00)**

This course focuses on students' development of an awareness and understanding of various cultural and linguistic factors that are important in addressing the needs of English language learners. Based on theories of cultural studies and intercultural communication, students examine and analyze behavioral expectations and learning styles of learners from different cultural backgrounds and their impact on cross-cultural teaching and learning. Includes 10 hours of clinical experience. Prerequisite: MCL 380.

**390 Topics in Language and Culture (3.00)**

Intensive study of an interdisciplinary topic with special focus on culture and the role of linguistic and/or lexical diversity. Content varies from course to course. Prerequisite: Transfer student with a minimum of 48 transferred credit hours. ACR: Intercultural.

**480 Senior Language Certification Portfolio (1.00)**

Creation, revision, and compilation of language teaching artifacts reflective of state course content requirements for secondary language certification. This course is required of all language majors minoring in secondary education or certification-only students completing requirements for secondary language teaching. Students must register for and complete this credit before graduation, preferably during the term before student teaching. Prerequisites: A minimum of 15 credits in Spanish, French, or German above SPN 310, FRN 310, or GER 203.

**CLASSICAL LANGUAGES****CLASSICS (CLS)****250 Classical Mythology (3.00)**

An introduction to Ancient Greek and Roman myths, legends and epic-tales, their origins, development and cultural context. Core: Humanities.

**255 Greek and Roman History (3.00)**

(Same as: HST 255.) The rise, predominance, and fall of Greece and Rome, with emphasis on the workings of their governments. Prerequisite: One humanities or social science course. Core: Humanities or Social Science.

**299 Independent Study (1.00-9.00)****310 Topics in Greek and Roman Culture (3.00)**

This course provides an opportunity to explore a specific topic in ancient Greek and/or Roman culture. Topics may include daily life, cities, gender, athletics, education, art, archaeology, or religion. Specific attention is paid to questions arising from the interpretation of sources, both literary and archaeological, through which ancient culture is preserved. The course is repeatable when different topics are covered. Prerequisite: One 200 level course in Humanities or Social Science.

**390 Topics (3.00)**

Advanced tutorial courses in selected areas.

**399 Independent Study (1.00-9.00)**

**410 Classical Literature in Translation (3.00)**

In-depth study of a major Roman or Greek author. Texts vary. Repeatable with different subject. Prerequisite: At least one 200- or 300-level history or literature class.

**499 Independent Study (1.00-9.00)****LATIN (LAT)****101 Elementary Latin I (3.00)**

An introduction to basic elements of Latin grammar and syntax, etymology, and basic translation into idiomatic English; includes a review of the principles of English grammar.

**102 Elementary Latin II (3.00)**

An introduction to intermediate elements of Latin grammar and syntax including the passive system, case functions, and participles. Prerequisite: LAT 101.

**103 Elementary Latin III (3.00)**

An introduction to advanced elements of Latin grammar and syntax including the subjunctive and complex sentences; attention paid to increased reading comprehension. Prerequisite: LAT 102.

**201 Intermediate Latin (3.00)**

An introduction to Latin prose writing through readings of Roman historians, philosophers, and politicians. Texts vary. Prerequisite: LAT 103.

**220 Readings in Latin (3.00)**

Advanced reading of Latin poetry and prose. Texts vary. Repeatable with different texts. Prerequisite: LAT 201 or equivalent. Core: Humanities.

**299 Independent Study (1.00-9.00)****399 Independent Study (1.00-9.00)****499 Independent Study (1.00-9.00)****MODERN LANGUAGES**

NOTE: Once CHI 310, FRN 310, GER 310, JPN 310 or SPN 310 has been successfully completed, courses below the level of 310 in the same language may not be taken for credit except with consent of the Chair of the Department of Modern and Classical Languages.

**CHINESE (CHI)****101 Elementary Chinese I (3.00)**

Introduction to the basic structure of Chinese language. Pronunciation and tonal accuracy are strongly stressed, with gradual development of speaking and listening skills.

**102 Elementary Chinese II (3.00)**

A continuation of Elementary Chinese I. Prerequisite: CHI 101.



**103 Elementary Chinese III (3.00)**

A continuation of Elementary Chinese II. Prerequisite: CHI 102.

**201 Intermediate Chinese I (3.00)**

Continued development of verbal communication skills, with introduction of proverbs and idioms. Writing skills are emphasized, and students are exposed to important cultural aspects of the Chinese language. Prerequisite: CHI 103.

**202 Intermediate Chinese II (3.00)**

A continuation of Intermediate Chinese I. Prerequisite: CHI 201.

**203 Intermediate Chinese III (3.00)**

A continuation of Intermediate Chinese II. Prerequisite: CHI 202.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****310 Conversation and Composition (3.00)**

Focuses on continued development and expansion of vocabulary, oral proficiency, and writing skills. Students read, discuss, and summarize texts. Prerequisite: CHI 203.

**311 Contemporary Chinese Culture Through Films and Literary Works (3.00)**

This course draws connections between the everyday Chinese life and Confucianism by focusing on significant social issues over the past 100 years. Topics explored include the family structure, parent-child relationships, the evolving role of women, gender issues, and other profound changes and developments taking place in contemporary Chinese cultures. Prerequisite: CHI 310.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****FRENCH (FRN)****101 Elementary French I (3.00)**

Introduction to the basic structures of the French language, with emphasis on listening and speaking.

**102 Elementary French II (3.00)**

A continuation of Elementary French I. Prerequisite: FRN 101.

**103 Elementary French III (3.00)**

A continuation of Elementary French II. Prerequisite: FRN 102.

**201 Intermediate French I (3.00)**

Development of reading and writing skills, with continued emphasis on listening and speaking. Prerequisite: FRN 103.

**202 Intermediate French II (3.00)**

A continuation of Intermediate French I. Prerequisite: FRN 201. Core: Humanities.

**203 Intermediate French III (3.00)**

A continuation of Intermediate French II. Prerequisite: FRN 202.

**250 Techniques in French Composition (3.00)**

Emphasis on improving proficiency through grammar review, advanced writing and discussion of short texts. Prerequisite: FRN 203.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****310 Style and Structure in French Composition (3.00)**

Emphasis on improving oral and written proficiency through the study and discussion of core texts. Students develop a sense of the various techniques that contribute to style and use these techniques in their own writing. Prerequisite: FRN 250.

**320 Le Francais Commercial (2.00)**

An introduction to French company organization and related activities (employment, correspondence, simulated transactions), with emphasis on the language skills needed to function effectively in a French business setting. Prerequisite: FRN 310.

**325 Survey of French Literature - Medieval to 17th Century (3.00)**

An overview of major works of French literature from the Middle Ages to the 17th century. Prerequisite: FRN 310.

**326 Survey of French Literature - 18th to 21st Century (3.00)**

An overview of major works of French literature from the 18th century to the present. Prerequisite: FRN 310.

**327 Survey of French and Francophone Women Writers (3.00)**

An introduction to the works of women writers from Medieval France to contemporary France and Francophone cultures. Prerequisite: FRN 310.

**330 History of France (3.00)**

The development of French culture and civilization from its origins to the beginning of the Fifth Republic. Prerequisite: FRN 310. Core: Humanities.

**331 Contemporary France (3.00)**

The institutions and social structures of France from the establishment of the Fifth Republic to the present. Prerequisite: FRN 310. Core: Social Science.

**338 Vichy France (3.00)**

A study of France under the Nazi occupation in World War II, including a focus on collaboration, rescue and resistance, survival, and memory. Prerequisite: FRN 310. ACR: Leadership, Ethics and Values.

**370 Francophone Africa (3.00)**

An exploration of the socio-cultural changes in Francophone Africa resulting from colonization and independence, as reflected in contemporary and traditional literature. Prerequisite: FRN 310.

**380 French Cinema (3.00)**

The history and development of French cinema from the Lumiere Brothers to the present. Prerequisite: FRN 310 and one other 300-level French course.

**390 Topics (3.00)**

Advanced study of selected literary and cultural topics. Repeatable with different topic. Prerequisite: One 300-level French course or consent of instructor.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****420 Medieval French Literature (3.00)**

A selection of genres, authors, and texts from various periods in the French Middle Ages. Prerequisite: FRN 310 and one other 300-level French course, or consent of instructor.

**470 Humor in French Literature (3.00)**

A study of comic modes throughout French literary history, with an emphasis on theoretical approaches to the questions that literary humor raises. Prerequisite: FRN 310 and one other 300-level French course, or consent of instructor:

**480 French Theatre (3.00)**

An in-depth study of the major developments in French theatre, from the 17th century to the 20th. Prerequisite: FRN 310 and one other 300-level French course.

**490 Seminar (3.00)**

Advanced study focusing on a specific literary or cultural topic, with emphasis on student-directed inquiry and the development of individual projects and presentations. Repeatable with different topic. Prerequisite: FRN 310 and one other 300-level French course.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)****GERMAN (GER)****101 Elementary German I (3.00)**

Introduction to the basic structures of the German language, with emphasis on listening and speaking.

**102 Elementary German II (3.00)**

A continuation of Elementary German I. Prerequisite: GER 101.

**103 Elementary German III (3.00)**

A continuation of Elementary German II. Prerequisite: GER 102.

**201 Intermediate German I (3.00)**

Speech, writing, and reading for the discussion of literary, historical, and cultural topics. Prerequisite: GER 103.

**202 Intermediate German II (3.00)**

A continuation of Intermediate German I. Prerequisite: GER 201. Core: Humanities. **IAI: H1 900L**

**203 Conversation and Composition I (3.00)**

Focuses on the continued development of oral and written proficiency. Students write and rewrite several short compositions. Prerequisite: GER 202. **IAI: H1 900L**

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****310 German Life and Culture after World War II (3.00)**

Offers students an introduction to life and culture in East and West Germany after World War II. Specific focus is placed on the founding of the countries, the Cold War, the 1953 uprising, the Berlin Wall, Communism, and unification. Prerequisite: GER 203 or consent of instructor.

**320 German History and Culture (3.00)**

A survey of major sociological, political, and artistic events in German-speaking lands from their origins to the present. Prerequisite: GER 203 or consent of instructor. Core: Humanities.

**325 Survey of German Literature (3.00)**

Survey of principal German authors, periods, and genres. Prerequisite: GER 203 or consent of instructor.

**330 The Weimar Republic (3.00)**

A contextualized study of the life and culture during the Weimar Republic in Germany. Special attention is given to the literature, film, and visual art of the period. Prerequisite: GER 203.

**350 German Film (3.00)**

This course introduces students to the history and development of German film. Films are analyzed within their historical epoch, but also as cultural documents problematizing aspects of German life and history. Prerequisite: GER 203 or permission of instructor.

**370 Berlin: A City in Flux (3.00)**

A study of the dynamic German city, from its time as the capital of the Prussian kingdom, its cultural and economic rise in the German Empire, through its changes in the Weimar Republic, during the Third Reich, throughout its division during the Cold War, and finally after German unification in 1990. Prerequisite: GER 203.

**390 Topics (3.00)**

Advanced study of selected literary and cultural topics. Course topics may include studies on specific authors, such as Bertolt Brecht, periods and epochs, such as Expressionism or Exile Literature, or specific themes. Repeatable with different topic. Prerequisite: One course in German at the 300 level.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****490 Seminar (3.00)**

Advanced study of selected literary and cultural topics. Topics may include studies on specific authors, such as Bertolt Brecht, periods and epochs, such as Expressionism or Exile Literature, or specific themes. Repeatable with different topic. Prerequisite: One course in German at the 300 level.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

**JAPANESE (JPN)****101 Elementary Japanese I (3.00)**

Introduction to the basic structures of the Japanese language through aural-oral practice and drills. A good command of kana syllabaries (hiragana and katakana) and the ability to reproduce about 100 kanji (Chinese characters) is expected by the end of the Elementary Japanese sequence.

**102 Elementary Japanese II (3.00)**

A continuation of JPN 101. Prerequisite: JPN 101.

**103 Elementary Japanese III (3.00)**

A continuation of JPN 102. Prerequisite: JPN 102.

**201 Intermediate Japanese I (3.00)**

Emphasis on further development of listening and speaking skills. The introduction of basic grammar is completed by the end of the Intermediate Japanese sequence. Introduction of vocabulary and kanji is accelerated. Prerequisite: JPN 103.

**202 Intermediate Japanese II (3.00)**

A continuation of Japanese 201. Prerequisite: JPN 201. Core: Humanities.

**203 Intermediate Japanese III (3.00)****IAI: H1 900L**

A continuation of Japanese 202. Prerequisite: JPN 202.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****301 Third-Year Japanese I (3.00)**

Development of reading and writing skills, with continued emphasis on listening and speaking. Introduction of intermediate-level grammar, vocabulary, and kanji. Prerequisite: JPN 203 or instructor consent.

**302 Third-Year Japanese II (3.00)**

A continuation of Third-Year Japanese I. Prerequisite: JPN 301 or instructor consent.

**303 Third-Year Japanese III (3.00)**

A continuation Third-Year Japanese II. Prerequisite: JPN 302 or instructor consent.

**390 Topics (3.00)**

An advanced course in a selected topic. Topics may include Japanese in the workplace, Japanese literature, Japanese films, Japanese culture and history, or advanced grammar. Repeatable with different content. Prerequisite: JPN 351 or instructor consent.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****410 Reading and Grammar II (3.00)**

Further development of reading proficiency with continued emphasis on expansion of grammatical understanding, vocabulary, and kanji. The reading

texts may include short stories, advertisements, and articles from magazines and newspapers. Practices of reading strategies are incorporated. Repeatable with different content. Prerequisite: JPN 390 or instructor consent.

**451 Writing and Grammar II (3.00)**

Further development of fluency in written and oral Japanese through reading and writing various types of texts. Continued emphasis on grammatical understanding, vocabulary, and kanji. Repeatable with different content. Prerequisite: One 400-level Japanese course or instructor consent.

**490 Seminar (3.00)**

The content-based study of a selected topic. Special emphasis on student-directed inquiry and the development of individual projects and presentations. Repeatable with different content. Prerequisite: Study abroad in Japan or instructor consent.

**497 Internship (0.00-9.00)**

**499 Independent Study (1.00-9.00)**

**SPANISH (SPN)**

**101 Elementary Spanish I (3.00)**

Introduction to the basic structures of the Spanish language, with emphasis on listening and speaking.

**102 Elementary Spanish II (3.00)**

A continuation of Elementary Spanish I. Prerequisite: SPN 101.

**103 Elementary Spanish III (3.00)**

A continuation of Elementary Spanish II. Prerequisite: SPN 102.

**177 Intensive Spanish in Costa Rica (6.00)**

Intensive study of spoken and written Spanish. Level is determined by placement exam given upon arrival in Costa Rica.

**201 Intermediate Spanish I (3.00)**

Speaking, reading, and writing for the discussion of most socio-cultural topics. Prerequisite: SPN 103.

**202 Intermediate Spanish II (3.00)**

A continuation of Intermediate Spanish I, with emphasis on study of complex grammatical structures. Special focus on oral communication. Prerequisite: SPN 201. Core: Humanities. **IAI: H1 900L**

**250 Spanish Conversation and Composition I (3.00)**

Emphasis on conversational and communicative skills; focus on improvement of written proficiency intensive practice in writing various types of prose (descriptive and narrative); includes grammar review. Prerequisite: SPN 202.

**277 Intensive Spanish in Costa Rica (6.00)**

Intensive study of spoken and written Spanish. Level is determined by placement exam given upon arrival in Costa Rica.

**297 Internship (0.00-9.00)**

**299 Independent Study (1.00-9.00)****310 Spanish Conversation and Composition II (3.00)**

Emphasis on literary and film analysis while continuing to build on communicative skills; focus on improvement of written proficiency through intensive practice in writing various types of prose (expository and research); may include some grammar review. Prerequisite: SPN 250.

**322 Spanish for the Professions (3.00)**

Oral and written practice focused on the special terminology of various professions including business, the health professions, social services, and legal/law enforcement. Emphasis is placed on simulation of real life situations and methods of communication. For advanced level students. Prerequisite: SPN 310.

**325 Survey of Peninsular Spanish Literature (3.00)**

An overview and analysis of the principal literary periods of Spain from the Middle Ages through the present. Special emphasis is placed on selected works, authors, and schools of thought. Prerequisites: SPN 310.

**327 Modern Spanish Theatre (3.00)**

A study of representative dramatic works from Spain from the period of La generación del 98 to the present. Emphasis is placed on dramatic theory with regard to Spanish history, literary analysis, and experimental performance. Prerequisite: SPN 310.

**331 Latin American Area & Civilization (3.00)**

Natural, social, and political characteristics of contemporary Latin America. Prerequisite: SPN 310. Core: Social Science.

**333 Civilization & Culture of Spain (3.00)**

An overview of the history, customs, institutions, cultural patterns, and heritage of the Spanish people from earliest times to the present. Prerequisite: SPN 310. Core: Humanities.

**335 Survey of Latin American Literature (3.00)**

An overview and analysis of the principal literary periods of Latin America from the pre-Hispanic era to the present. Special emphasis is placed on selected works, authors, and schools of thought. Prerequisites: SPN 310.

**337 Latin American Short Story (3.00)**

Traces the development of the short story genre in Latin America from its origins in the nineteenth century through the Boom authors and into present day. Special emphasis may be placed on particular periods and national movements of authors. Prerequisites: SPN 310.

**377 Intensive Spanish in Costa Rica (6.00)**

Intensive study of spoken and written Spanish. Level is determined by placement exam given upon arrival in Costa Rica.

**390 Topics (3.00)**

Advanced courses in a selection of topics. Topics may include study of a literary genre, movement, author, Hispanic linguistics, or some aspect of Hispanic culture. Repeatable with different topic. Prerequisite: SPN 310.

**397 Internship (0.00-9.00)**

**399 Independent Study (1.00-9.00)****477 Intensive Spanish in Costa Rica (6.00)**

Intensive study of spoken and written Spanish. Level is determined by placement exam given upon arrival in Costa Rica.

**490 Seminar (3.00)**

In-depth study of a literary genre, movement, author, or a topic on Hispanic culture or language. Repeatable with different topic. Prerequisite: minimum of one Spanish literature course at the 300-level, and senior standing or instructor consent.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Music (MUS)

*Professors: Jeordano Martinez, Lawrence Van Oyen, Ramona Wis*

*Assistant Professor: Jonathon J. Kirk*

*Visiting Faculty: Jacqueline T. Schutt*

*Adjunct Faculty: Linda Ogden Hagen, Eugene (Jack) Mouse,  
Barbara Vanderwall*

*Applied Music Faculty: Joel Adams, Marie Bennett, George Blanchet,  
Janice Borla, Reed Capshaw, Frank Caruso, Kathy Christian,  
Tim Clifford, James Cox, Andrea DiOrio, Cathy Dunafin,  
Thomas Dymit, Mara Gallagher, Kurtis Gildow, Brett Goad,  
David Grant, Paul Grizzell, Nick Janssen, Mary Ann Kastner,  
Angela Korbitz, Janet Kurinsky, Claire Langenburg, David Lesniak,  
Paul Lowry, Nicole Luchs, John McLean, Kelly Mielcarz,  
Elizabeth Ducey Moss, Daniel O'Connell, Mitch Paliga, Kim Richter,  
Doug Scharf, James Schopp, Bradley Stirtz, John Timmins,  
Victoria VerHoven, Ben Wahlund, Ann Waldron, Jon Warfel,  
Tricia L. Wlazlo*

### Mission Statement

The mission of the Department of Music is to provide opportunities for students to acquire the skills, knowledge, understanding, and experience to become successful artists, broadly thinking educators and life-long appreciators of music.

Degree offered: B.A.

### Music Education Major

Music Education is the largest music degree program at North Central College, with approximately 60 majors. Students in Music Education complete core music requirements in theory/musicianship, music literature/history, conducting, methods/pedagogy, and private study/ensembles, along with a comprehensive set of courses and clinical experiences in education. Music Education majors also have numerous opportunities for leadership through the



student chapters of NAFME (the field's leading professional organization) and ACDA (American Choral Directors Association), and in ensembles, productions, and special programs.

## 1. Music Requirements:

### A. Instrumental Music Education track:

MUS 101, 102, 201, 202, 341, 342 (Theory sequence; must be taken concurrently with Musicianship)

MUS 108, 109, 208, 209, 343 (Musicianship sequence; must be taken concurrently with Theory)

MUS 250, 251 (Music Literature)

MUS 301, 302, 303 (Music History)

MUS 322, 323, 324, 325 (Instrumental Techniques; choose three of four)

MUS 344 (Elements of Conducting)

EDN 351, 352 (Elementary School Music Methods and Practicum)

EDN 353, 371 (Secondary School Music Methods and Practicum)

MUS 407 (Instrumental Conducting and Techniques)

Participation in an approved instrumental ensemble each term in the program.

Participation in classical private instrument study each term in the program.

Private piano lessons until the Piano Proficiency Exam is completed.

Junior recital.

Successful completion of the Piano Proficiency Exam and the Comprehensive Musicianship Exam.

Completion of 11 terms of Concert/Recital Attendance.

Recommended: Attendance at the annual IMEA All-State Conference

### B. Choral Music Education track:

MUS 101, 102, 201, 202, 341, 342 (Theory sequence; must be taken concurrently with Musicianship)

MUS 108, 109, 208, 209, 343 (Musicianship sequence; must be taken concurrently with Theory)

MUS 250, 251 (Music Literature)

MUS 301, 302, 303 (Music History)

MUS 322, 323, 324, 325 (Instrumental Techniques classes; choose one)

MUS 328 (Diction for Singers)

MUS 329 (Vocal Pedagogy)

MUS 344 (Elements of Conducting)

EDN 351, 352 (Elementary School Music Methods and Practicum)

EDN 353, 371 (Secondary School Music Methods and Practicum)

MUS 408 (Choral Conducting and Techniques)

Participation in an approved choral ensemble each term in the program.

Participation in classical private voice study each term in the program.

Private piano lessons until the Piano Proficiency Exam and Comprehensive Musicianship Exam are completed.

Junior recital.

Successful completion of the Piano Proficiency Exam and the Comprehensive Musicianship Exam.

Completion of 11 terms of Concert/Recital Attendance.

Recommended: Attendance at the annual IMEA All-State Conference

NOTE: Each student is expected to take primary ensemble and private lessons on the student's primary instrument **for credit**. Only when the student would exceed the amount of credits applicable to the degree, or in unavoidable

circumstances where the student will exceed 12 credit hours in a term, may the student register for “no credit.” Under no circumstances may the student participate in an ensemble or take private lessons without registering.

## **2. A minor in Secondary Education is required.**

### **Music Major**

#### **A. Jazz Studies Track**

The Jazz Studies program at North Central College is fully staffed with an adjunct faculty of world-renowned professional jazz artists, whose combined credits read like a veritable “Who’s Who” of jazz. The program affords students the opportunity to study firsthand with these highly visible professional artists, all of whom are currently active within the art form as well as being experienced jazz educators.

In addition to intensive one-on-one instruction, students also pursue studies in jazz harmony, jazz history, and jazz improvisation. Ensemble and performance opportunities include Jazz Combos, Vocal Jazz Ensemble, and Big Band, all of which participate in numerous jazz events throughout the year, both on and off campus. The College’s close proximity to one of the world’s great centers of jazz enables students to observe and participate in the Chicago area’s active music scene.

#### **Major Requirements:**

MUS 101, 102, 201 (Theory sequence; must be taken concurrently with Musicianship)

MUS 108, 109, 208 (Musicianship sequence; must be taken concurrently with Theory)

MUS 250 and 251 (Music Literature)

MUS 181 Jazz Improvisation I

MUS 182 Jazz Improvisation II

MUS 260 Jazz Harmony I

MUS 261 Jazz Harmony II

MUS 281 Jazz Improvisation III

MUS 282 Jazz Improvisation IV

MUS 305 Jazz History I

MUS 306 Jazz History II

Three terms of applied jazz music

Three terms of applied classical music (MUS 211, 221, or 231)

Nine terms of jazz ensemble

Successful completion of the Jazz Piano Proficiency Exam

Completion of a 30 minute Junior Instrumental or Vocal Jazz Recital

Completion of a 60 minute Senior Instrumental or Vocal Jazz Recital.

Under special circumstances a Senior Project (such as a composition recital or conducting lecture/recital) may be substituted for the Senior Recital. Department Chair permission is required for a Senior Project.

#### **B. Liberal Arts Track**

The liberal arts track in Music is for the student who wishes to major in music but does not want to pursue a teaching career or a performance career in jazz. Students in the liberal arts track take the same academic core of theory/aural skills, music literature/history, and private study/ensembles as other music majors, but add to their degree program in other ways which meet their unique career goals and interests.

An individual program of study can be designed in consultation with the department chair or departmental advisor.

**Major Requirements:**

MUS 101, 102, 201, 202, 341, 342 (Theory sequence; must be taken concurrently with Musicianship)

MUS 108, 109, 208, 209, 343 (Musicianship sequence; must be taken concurrently with Theory)

MUS 250, 251 (Music Literature)

MUS 301, 302, 303 (Music History)

MUS 344 (Elements of Conducting)

Three to seven credit hours of Music electives

Participation in an approved performing ensemble each term in the program

12 terms of applied classical music (MUS 211, 221 or 331)

Completion of 12 terms of Concert/Recital Attendance.

Enrollment in MUS 211 (Piano Lessons) is required until the Piano Proficiency Examination is completed.

Successful completion of the Piano Proficiency Examination.

Completion of a 30 minute Junior Instrumental or Vocal Recital.

Completion of a 60 minute Senior Instrumental or Vocal Recital.

Under special circumstances a Senior Project (such as a composition recital or conducting/lecture recital) may substitute for the Senior Recital. Department Chair permission is required for a Senior Project.

Students interested in pursuing a degree in Music should contact the Music Department Chair as early as possible to plan a course of study.

## **Music Minor**

At least 18 credit hours, including:

MUS 101, 102, 201 (Theory; must be taken concurrently with Musicianship)

MUS 108, 109, 208 (Musicianship; must be taken concurrently with Theory)

A minimum of six credit hours at the 200-level.

Elementary Education majors completing an area of concentration in music must take a minimum of 18 credit hours, including 9 credit hours at the 200-level or above, and 3 credit hours at the 300-level or above.

Completion of six terms of Concert/Recital Attendance.

Recommended electives for the minor

MUS 202, 341, 342 (Theory)

MUS 209, 343 (Musicianship)

MUS 250, 251 (Music Literature)

MUS 344 (Elements of Conducting)

Performing ensembles.

Private vocal and/or instrumental study.

Independent study courses (for partial or full credit) designed to meet the student's interests and needs.

### **101 Basic Music Theory I (3.00)**

Study of basic notation rules, triads in root position, triads in first and second inversions voice leading rules, phrase structure, cadences, harmonic progressions, and rudimentary forms. Must be taken concurrently with MUS 108.

### **102 Basic Music Theory II (3.00)**

A study of non-harmonic tones, dominant seventh chords, altered non-harmonic tones, and seventh chords. This course includes the study of basic harmonization techniques using triads and seventh chords as well as the study and analysis of standard music literature. Prerequisite: MUS 101. Must be taken concurrently with MUS 109.

**108 Basic Musicianship I (1.00)**

Introduction to basic concepts of musicianship including rhythm performance and recognition, sight singing, and ear training. Must be taken concurrently with MUS 101.

**109 Basic Musicianship II (1.00)**

Continued basic work with sight singing, ear training, triad recognition, and melodic and rhythmic dictation. Must be taken concurrently with MUS 102.

**110 Cardinal Chorus (0.00-0.50)**

Cardinal Chorus is dedicated to the study and performance of a wide variety of choral repertoire and to the development of foundational choral and vocal skills such as sight-reading, tone color, choral diction, and blend and balance. Each term includes at least one public performance. No audition required, but a voice placement will take place as part of the rehearsal process each term.

**111 Concert Choir (0.00-0.50)**

The North Central Concert Choir performs a varied repertoire in three formal college concerts as well as occasional off-campus appearances. Membership is by audition and open to all North Central students with consent of instructor.

**112 North Central Express (0.00-0.50)**

Membership in the North Central Express is limited to 16 members and is by audition only. Auditions are held the second week of Fall Term. Repertoire is of a popular nature and performances are staged and choreographed. This group has frequent off-campus performances.

**113 Naperville Chorus (0.00-0.50)**

The Naperville Chorus is dedicated to the performance of large-scale musical works, with orchestral accompaniment and professional soloists. Membership is open without audition to anyone with previous singing experience.

**114 Concert Winds (0.00-0.50)**

Concert Winds performs a wide variety of music, including new music and works from the standard repertoire. Concert performances are scheduled both on and off campus. Auditions are held for placement within sections and for the select ensemble, Chamber Winds. Prerequisite: Ability to play appropriate instrument.

**115 Big Band (0.00-0.50)**

The 20-member Big Band performs a wide variety of large-ensemble jazz and popular music. Each year the ensemble performs at least three concerts on campus. Audition is required.

**116 Women's Chorale (0.00-0.50)**

The study and performance of choral music for women's voices. Each term culminates in one or more public performances. Audition is required.

**150 Listening to Music (3.00)****IAI: F1 900**

Introduction to the masterpieces of Western music; a broadly-based grounding in the rudiments of music, aesthetic values; and literature of the Baroque, Classical, Romantic, and contemporary periods. Core: Humanities.

**156 The World of Music (3.00)****IAI: F1 900**

Introductory course with examples drawn from the musics of the five continents: Asia, Africa, Europe, and North and South America. Core: Humanities.

**181 Jazz Improvisation I (3.00)**

Fundamentals of jazz harmony, rhythmic style and melodic development utilized in jazz improvisation. Technical, ear training, and improvisation exercises using the major scales and the dorian and mixolydian modes. Analysis, transcription, and performance of recorded jazz solos are used to illustrate these principles. Prerequisite: MUS 102.

**182 Jazz Improvisation II (3.00)**

Principles of jazz harmony, rhythmic style, and melodic development utilized in jazz improvisation. Technical, ear training, and improvisation exercises and jazz repertoire utilizing the ii-V-I harmonic progression, the blues scale and form, the aeolian and locrian modes, and the minor ii-IV-I harmonic progression. Analysis, transcription, and performance of recorded jazz solos illustrating these principles. Prerequisite: MUS 181.

**201 Intermediate Music Theory I (3.00)**

Study of altered dominant chords, modulation to closely related keys, borrowed chords, and diminished seventh chords as they apply to the form and analysis of standard music literature. Prerequisite: MUS 101, 102. Must be taken concurrently with MUS 208.

**202 Intermediate Music Theory II (3.00)**

A study of extended chords, modulations to foreign keys, augmented sixth chords, Neapolitan sixth chords, and the tone row. A study of harmonization and modulations are applied to the analysis and form of standard music literature. Prerequisite: MUS 101, 102, 201. Must be taken concurrently with MUS 209.

**205 Opera Workshop (0.00-0.50)**

A basic study of performance techniques for the singer of musical theatre and opera, designed to give students experience in singing and acting through study and active participation in works of the musical stage. This course is repeatable.

**208 Intermediate Musicianship I (1.00)**

Intermediate work with sight singing, ear training, melodic and rhythmic dictation, seventh chords, and harmonic dictation. Must be taken concurrently with MUS 201.

**209 Intermediate Musicianship II (1.00)**

Continued intermediate work with sight singing, ear training, triad recognition, melodic and rhythmic dictation, seventh chords, and harmonic dictation. Introduction of modes, intervals beyond the octave, and hearing of forms. Must be taken concurrently with MUS 202.

**211 Piano Lessons (0.00, 0.50, 1.00)**

Available to all students. May be repeated. Students may take hour lessons for 1.0 credit with permission of the instructor. 1/2 hour lessons=0.5 credit; 1 hour lessons=1 credit; 0 credit option only for students who have reached 12 credit hour full time limit.

**221 Voice Lessons (0.00, 0.50, 1.00)**

Available to all students. May be repeated. Students may take hour lessons for 1.0 credit with permission of the instructor. 1/2 hour lessons=0.5 credit; 1 hour lessons=1 credit; 0 credit option only for students who have reached 12 credit hour full time limit.

**231 Instrumental Lessons (0.00, 0.50, 1.00)**

Available to all students. May be repeated. Students may take hour lessons for 1.0 credit with permission of the instructor. 1/2 hour lessons=0.5 credit; 1 hour lessons=1 credit; 0 credit option only for students who have reached 12 credit hour full time limit.

**241 Jazz Combo (0.00-0.50)**

A performance student chamber ensemble open to instrumentalists and vocalists with an interest in the improvisational art form of jazz. Audition is required.

**245 Vocal Jazz Lab Ensemble (0.00-0.50)**

A vocal workshop ensemble open to all students interested in the improvisational jazz as presented in a multi-voice setting. Audition is required.

**250 Music Literature I (2.00)****IAI: F1 901**

Composers and selected examples of their musical work in historical perspective. An introduction to musical styles, genres, and forms in Western music from the Middle Ages through the Classical Period. Prerequisite: MUS 101 or MUS 150. Core: Humanities.

**251 Music Literature II (2.00)****IAI: F1 902**

Composers and selected examples of their musical work in historical perspective. A study of the musical styles, genres, and forms in Western music from the Romantic Period through the present day. Prerequisite: MUS 101 or MUS 150. Core: Humanities.

**260 Jazz Harmony I (3.00)**

Music theory as it applies to Swing and Bebop Jazz styles. Scale/chord relationships; harmonic notation; standard sectional song forms; alterations, extensions, and substitutions. Prerequisite: MUS 102.

**261 Jazz Harmony II (3.00)**

Music theory as it applies to the stylistic changes which occurred in jazz after Bebop. Modal and chromatic harmony, polychords, pedal points, free playing, and quartal harmony. Prerequisite: MUS 260.

**281 Jazz Improvisation III (3.00)**

Intermediate principles of jazz harmony, rhythmic style, and melodic development utilized in jazz improvisation. Technical, ear training, and improvisation exercises and jazz repertoire utilizing the lydian and phrygian modes, sectional forms, the diminished mode, and the whole tone scale. Analysis, transcription, and performance of recorded jazz solos illustrating these principles. Prerequisite: MUS 182.

**282 Jazz Improvisation IV (3.00)**

Advanced principles of jazz harmony, rhythmic style, and melodic development utilized in jazz improvisation. Technical, ear training, and improvisation exercises and jazz repertoire utilizing the harmonic and melodic minor scales, altered lydian modes, pentatonic scales, and Coltrane substitutions. Analysis, transcription, and performance of recorded jazz solos illustrating these principles. Prerequisite: MUS 281.

**299 Independent Study (1.00-9.00)**

**301 Music History I (2.00)**

The study of Western music from ancient times through the Renaissance period. Prerequisites: Junior standing; MUS 250 and 251 or consent of instructor.

**302 Music History II (2.00)**

The study of Western music of the Baroque and Classical periods. Prerequisite: MUS 301 or consent of instructor.

**303 Music History III (2.00)**

The study of Western music from the Romantic period to the present day. Prerequisite: MUS 302 or consent of instructor.

**305 Jazz History I (3.00)**

The stylistic evolution of Jazz from its origins to 1945, examined within its American cultural context. Traces its historical development from early Combo Jazz through the Swing era to the development of Bebop. Prerequisite: MUS 102 or consent of instructor.

**306 Jazz History II (3.00)**

The stylistic evolution of modern jazz after Bebop; from 1945 to the present day, examined within its American cultural context. Traces the historical development of the diverse styles—Bop, Third Stream, Free Jazz, Fusion—co-existing within the contemporary Jazz idiom. Prerequisite: MUS 305 or consent of instructor.

**307 Chamber Ensemble (0.00-0.50)**

A variety of instrumental and vocal chamber ensembles, such as brass and woodwind quintets, string quartet, world music ensemble, or a cappella groups. Changes annually. Prerequisite: Audition or consent of instructor.

**311 Piano (0.00, 0.50, 1.00)**

Available to qualified juniors and seniors who have demonstrated the stipulated proficiency in their major performing area by passing with distinction a Jury-Exam at the end of the sophomore year where each plays approximately 15 minutes of memorized music. 1/2 hour lessons=0.5 credit; 1 hour lessons=1 credit; 0 credit option only for students who have reached 12 credit hour full time limit. Prerequisite: MUS 211.

**321 Voice (0.00, 0.50, 1.00)**

Available to qualified juniors and seniors who have demonstrated the stipulated proficiency in their major performing area by passing with distinction a Jury-Exam at the end of the sophomore year where each sings approximately 15 minutes of memorized music. 1/2 hour lessons=0.5 credit; 1 hour lessons=1 credit; 0 credit option only for students who have reached 12 credit hour full time limit. Prerequisite: MUS 221.

**322 Woodwind Techniques (1.50)**

A study of the performance techniques of the flute, clarinet, saxophone, oboe, and bassoon. Students study teaching techniques appropriate for the instruction of the instruments at various levels. Prerequisite: MUS 201.

**323 Brass Techniques (1.50)**

A study of the performance techniques of the trumpet, horn, trombone, and tuba. Students study teaching techniques appropriate for the instruction of the instruments at various levels. Prerequisite: MUS 201.

**324 String Techniques (1.50)**

A study of the performance techniques of the violin, viola, cello, and bass. Students study teaching techniques appropriate for the instruction of the instruments at various levels. Prerequisite: MUS 201.

**325 Percussion Techniques (1.50)**

A study of the performance techniques of the various percussion instruments found in the band and orchestra. Students study teaching techniques appropriate for the instruction of the instruments at various levels. Prerequisite: MUS 201.

**328 Diction for Singers (1.50)**

Instruction in Italian, German, and French diction as it applies to vocal music. Coursework includes use of the International Phonetic Alphabet and the preparation and in-class performance of representative vocal solos in each language studied. Required for all Music Education majors in choral track; recommended for all those studying voice.

**329 Vocal Pedagogy and Techniques (1.50)**

The study of the vocal instrument and techniques for proper use. Emphasis is on healthy production and the establishment of a technique to be used with young or amateur singers. Required for Music Education majors in the choral track; recommended for any student studying voice.

**331 Instrumental Lessons (0.00, 0.50, 1.00)**

Available to qualified juniors and seniors who have demonstrated the stipulated proficiency in their major performing area by passing with distinction a Jury-Exam at the end of the sophomore year where each plays approximately 15 minutes of memorized music. 1/2 hour lessons=0.5 credit; 1 hour lessons=1 credit; 0 credit option only for students who have reached 12 credit hour full time limit. Prerequisite: MUS 231.

**341 Advanced Music Theory (3.00)**

A study of chromaticism including mode mixture, enharmonic spellings, and enharmonic modulations. The course covers tonal harmony in the late nineteenth century as well as the twentieth century use of rhythm, serialism, and non-tertian harmonic techniques. Materials studied are applied to the form and analysis of standard music literature. Prerequisites: MUS 101, 102, 201 and 202.

**342 Arranging and Orchestration (3.00)**

Students study the technical and historic aspects of orchestration and arranging for both vocal and instrumental ensembles. Prerequisite: MUS 341.

**343 Advanced Musicianship (1.00)**

Advanced level work with sight singing and ear training including modal, atonal, and contemporary idioms. Special projects involving transcriptions and dictation from students' areas of interest. Must be taken concurrently with MUS 341.

**344 Elements of Conducting (2.00)**

Basic conducting technique, including posture, position of the arms and hands, simple patterns, cueing, and releases. Introduction to score preparation and rehearsal technique. Prerequisites: MUS 341, MUS 343; or consent of instructor.



**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****407 Advanced Instrumental Conducting & Techniques (3.00)**

A study of advanced instrumental conducting techniques, including score preparation and rehearsal techniques. Prerequisites: MUS 202, MUS 344.

**408 Advanced Choral Conducting & Techniques (3.00)**

Advanced conducting technique as related to the choral ensemble. Further study on score preparation and rehearsal techniques, using standard choral repertoire as a basis for study. Prerequisites: MUS 202, MUS 344.

**490 Seminar in Music (3.00)**

Topics of interest to the music major, such as philosophy of music, music and the community, marching band techniques, or electronic music applications. Prerequisite: Consent of instructor.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Musical Theatre

See **Theatre** for a description of courses and programs of study in musical theatre.

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## NCC Courses (NCC)

Courses which address the College at large but do not fit into either a department or interdisciplinary program receive the College initials as prefix identification: NCC. Faculty from all divisions teach NCC courses. No major or minor is granted under this designation.

**095 Applied Principles of Learning and Memory (1.50)**

This course teaches students basic principles of learning and memory. The emphasis is on how to encode information so that it can be recalled later and how to retrieve information effectively. Learning styles are assessed and discussed. Students are given multiple opportunities to practice learning and memory strategies.

**100 Exploration (1.00)**

Many students want to explore a variety of majors, either because they are interested in many areas or because they do not know the kinds of opportunities different fields offer. In this course students conduct projects that help them to develop and refine life skills (such as self-assessment, research, interviewing, writing, discussion, reflection) which will assist them in choosing their majors and ultimately their careers.

**120 Information Research Strategies (1.50)**

This course guides students in becoming life-long learners and effective and efficient users of information. Students who take this course develop the ability to recognize a need for information, efficiently locate information relevant to the need, critically evaluate information, select the most authoritative resources, and effectively communicate that information to accomplish an identified purpose. Students build upon existing skills and understandings to advance their abilities to draw upon new information in ethically-informed and resourceful ways.

**297 Non-Credit Internship/Cooperative Learning I (0.00)**

Students use and further develop skills related to their career goals in an introductory internship/cooperative learning experience of their choice. Designed to be a first experience in a particular field; most appropriate for students with no previous career-related experience (typically freshmen or sophomores). Official recognition of completed non-credit internship/cooperative learning experience is included on a student's transcript.

**299 Independent Study (1.00-9.00)****397 Non-Credit Internship/Cooperative Learning II (0.00)**

Students use and further develop skills related to their career goals in an internship/cooperative learning experience of their choice. Most appropriate for students who have had rudimentary exposure to their field and who desire a more comprehensive experience. Official recognition of a completed non-credit internship/cooperative learning experience is included on a student's transcript. May be repeated.

**497 Non-Credit Internship/Cooperative Learning III (0.00)**

Students use and further develop skills related to their career goals in an advanced internship/cooperative learning experience of their choice. Designed for students with prior internship/cooperative internship or work experience in their field who desire a more in-depth experience and the opportunity to function as a professional. Official recognition of a completed non-credit internship/cooperative internship experience is included on a student's transcript. May be repeated. Prerequisites: Senior standing, completion of a 397-level internship.

**499 Independent Study (1.00-9.00)**

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## Neuroscience (NSC)

### Mission Statement

Neuroscience is an interdisciplinary approach to understanding the structure, function, evolution, development, and pathology of the nervous system in relation to behavior and mental life. Individuals working in this area examine issues from the very small (including molecular and cellular basis of neuronal function, nervous system structure, how systems of neurons process information) to the very large (how these functions are linked to behavior and give rise to conscious experience). The neuroscience minor at North Central College encourages students to approach understanding these topics from scientific and humanistic perspectives. This minor will prepare students to appreciate the fundamental workings of the nervous system and how it applies to human health and behavior.

## Neuroscience Minor

The minor consists of 24 credit hours. Eighteen of those hours are met by the required courses below with an additional six credit hours coming from the listed elective courses.

### REQUIRED COURSES (18 credit hours):

BIO 102	Biology II: Introduction to Cell Biology and Genetics
CHM 141	General Chemistry I: Bio-organic Molecules
NSC 100	Introduction to Neuroscience
NSC 300	Neuroscience
PSY 100	Psychology: Science of Behavior

### ELECTIVE COURSES (6 credit hours):

BIO 200	Cellular Biology
NSC 499	Independent Study
PHL 215	Bioethics
PSY 345	Cognitive Psychology
PSY 370	Biological Psychology

### 100 Introduction to Neuroscience (3.75)

This course provides an introduction to the structure and function of the nervous system. Topics include its contributions to a range of behaviors and phenomena including sensation and perception, homeostasis, biological rhythms, emotions, learning and memory, consciousness and psychopathology. Laboratory required. Core: Science (Lab).

### 300 Neuroscience (3.75)

Core principles of nervous system function. This course includes topics on behavioral, organismal and molecular aspects of nerve function in organisms ranging from invertebrates to humans. Laboratory required. Prerequisites: NSC 100, BIO 102, CHM 141.

### 499 Independent Study (1.00-3.00)

Prerequisite: NSC 100, one other course required for the NSC minor.

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## Nuclear Medicine Technology (NMT)

Nuclear medicine is an interdisciplinary field that combines chemistry, physics, mathematics, computer technology, and medicine in using radiation to diagnose and treat disease. Though there are many diagnostic techniques currently available, nuclear medicine uniquely provides information about both the structure and function of virtually every major organ system within the body. It is this ability to characterize and quantify physiologic function which separates nuclear medicine from other imaging modalities, such as x-ray. Nuclear medicine procedures are safe, they involve little or no patient discomfort, and do not require the use of anesthesia.

North Central College's degree program in Nuclear Medicine Technology prepares students for a career as a Nuclear Medicine Technologist. The first option is a 3+1 program with Northwestern Memorial School of Nuclear Medicine. Students spend three years at North Central College, where they complete their liberal arts general education core along with prerequisite science and math courses. This is followed by a 12 month clinical experience at Northwestern Memorial Hospital. The student graduates from North Central College with a liberal arts degree in Nuclear Medicine Technology. Admission

to the final year of the program is based upon successful application to the program at Northwestern Memorial Hospital in the second term of the junior year. Student applicants are considered and evaluated solely by the faculty/staff at Northwestern Memorial Hospital. Student admission to the program at Northwestern is not guaranteed.

Another option is for the student to complete a four-year B.S. or B.A. degree at North Central College in chemistry, biology, or biochemistry, and then apply for admission to Northwestern Memorial Hospital for a one-year certificate program in Nuclear Medicine Technology.

Students intending to major in Nuclear Medicine Technology must apply for admission into the North Central College program at the end of their second year of study. Prerequisite courses and other requirements are subject to change. Keep in touch with the Pre-Professional Health Program Coordinator for the most recent information

Degrees offered: B.A. and B.S.

## Nuclear Medicine Technology Major

### B.A. Requirements:

#### Required Prerequisites:

Introductory Biology	BIO 101, BIO 102
Introductory Chemistry	CHM 141, CHM 142
Organic Chemistry	CHM 220, CHM 221, CHM 222
Statistics	PSY 250 or ECN 241
Calculus I	MTH 141 or 151
Physics	PHY 141, PHY 142, PHY 143A or 143C; or PHY 115, PHY 116

#### Upper Level Biology or Chemistry Coursework:

A minimum of 11.25 credit hours in additional biology or chemistry coursework is required. At least 7.5 credit hours must be at the 300 level or higher. The courses should be a series which provides an area of concentration at the upper level. Some suggested series:

BIO 200, BIO 202, BIO 260  
 BIO 302, BIO 310, BIO 340, BIO 360, BIO 430  
 CHM 205, CHM 210  
 CHM 341, BCM 365, BCM 465, CHM 405, and CHM 420.

#### Major Requirements:

NMT 401	Technical Mathematics
NMT 410	Management and Methods of Patient Care
NMT 412	Radiation Safety Protection
NMT 414	Radiation Detection and Instrumentation
NMT 421	Nuclear Physics
NMT 425	Diagnostic Nuclear Imaging Practicum I
NMT 426	Diagnostic Nuclear Imaging Practicum II
NMT 430	Clinical Nuclear Imaging Procedures
NMT 432	Radionuclide Chemistry and Radiopharmacy
NMT 434	Radiation Biology
NMT 436	Computer Applications
NMT 438	Clinical Correlation
NMT 480	Clinical Practicum

### B.S. Requirements:

In addition to the B.A. requirements, MTH 152 must be completed.

### **401 Technical Mathematics (0.00)**

Practical mathematics in nuclear medicine including radiation unit conversion, dose conversion, dose calculation, determination of specific activity, decay, and half-life calculation, counting efficiency, and statistics. Prerequisite: Admission into the NMT program.

**410 Management and Methods of Patient Care (2.00)**

Skills in problem solving, critical thinking, and decision-making are developed, as well as oral and written communication skills. Career skills are enhanced through the study of the interview process, resume writing, and administrative duties including budgeting, medical and legal considerations, and political issues affecting health care. Special emphasis is placed on participation in a quality control program and scheduling guidelines. The course focuses on basic measures necessary to provide quality patient care, basic principles of record keeping, and procedures for maintaining confidentiality of information. Prerequisite: Admission into the NMT program.

**412 Radiation Safety Protection (3.00)**

Supervised practice and procedures for the receipt, handling, transporting, storage, usage, record keeping, disposal, and decontamination of radioactive materials. Emphasis is placed on licensing and regulations set forth by local, state, and federal agencies. Academic and clinical instruction teach radiation safety techniques which allow students to minimize exposure to themselves, the patient, the public, and fellow workers. Regulations regarding therapeutic dosages and follow-up procedures are explained. Prerequisite: Admission into the NMT program.

**414 Radiation Detection and Instrumentation (2.00)**

Evaluation, maintenance and function of instrumentation used in imaging and in the laboratory. Principles and theory of the following topics are covered: PET and scintillation camera operation and performance, radiation measurements, event counting activity, pulse height spectra, detection efficiency, uniformity, relative sensitivity, spacial linearity, and resolution testing. Quality assurance procedures for PET scanner include radial, tangential and axial resolution, sensitivity, linearity, uniformity, attenuation accuracy, scatter determination, and dead time corrections. Prerequisite: Admission into the NMT program.

**421 Nuclear Physics and Instrumentation (3.00)**

Theory and physical principles associated with atomic structure, nucleus and quantum physics related to radioactive decay. Properties of the elements and the production of characteristic x and gamma rays, anger electrons, and Bremstrahlung. Instruction on the modes of decay, radiation dosimetry, and interaction of ionizing radiation with matter. Basic physics, instrumentation, and radiochemistry of Positron Emission Tomography (PET). Prerequisite: Admission into the NMT program.

**425 Diagnostic Nuclear Imaging Practicum I (4.00)**

Supervised clinical education that gives the student the opportunity to perform a variety of patient procedures on both SPECT and PET imaging systems for all diagnostic, therapeutic, nonimaging in-vivo and in-vitro procedures. Clinical competencies are developed in patient care, positioning techniques, analyzing images, and the selection of imaging parameters and collimators. Develops knowledge of integrated computer systems designed for use with clinical gamma cameras, Single Photon Emission Computed Tomography (SPECT), and Position Emission Tomography (PET) images. The clinical practicum is designed to promote independent critical thinking, balanced responsibility, organization, and accountability in the student. The student will demonstrate competence in all procedures presented. Prerequisite: Admission into the NMT program.

**426 Diagnostic Nuclear Imaging Practicum II (4.00)**

A continuation of NMT 425. This course entails a supervised clinical education that gives the student the opportunity to perform a variety of patient procedures on both SPECT and PET imaging systems for all diagnostic, therapeutic, nonimaging in-vivo and in-vitro procedures. Clinical competencies are developed in patient care, positioning techniques, analyzing images, and the selection of imaging parameters and collimators. Develops knowledge of integrated computer systems designed for use with clinical gamma cameras, Single Photon Emission Computed Tomography (SPECT) and Position Emission Tomography (PET) images. The clinical practicum is designed to promote independent critical thinking, balanced responsibility, organization and accountability in the student. The student will demonstrate competence in all procedures presented. Prerequisite: Admission into the NMT program.

**430 Clinical Nuclear Imaging Procedures (3.00)**

Course emphasis is on the theory and techniques of clinical procedures used in nuclear medicine imaging. Areas emphasized include patient care, developing acquisition parameters, imaging techniques, radionuclide identification, energies, half-lives, and principles of radionuclides in imaging and nonimaging procedures. The student continues to develop an increased degree of competence in performance of the skills related to critical thinking and problem solving. Prerequisite: Admission into the NMT program.

**432 Radionuclide Chemistry and Radiopharmacy (3.00)**

The chemical, physical, and biological properties of radiopharmaceuticals used in diagnosis and therapy are covered. The course examines the performance of all radionuclide quality control and quality assurance procedures. Principles of decay and half-life, tissue localization, chemical impurities, generator systems, dose preparation, and techniques of good laboratory practices and cell labeling are all included in this course. Prerequisite: Admission into the NMT program.

**434 Radiation Biology (2.00)**

The emphasis is upon the knowledge of cell structure and function as a basis for understanding both cellular and organ responses to the effects of ionizing radiation, radionuclides, and radiation oncology. The course develops the understanding of units of exposure, organ dose calculation, and body distribution. Prerequisite: Admission into the NMT program.

**436 Computer Applications (3.00)**

The course covers the operations and maintenance of computer hardware and software. The emphasis is on data collection, analysis and processing used in clinical imaging, and application of computer devices and memory usage. Also emphasized are SPECT and PET quality control procedures. Prerequisite: Admission into the NMT program.

**438 Clinical Correlation (3.00)**

The course focuses on the study of the structure and function of human cells, tissues, organs, and systems. It covers the clinical interpretation of organ systems, with emphasis on immunology, anatomy, and physiology, which provides a basis for understanding abnormal or pathological conditions as applied to nuclear medicine. Causes, symptoms, and treatments of disease are discussed as well as its effect on the images. In addition, the student is scheduled to observe the interpretation of images with the physician staff. Prerequisite: Admission into the NMT program.

**480 Clinical Practicum (0.00)**

The course content provides sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in nuclear medicine technology. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice, and professional development are discussed, examined, and evaluated. This includes supervised clinical education, which offers exposure to a sufficient and well-balanced variety of nuclear medical treatments, examinations, and equipment. Prerequisite: Admission into the NMT program.

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## Organizational Communication

See **Speech Communication** for a description of courses and programs of study in organizational communication.

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## Philosophy (PHL)

*Professors: David Fisher, Robert Lehe, Timothy Morris*

### Mission Statement

The Philosophy department provides opportunities that challenge students to develop critical and synthetic reasoning skills through reading philosophical texts and discussion of philosophical problems in historical context, to develop the capacity for effective verbal and written expression of their own understanding of philosophical problems, and to develop an understanding and appreciation of the normative dimension of life.

Philosophy claims that an unexamined life is unworthy of a human being. By studying philosophers of the past and present, students learn to think critically and reflectively about the fundamental problems of human existence, such as whether or how true knowledge is possible, the sources and justifications for moral values, the existence of a knowable god, humankind's relation to nature, the nature of beauty and art, and the meaning of justice. Philosophy courses emphasize the ability to analyze and develop rational arguments on life's most perplexing issues. A major in philosophy is excellent preparation for a career in business and professions such as law, medicine, or ministry, as well as for the teaching of philosophy.

Degree offered: B.A.

### Philosophy Major

At least 30 credit hours in philosophy, including PHL 100; at least one of PHL 110, 210, or 220; 230, 260, 270, 280, 490, and two electives, at least one of which must be at the 300 or 400-level. Students who complete the History of Ideas sequence may omit PHL 100.

Recommended Electives:

Students preparing for graduate study in philosophy: PHL 310, PHL 380, History of Ideas, and a foreign language.

Students preparing for law school: PHL 210, PHL 241, PHL 341, and PHL 343. (Pre-law students are advised to consult the Pre-law section of the catalog and one of the pre-law advisors.)

### **Philosophy Minor**

At least 18 credit hours in philosophy, including PHL 100, 110, one course from the History of Philosophy sequence (PHL 260, PHL 270, or PHL 280), and three electives, including at least one at the 300 or 400-level.

Recommended Electives:

Students preparing for law school: PHL 210, PHL 230, PHL 241, PHL 341, and PHL 343.

Students with a major in the Arts and Letters Division: PHL 220 and PHL 235.

Students with a major in Political science: PHL 341 and PHL343.

Students with a major in History: PHL 320.

### **100 Introduction to Philosophy (3.00)**

**IAI: H4 900**

An examination of basic questions in philosophy, such as how we can know anything, whether God exists, how moral judgments can be justified, whether people have souls, and whether people have free will. Core: Humanities. ACR: Religion and Ethics.

### **110 Ethics (3.00)**

**IAI: H4 904**

An examination of alternative bases for morality and the arguments by which moral claims are justified. Core: Humanities. ACR: Religion and Ethics.

### **210 Professional Ethics (3.00)**

Professional ethics in selected career fields including law, business, and biomedicine. Students may apply basic concepts to the career of their choice, relate their personal ethics to professional ethics, and become better informed consumers of professional services. This course begins with an examination of the alternative bases for making moral judgments. Core: Humanities.

### **215 Bioethics (3.00)**

After a brief overview of ethical theory and the philosophy of medicine, the moral dimensions of the following topics are considered: the health care professional-patient relationship (e.g., truth-telling, informed consent, and confidentiality), euthanasia and physician-assisted death, abortion and maternal-fetal conflicts, the new reproductive technologies, human genetics, research involving human and animal subjects, the allocation of health care resources, managed care, public health, and health care policy. The course is intended to be self-contained, and the emphasis on the topics may change from year to year. Prerequisite: Sophomore standing.

### **220 Aesthetics (3.00)**

(Same as: ART 270.) An examination of aesthetic experience, the norms which govern aesthetic judgment, and the significance of the idea of beauty in our experience of art and nature. Core: Humanities.

### **230 Logic (3.00)**

**IAI: H4 906**

An examination of inductive and deductive reasoning, formal and informal fallacies, and rules and procedures for evaluating arguments. Core: Humanities.



**235 Existentialism (3.00)**

An introduction to existentialism as a 19th and 20th century philosophical and literary movement. Authors discussed typically include Dostoevsky, Kierkegaard, Nietzsche, Heidegger, Sartre, Unamuno, and Merleau-Ponty. Core: Humanities.

**240 Philosophy & Literature (3.00)**

An introduction to the relationship between philosophy and literature through examination of ways in which philosophical ideas and methods can be used to analyze, understand, or criticize literature and critical writing about literature. Prerequisite: ENG 196 or a philosophy course.

**241 Philosophy of Law (3.00)**

(Same as: PSC 241.) An introduction to the concept of law, including such topics as the nature of law, liberty and law, justice, legal responsibility, punishment, and theories of legal interpretation. Prerequisite: PSC 103 or a philosophy course. Core: Humanities.

**260 Ancient & Medieval Philosophy (3.00)****IAI: H4 901**

Part one of the History of Philosophy sequence; Ancient Greece through the 16th century. Core: Humanities. ACR: Religion and Ethics.

**270 Early Modern Philosophy (3.00)****IAI: H4 902**

Part two of the History of Philosophy sequence; the 17th and 18th centuries. Core: Humanities.

**280 Modern Philosophy (3.00)****IAI: H4 902**

Part three of the History of Philosophy sequence; major philosophical developments of the 19th and 20th centuries. Prerequisite: One of PHL 100, PHL 260, PHL 270. Core: Humanities.

**290 Philosophic Inquiry (3.00)**

An examination of questions or issues of contemporary philosophic interest. Check course schedule for current topic. Prerequisite: PHL 100.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****310 Ethical Theory (3.00)**

An examination of topics in contemporary and/or classical ethical theory. Course may focus on key figures in ethical theory or issues in normative ethics and metaethics. Topics have included virtue ethics, feminist ethics, and relationships between normative ethical theory and social or natural sciences. Prerequisite: PHL 110.

**320 Philosophy of History (3.00)**

An investigation of the nature of history and the nature and limits of historical knowledge. Prerequisite: Junior standing.

**341 Classics of Political Philosophy (3.00)**

(Same as: PSC 341.) A survey of the history of Western political thought. Prerequisite: Any 200-level political science course or two philosophy courses.

**343 Economic and Social Justice (3.00)**

(Same as: PSC 343.) A brief introduction to the concept of justice, followed by an examination of the alternative views of distributive justice. Alternatives

include the various forms of liberalism (contractarianism, libertarianism, and utilitarianism), Marxism, communitarianism, feminism, and postmodernism. Prerequisite: Previous course in philosophy, economics, history, political science, or sociology and anthropology.

**344 Religion and the Political Order (3.00)**

(Same as: REL 344.) A historical survey of primary texts engaging the intersection of religion and political theory, as well as the relationship between political leadership and religious/ethical values. Emphasis is placed upon Western political philosophers shaped within the traditions of Judaism, Christianity, and/or Islam, as well as upon the themes of theocracy, civil religion, and secularization. Thinkers studied may include Plato, early Christian authors, Eusebius, John Chrysostom, Augustine, Al-Farabi, Maimonides, Averroes, Aquinas, Marsilius of Padua, Reformation authors, Hobbes, Locke, Rousseau, or De Tocqueville. Prerequisite: Any two courses in Philosophy, Religious Studies, or Political Science. ACR: Leadership, Ethics, and Values.

**360 Philosophy of Religion (3.00)**

(Same as: REL 360.) An examination of the basic issues in the philosophy of religion, including the relation of faith and reason, the problem of the existence and nature of God, and the nature and significance of religious experience. Prerequisite: Previous course in philosophy or religion. ACR: Religion and Ethics.

**361 Science and Religion: Conflict or Dialogue? (3.00)**

(Same as: REL 361.) This course examines the contemporary dialogue between science and religion in relation to different Western and Asian religious traditions. The course considers the implications of recent scientific theories for understanding and assessing the belief systems of various theistic and nontheistic religions. Prerequisites: Junior standing, one course in science. ACR: Intercultural Seminar.

**370 Philosophy of Science (3.00)**

An inquiry into the nature of scientific evidence, laws, explanations, and theories, as well as the nature of the relationship between the natural and social sciences. Prerequisite: Previous course in philosophy or a natural science course.

**380 Epistemology & Metaphysics (3.00)**

An examination of such topics as theories of knowledge, truth, and justification of belief, the problem of skepticism, the mind-body problem, the problem of universals, and theories of being. Prerequisite: One of PHL 100, PHL 270, or PHL 280.

**397 Internship (0.00-9.00)**

**399 Independent Study (1.00-9.00)**

**490 Philosophic Problems: Seminar (3.00)**

Examination of a major philosopher or central problem in one of the areas of philosophy such as philosophy of mind, metaphysics, epistemology, or value theory. Prerequisites: Philosophy major or minor and junior or senior standing.

**497 Internship (0.00-9.00)**

**499 Independent Study (1.00-9.00)**

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# Physical Education

See **Health and Physical Education** for a description of courses and programs of study in physical education

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## Physics (PHY)

*Professor: David Horner*

*Associate Professor: Paul Bloom*

*Adjunct Faculty: Herman White, Jr.*

### Mission Statement

The Physics department is dedicated to providing a challenging and supportive environment for students to: i) learn physical principles, analytical skills, and laboratory methods; and ii) develop their critical thinking and communication skills through course and laboratory work and through collaborative learning and research.

Physics is the science which deals with nature at its most fundamental level. Much of the theoretical framework of chemistry, engineering, and even biology is provided by discoveries made by physicists.

Courses recommended for all Physics majors include CHM 141, CSC 161, and MTH 256. Additional coursework in mathematics and computer science is highly recommended for students interested in graduate school or industrial employment. The demand for high-school physics teachers is very high; students interested in secondary education should consult a member of the education department early in the freshman year. Students interested in the dual-degree engineering program should read pages 43-4.

Degrees offered: B.A., B.S.

### Physics Major

#### B.A. Requirements:

28.75 credit hours of physics. Required courses: PHY 141, 142, 143C, 244, 245, MTH 151, 152, 153, 254, 256 (pre- or co-requisites for required PHY courses). Must take courses at or above the 200 level totaling at least 19 credit hours.

#### B.S. Requirements:

##### Option 1. Teaching Track

32.75 credit hours of physics. Required courses: PHY 141, 142, 143C, 244, 245, 210. MTH 151, 152, 153, 254, 256 (pre- or co-requisites for required PHY courses). CHM 141, 142. BIO 101, 102. Must take courses at or above the 200 level totaling at least 23 credit hours, and must include either PHY 420 or PHY 441. Must complete a minor in secondary education.

##### Option 2. Professional Track

41.75 hours of physics. Required courses: PHY 141, 142, 143C, 244, 245, 210, two of PHY 251, 252, or 253; 321, 340, 420, 441, and 4 credit hours of 450. MTH 151, 152, 153, 254, 256 (pre- or co-requisites for required PHY courses), and at least one of MTH 300 or 355. CHM 141, 142. CSC 160, 161. Must take one additional 300 or 400 level course in MTH or a science area (BIO, CHM, CSC).

## Physics Minor

21.75 credit hours of physics. Required courses: PHY 141, 142, 143 (A or C), 244, 245. MTH 151, 152, 256 (pre- or co-requisites for required PHY courses). Must take courses at or above the 200 level totaling at least 12 credit hours.

### TYPICAL COURSE SEQUENCE FOR THE FIRST TWO YEARS ASSUMES THE STUDENT HAS THE NEEDED PREREQUISITES

	FALL	WINTER	SPRING
FIRST YEAR:	PHY 141	PHY 142	PHY 143C
	MTH 151	MTH 152	MTH 153
SECOND YEAR:	PHY 244	PHY 245	
	MTH 254	MTH 256	

### 100 Principles of Physics (3.50)

As an introduction to the concepts of physics, this course is intended for non-science majors. Utilizing a conceptual approach, selected topics in mechanics, sound, electricity, and light that relate to our daily experience are explored. Does not count towards a physics major. May not be taken after successful completion of any higher level physics course. Laboratory. Prerequisite: High school algebra or MTH 095. Core: Science (Lab).

### 115 College Physics I (4.00)

The first in a sequence of two algebra-based physics courses. Topics include the study of motion using Newton's Laws and the conservation of energy principle, rotational motion, thermodynamics, and fluid mechanics. Laboratory. Credit may be earned for only one of the following sequences: PHY 115 and 116 or PHY 141, 142, and 143 (A or C). Prerequisite: MTH 121, MTH 122; or high school algebra and trigonometry. Core: Science (Lab).

### 116 College Physics II (4.00)

The second in a sequence of two algebra-based physics courses. Topics include: electricity and magnetism, optics, waves, and sound. Laboratory. Credit may be earned for only one of the following sequences: PHY 115 and 116 or PHY 141, 142, and 143 (A or C). Prerequisite: PHY 115. Core: Science (Lab).

### 121 Principles of Astronomy (3.00)

The study of celestial phenomena, the sun and solar system, and the observable universe with emphasis on astronomy as a scientific activity with great relevance to the perception and comprehension of our world. Laboratory experiences include the study and practice of observational techniques for the night sky with emphasis on the interplay of observation and theory and applications in the science of astronomy. Prerequisite: MTH 122 or high school trigonometry. Core: Science.

### 141 Physics I (3.00)

The first in a sequence of introductory physics courses. The study of motion using Newton's Laws and the conservation laws for energy and linear momentum. Credit may be earned for only one of the following sequences: PHY 115 and 116 or PHY 141, 142, and 143 (A or C). Prerequisite: Completion of or concurrent enrollment in MTH 141 or MTH 151. Core: Science (Lab).

### 142 Physics II (3.00)

A continuation of PHY 141. Static equilibrium, rotational motion, conservation of angular momentum, oscillatory and wave motion, sound, geometric and physical optics. Calculus is used. Laboratory. Credit may be earned for only one of the following sequences: PHY 115 and 116 or PHY 141, 142, and 143 (A or C). Prerequisites: PHY 141; MTH 141 or 151. Core: Science (Lab).

**143A Physics III (Algebra-Based) (3.00)**

A continuation of PHY 142. Electrical and magnetic forces and phenomena are described using the concept of the field. Introduction to electrical circuits. Other topics include fluid mechanics, heat, temperature, phases transitions, and radioactive decay. Laboratory. Credit may be earned for only one of the following sequences: PHY 115 and 116 or PHY 141, 142, and 143 (A or C). Prerequisite: PHY 142.

**143C Physics III (Calculus-Based) (3.75)**

A continuation of the PHY 142. Electrical and magnetic forces and phenomena are described using the concept of the field. Coulombs law, the electric and magnetic fields, electric potential, electromagnetic induction, Maxwell's equations, DC electrical circuits, radioactive decay. Calculus is used. Laboratory. Credit may be earned for only one of the following sequences: PHY 115 and 116 or PHY 141, 142, and 143 (A or C). Prerequisites: PHY 142, MTH 152.

**151 Special Relativity (1.00)**

Introduction to the theory of special relativity. Topics include the Principle of Relativity, Lorentz transformations, relativistic energy and momentum. Prerequisite: PHY 141.

**210 Electronics (3.00)**

Survey of electronics with focus on application to scientific instrumentation. Topics include an overview of DC and AC circuits, diodes, transistors, operational amplifiers, logic gates, and digital applications. The course focuses on applied learning in the laboratory. Two hours of lecture and two 3-hour laboratory sessions per week. Prerequisites: PHY 143A or 143C; MTH 152.

**244 Physics IV (3.00)**

A continuation of PHY 143C. AC circuits, fluid mechanics, thermal physics, kinetic theory, introduction to statistical mechanics, origins of quantum physics. Laboratory. Prerequisite: PHY 143C.

**245 Physics V: Quantum Physics (2.00)**

An introduction to quantum physics. Statistical interpretation of the wave function, the Schrödinger equation, analysis of one-dimensional potentials, introduction to the hydrogen atom and the electronic structure of atoms. Prerequisites: PHY 244; MTH 152.

**251 Molecules and Solids (2.00)**

Introduction to the sub-disciplines of molecular and solid state physics. A phenomenological survey of topics which may include quantum statistics, molecular bonding and spectra, band theory of solids, electrical conduction, semiconductors, magnetic properties of solids. Prerequisite: PHY 245 or CHM 341.

**252 Nuclei and Particles (2.00)**

Introduction to the sub-disciplines of nuclear and particle physics. A phenomenological survey of topics that may include nuclear interactions and processes, models of the nucleus, introduction to the standard model of particle physics, introduction to experimental methods in nuclear and particle physics, physics beyond the standard model. Prerequisites: PHY 151 and either PHY 245 or CHM 341.

**253 Astrophysics and Cosmology (2.00)**

Introduction to the sub-disciplines of astrophysics and cosmology. A phenomenological survey of topics that may include celestial mechanics and orbital dynamics, stellar evolution and structure, galactic evolution and structure, exotic objects, big bang theory, the standard model of cosmology. Prerequisites: PHY 151 and either PHY 245 or CHM 341.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****315 Engineering Statics (3.00)**

Classical mechanics with application to engineering problems. Topics include equivalent systems of forces, centroids, analysis of trusses and frames, machines, and forces due to friction. Prerequisites: MTH 254 and PHY 141.

**321 Classical Dynamics (3.00)**

The study of Newtonian mechanics using intermediate level mathematics. Topics include the harmonic oscillator, gravity and planetary motion, motion of rigid bodies and systems of particles, and an introduction to the Lagrangian formalism. Mathematical and computer techniques are used to solve complex problems. Prerequisites: PHY 142, MTH 254, and MTH 256.

**340 Thermodynamics (4.00)**

(Same as: CHM 340.) A study of the relationship of temperature to other properties of matter, using both macroscopic and microscopic viewpoints. Applications to chemical equilibrium, phase transitions, and thermal properties of gases and solids. Laboratory. Prerequisites: MTH 152; PHY 143A or PHY 143C.

**355 Applied Mathematical Techniques (3.00)**

(Same as: MTH 355.) Topics in applied mathematics, including series solutions, systems of linear and nonlinear differential equations, integral transforms with emphasis on the Laplace transform, Fourier series, partial differential equations, and survey of some advanced topics. Prerequisites: MTH 254, MTH 256.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****420 Electricity and Magnetism (3.00)**

The theory of electromagnetic fields and waves, including electrostatics, magnetostatics, steady and time varying currents, dielectrics, and Maxwell's equations. Prerequisites: PHY 143C, MTH 254.

**441 Quantum Mechanics (3.00)**

The physical interpretation and mathematical formalism of quantum mechanics. Topics include the Schrödinger equation, one-dimensional and three-dimensional potentials, angular momentum, the hydrogen atom, operator methods, matrix mechanics, Dirac notation, and approximation methods. Prerequisites: PHY245, MTH 254, and one of MTH 256 or MTH 300.

**450 Advanced Laboratory (1.00-3.00)**

Students work independently on experiments in physics undertaken with the guidance of a faculty member. May be repeated with new content. Prerequisite: PHY 210, PHY 245.

**490 Research (1.00-3.00)**

Techniques of literature searching, laboratory investigation, and data reporting; intensive work with the instructor on a problem chosen by mutual agreement. This course may be repeated.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**


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## Political Science (PSC)

*Professors: Stephen Maynard Caliendo, Harold R. Wilde*

*Assistant Professors: Suzanne M. Chod, Jennifer L. Fredette, William Muck*

**Mission Statement**

The Political Science program stimulates intellectual curiosity with respect to power relationships within and among the mass public and its leaders. Through theoretical contemplation, applied experiences, and scholarship, students develop skills to contribute meaningfully to a democracy that values diversity and social justice in a global community.

Political Science enhances the liberal education of students through a focus on the ways in which we organize and govern our world, and on the continuing struggle over issues of power, freedom, equality, justice, and social order. Politics is crucial in all human relationships, whether they be social, economic, religious, cultural, or even personal. In so many words, political science seeks to answer a simple question: “Who gets what, when, and how?” A serious study of politics compels us to examine ethical, moral, and value questions of the highest order, thereby enriching the moral, personal, leadership, and intellectual development of students.

The way in which we structure our institutions, whether they be global, national, or local, is a reflection of how we make decisions concerning those individuals whom we entrust to govern our lives through the policy decisions they make on our behalf. Therefore, how we decide the critical questions determines how we are governed.

Political science prepares students for many career opportunities. Graduates have pursued their life’s work in the legal profession, government service, business, professional political consulting, education, and journalism. Some students pursue graduate degrees as a way to enter the work world of higher education or participation in civic life. The study of political science helps all students to be effective citizens in an increasingly complex and changing world.

Degree offered: B.A.

## Political Science Major

33 credit hours which must include the following: PSC 101, PSC 102, PSC 200, PSC 201, and PSC 490. In addition, at least 18 credit hours must be at the 200-level or higher. Electives fulfilling the remaining credit hour requirements must include at least one course from each of the following areas:

<u>American Politics</u>	<u>World Politics</u>	<u>Law &amp; Courts</u>	<u>Political Philosophy</u>
PSC 210	PSC 221	PSC 103	PSC 241
PSC 211	PSC 222	PSC 230	PSC 341
PSC 212	PSC 320	PSC 231	PSC 343
PSC 213	PSC 321	PSC 333	
PSC 214	PSC 322	PSC 335	
PSC 215	PSC 324	PSC 336	
PSC 313			

Course sequence:

Students should take PSC 101, PSC 102, PSC 200, and PSC 201 as background to other courses in the department.

Recommended Electives:

Many students find it useful to supplement their studies in political science with course work in a foreign language. In addition, students interested in attending graduate school in political science, public policy, or public administration are urged to take ECN 100, as well as one of the following courses in research methods: PSY 250, SOA 200, ECN 241.

## Minor Requirements

18 credit hours which must include the following: PSC 101, PSC 200, and PSC 490, plus at least two PSC courses at the 300-level.

### Special Opportunities

**Model United Nations:** Model United Nations is open to students of all majors and all career interests. Students gain instruction and experience in the conduct of international diplomacy through public speaking, critical thinking, research, and teamwork. Our students participate in two national Model United Nations simulations, serving as delegates representing pre-selected countries.

**Intercollegiate Mock Trial:** The Mock Trial Program attracts students who are interested in law and trial procedures, regardless of major. In preparing to participate in regional and national competitions, students gain valuable experience in research, public speaking, and critical thinking.

**Pi Sigma Alpha:** As one of 600 chapters of this national undergraduate political science honors fraternity throughout the country, the NCC Pi Sigma Alpha is open to juniors and seniors from all majors who have completed at least fifteen credits of political science including one upper-level political science course, with no grade below "B" in those classes. Students must also have an overall grade point average that places them in the top one-third of their class. The goal of Pi Sigma Alpha is to engage students and faculty interested in the study of political science in discussions and projects related to politics and government.

**Internships:** Many political science students choose to earn academic credit through internship experience. Recent interns have worked for members of Congress and the state legislature, as legal assistants, for international and national non-governmental organizations, and at the national, state, county, and city levels of government.



**Off-campus Study:** Students are encouraged to pursue off-campus study and research opportunities within the United States and abroad. North Central College is a member institution of the Washington Semester Program at American University, which combines the traditional classroom environment with internships and allows students to study all facets of the American political system in the nation's capital. The college has numerous study abroad opportunities for students in sites located around the world. All students are eligible to apply for Richter fellowship funding to support individualized off-campus research projects.

**101 Introduction to American Government (3.00) IAI: S5 900**  
Introduction to American politics, the Constitution, Congress, Presidency, political parties, interest groups, and principal contemporary problems of the U.S. government. Satisfies teacher certification requirements in Illinois and the U.S. Constitution. Core: Social Science.

**102 Introduction to International Relations (3.00) IAI: S5 904N**  
Trends in international relations from both a theoretical and practical perspective through the examination of power, diplomacy, morality, international law, and organization. Core: Social Science.

**103 Introduction to Law (3.00)**  
The role of law in shaping values and controlling society examined through the humanities and social sciences, including literature, ethics, history, politics, philosophy, and sociology. Topics include origins and nature of law, law and social change, and uses of precedent. Students participate in legal arguments. Core: Social Science.

**200 Theories of Political Science (3.00) IAI: S5 903**  
Examination of politics as studied by political scientists, including the major political ideas and theories that are the purview of the field, such as the meaning of the state, power, realism, and idealism. Core: Social Science.

**201 Practices of Political Science (3.00)**  
A continuation of PSC 200 in which the focus is on understanding and applying the tools of political science research including quantitative analysis, survey design, assessment, and research ethics. Prerequisite: PSC 200. Core: Social Science.

**210 Chicago Politics (3.00)**  
This course focuses on the genesis and development of politics "Chicago style." It examines important political figures, the struggle for political inclusion of immigrants and African-Americans, and political competition in the ward system. It examines key historical events in Chicago's political history such as the Haymarket Riots and the elections of Oscar DePriest, Jane Byrne, and Harold Washington. Political corruption is also a key concern of this course. Prerequisite: PSC 101.

**211 American Presidency (3.00)**  
In-depth study of the President's constitutional and political power. Special attention to decision-making styles, the war power, presidential character, relations with the media and the public, and crises such as the Cuban missile crisis, Watergate, and the Iran-Contra affair. Prerequisite: PSC 101. Core: Social Science.

**212 American Congress (3.00)**

Focus on how Congress works, including characteristics of members, staff, committees, procedures, and debates. Student research examples: Clean Air Act, Iran-Contra hearings, Rules Committee, President-Congress relations. Prerequisite: PSC 101. Core: Social Science.

**213 Elections and Campaigns (3.00)**

The role of parties, voters, and the media in elections and the political process, including local, state, and national races. Attention to social, economic, and psychological factors affecting voting patterns. Fieldwork in campaigns is encouraged. Prerequisite: PSC 101. Core: Social Science.

**214 American Political Parties and Interest Groups (3.00)**

This course provides an in-depth examination of American political parties and organized interest groups. We explore the interrelationship among such groups and discuss the importance of group activity, representation of constituencies and organizations, as well as the role of parties and interest groups in elections. Prerequisite: PSC 101. Core: Social Science.

**215 Political Behavior and Public Opinion (3.00)**

An examination of the theoretical and applied aspects of opinion formation, measurement, and expression in several Western democracies. Students explore modern polling techniques and engage in hands-on activities using the tools that social scientists use to analyze public opinion and to explain and predict political behavior. Prerequisite: PSC 101. Core: Social Science.

**221 Comparative Politics (3.00)**

A comparative approach to the major political systems in the world such as parliamentary, totalitarian, and democratic. Typical countries include Russia, Japan, China, Great Britain, and France. Prerequisite: PSC 101.

**222 American Foreign Policy (3.00)**

Dynamics of the U.S. foreign policy decision-making process examined from the perspectives of the President, Congress, and public opinion; special attention to the evolution of the U.S. role as a great power since World War II. Prerequisite: PSC 101.

**230 Mock Trial I: Techniques and Procedures (3.00)**

Introduction to the rules, procedures and case materials of the American Mock Trial Association in preparation for regional and national competition. Prerequisite: Consent of instructor.

**231 Mock Trial II: Competition Practicum (2.00)**

Preparation for and participation in Mock Trial tournament competition. This course is graded pass/no pass. May be taken up to three times for credit. Prerequisite: Consent of instructor.

**241 Philosophy of Law (3.00)**

(Same as: PHL 241.) An introduction to the concept of law, including topics such as the nature of law, liberty and law, justice, legal responsibility, punishment, and theories of legal interpretation. Prerequisite: PSC 103 or a PHL course. Core: Humanities.

**290 Topics in Politics (3.00)**

An examination of a current topical issue in politics, such as religion and politics or political corruption, in a seminar style format. Students conduct an analysis of the topic using primary documents and scholarly sources.

**295 Research Practicum (0.50-3.00)**

Students work in collaboration with faculty on ongoing research. Activities vary according to project needs and student background, but may include recruitment of participants, data collection, data coding and entry, bibliography construction, literature review, or statistical analysis. This course is graded pass/no pass. May be taken more than once for up to three total credit hours. Prerequisite: Consent of Instructor.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****312 Women and American Politics (3.00)**

(Same as: GWS 312.) Study of women as citizens, candidates, and office holders within the American political system. Topics include, but are not limited to, social movements, electoral politics, and interest group activities. Prerequisite: One of PSC 101, GWS 100, or LEV 121. ACR: Leadership, Ethics, and Values.

**313 Politics of Race, Gender and Class (3.00)**

This course analyzes the interrelationship of race, class, and gender to explore how each has shaped the experiences of all people in the United States. It investigates these interlocking categories of experiences and conceptualizes them as interactive systems, not just as separate features of experience. The underlying perspective of this course is that race, class, and gender are part of the whole fabric of experience for all groups, not just women and people of color. As such, the course focuses on the institutional or structural basis for race, class, and gender relations; the influence of race, class, and gender in shaping social and political policy; the extent to which politics affects our understanding of race, class, and gender, and how these categories illuminate or obscure our understanding of contemporary political issues. ACR: Leadership, Ethics, and Values.

**320 Global Governance (3.00)**

The study of the international framework of global governance which includes an analysis of the structures, interactions, and operations of actors such as public international organizations like the United Nations and European Union; states; and non-state actors like non-governmental organizations, multinational corporations, and epistemic communities. There is also a focus on the continuing issues of global governance including peace and security, human rights, economic development, and the environment. Special emphasis is placed on the creation of a global civil society.

**321 Model United Nations I (3.00)**

Preparation for and participation in the American Model United Nations simulation program. Students represent a pre-selected country during three days of debate/diplomacy on current U.N. topics with students from other Midwest colleges. May be taken twice for credit. Prerequisite: PSC 320.

**322 Model United Nations II (3.00)**

Analysis of political, economic, and social structure of pre-selected countries with an emphasis on foreign policy and participation in Midwest Model United Nations. May be taken twice, with study of different governments each time. May be taken concurrently with PSC 321.

**324 International Political Economy (3.00)**

(Same as: ECN 324.) Analyses of the problems and prospects challenging the global community at a time of political and economic change through the study of the rules of industrialized countries, former socialist bloc states, and the Third World. Attention is given to the interplay of political and economic power as components of planetary well-being. Prerequisites: ECN 100; or ECN 250, ECN 252. ACR: Intercultural.

**333 International Law (3.00)**

The development and use of international law in the conduct of international relations; special emphasis is placed on such current topics as space law, laws of war, law of the sea, diplomatic immunity, and human rights. Prerequisite: PSC 102.

**335 Constitutional Law (3.00)**

Analysis of U.S. Supreme Court opinions, methods of constitutional interpretation, and the philosophy and politics of decision-making. Focus is on powers of the judiciary, President and Congress; federal-state relations; and foreign affairs, war, commerce, taxing, and spending powers. Prerequisites: PSC 101, PSC 103, PSC 200, and one other 200-level political science course.

**336 Civil Rights, Liberties, & Justice (3.00)**

Focus on historical and contemporary topics in the area of constitutional litigation, such as free speech, press, religion, reproductive rights, privacy, rights of the criminally accused, and discrimination (race, gender, and sexual orientation). Constitutional litigation is approached from the viewpoint of politics, economics, history, social movements, value conflicts, and leadership. Students assess the leadership role of individuals and groups in promoting and hindering social change. Prerequisite: PSC 101. ACR: Leadership, Ethics, and Values.

**341 Classics of Political Philosophy (3.00)**

(Same as: PHL 341.) A survey of the history of Western political thought. Prerequisite: Any 200-level PSC course or two PHL courses.

**343 Economic and Social Justice (3.00)**

(Same as: PHL 343.) A brief introduction to the concept of justice, followed by an examination of the alternative views of distributive justice. Alternatives include the various forms of liberalism (contractarianism, libertarianism, and utilitarianism), Marxism, communitarianism, feminism, and postmodernism. Prerequisite: One course in philosophy, economics, history, political science, or sociology and anthropology.

**344 Modern and Postmodern Political Thought: Culture and Power (3.00)**

This course examines the relationship between culture and power. Culture infuses and constitutes forms of identity, organization, and practice in society, the economy, and in politics. It informs the lives of humans in relation to one another and the social system in which they participate. Culture is the process of meaning making that gives rise to attitudes, beliefs, values, and norms. The course outlines some of the central theoretical traditions in the study of cultural meaning making, and examines the relationship between processes of meaning making, power, and domination in social life. Most of the readings make an effort to examine these issues in the context of specific past and present empirical cases in the United States and other societies.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****490 Seminar in Political Science (3.00)**

Capstone course in political science. Topics change. May include major research paper. Prerequisites: PSC 101, PSC 200, PSC 201, and one 300-level PSC course. and Senior standing.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

## Psychology (PSY)

*Professors: Heather M Coon, Karl Kelley, Mary Jean Lynch, Jonathan Mueller, Thomas Sawyer*

*Assistant Professors: Leila Azarbad, Patricia Mitchell Schacht, Daniel VanHorn*

*Adjunct Faculty: Sharon J. Gilbert, Paul J. Mullen, Nicole R. Rivera*

### Mission Statement

The mission of the Psychology department is to prepare students to function as competent, ethical individuals in their personal and professional lives. In order to accomplish this goal, we expect their study of psychology to enhance their ability to think critically, to communicate effectively, and to appreciate the scientific approach to understanding behavior.

As a member of the social sciences, psychology seeks to understand the causes and consequences of human and animal behavior by employing the methods of scientific inquiry. Given this general orientation, the Psychology program at North Central College seeks to provide students with a sound background in the methods used to understand behavior. Students receive an overview of several key areas within the discipline: Social, Biological, Cognitive/Learning, and Developmental. In addition, students explore at least one topic in depth through a senior seminar, an independent study, or an internship.

Degrees offered: B.A. and B.S.

### Psychology Major

#### B.A. Requirements:

30-42 credit hours, including:

at least nine credit hours at the 300- or 400-level

Three Core Courses

PSY 100 Psychology: The Science of Behavior

PSY 250 Statistics

PSY 255 Research Design & Experimentation

Theoretical Perspectives

Social (choose one):

PSY 240 Social Psychology

PSY 310 Cultural Psychology

Biological (choose one):

- PSY 200 Evolutionary Psychology
- PSY 280 Drugs & Behavior
- PSY 370 Biological Psychology

Cognitive/Learning (choose one):

- PSY 340 Learning
- PSY 345 Cognitive Psychology

Developmental (choose one):

- PSY 210 Child Development
- PSY 220 Psychology of Adolescence

Depth (choose at least three credit hours of one of the following)

- 400-level seminar
- 400-level Independent Study (Or HON 400, Senior Honors Thesis, if supervised by Psychology faculty)
- 400-level Internship

Psychology majors must also complete the Psychology outcomes assessment.

**B.S. Requirements:**

33-45 credit hours; including:

at least 12 credit hours at the 300- or 400-level

Four Core Courses

- PSY 100 Psychology: The Science of Behavior
- PSY 250 Statistics
- PSY 255 Research Design & Experimentation
- PSY 360 Psychological Assessment

Theoretical Perspectives

Social (choose one):

- PSY 240 Social Psychology
- PSY 310 Cultural Psychology

Biological (choose one):

- PSY 200 Evolutionary Psychology
- PSY 280 Drugs & Behavior
- PSY 370 Biological Psychology

Cognitive/Learning (choose one):

- PSY 340 Learning
- PSY 345 Cognitive Psychology

Developmental (choose one):

- PSY 210 Child Development
- PSY 220 Psychology of Adolescence

Depth (at least three credit hours)

- 400-level Independent Study (Or HON 400, Senior Honors Thesis if supervised by psychology faculty)

Psychology majors must also complete the Psychology outcomes assessment.

Required Support courses for the B.S. degree

MTH 152

At least six credit hours from two of the following areas:

- Computer Science
- Mathematics above MTH 152
- Life science or physical science course(s), beyond the courses used to fulfill general education requirements, and that count toward a major in a science discipline

Recommended Electives for the B.S. degree

- PHL 370 Philosophy of Science
- PSY 380 History of Psychology
- SOA 202 Research Methods in Social Sciences: Qualitative

## Psychology Minor

A minimum of 21 credit hours to include PSY 100, PSY 250, and at least 3 credit hours in Psychology at or above the 300-level.

### 100 Psychology: Science of Behavior (3.00)

**IAI: S6 900**

An examination of the basic concepts, processes, theories, and empirical findings concerning the behavior of organisms. Consideration is given to the following topics: physiological and developmental basis of behavior, sensory and perceptual processes, states of consciousness, learning and memory, and motivation and emotion, as well as personality, intellectual functioning, psychopathology, and social influences on behavior. Core: Social Science.

### 120 Psychology of Personal Adjustment (2.00)

A survey of various theories of personality and development and their practical implications for effective coping with the demands of everyday life. Students are encouraged to differentiate empirically supported theories from the “pop psychology” that pervades modern media. Topics include stress and coping, identity development and self-assessment, interpersonal relationships, social influence, self-esteem, career development, and behavior change. This course does not count toward a major in Psychology.

### 200 Evolutionary Psychology (3.00)

This course focuses on the evolution of behavioral and cognitive processes that relate to the adaptation of organisms to challenges of survival and successful reproduction. While the primary emphasis is on humans, consideration of such adaptations in non-human species provides a broader context for considering human evolutionary psychology. Topics for consideration include gender differences in sex and mating; parental investment and parent-offspring conflict; altruism and aggression; food preferences and habitat selection; and the potential integrative influence of evolutionary theory across the field of psychology. Prerequisites: PSY 100 or BIO 100 (or above).

### 205 Educational Psychology (3.00)

The application of various psychological concepts, theories, and experimental findings to an understanding of human behavior in an instructional setting. Group discussions of actual case studies on problems in teaching and education are conducted. The course is required by all states for prospective public school teachers. Prerequisite: PSY 100.

### 210 Child Development (3.00)

**IAI: S6 903**

Theory and research from the field of child development are studied in order to better understand the child’s physical, language, cognitive, social, and emotional development from birth to adolescence. Prerequisite: PSY 100. Core: Social Science.

### 220 Psychology of Adolescence (3.00)

**IAI: S6 904**

This course focuses on the developmental tasks of adolescence, such as forming an identity and developing mature relations with peers, family, and possible mates. Theory and research in the area of adolescent psychology are examined. Prerequisite: PSY 100. Core: Social Science.

### 230 Psychology of Adulthood and Aging (3.00)

**IAI: S6 905**

The focus of this course is on the developmental tasks of adulthood, beginning with the transition from adolescence to young adulthood and ending with the issues faced by the oldest members of our society. Discussion of theories and research related to identity, adult relationships, sexuality, careers and retirement, health and wellness, the biological process underlying aging, and the pursuit of “successful aging.” Prerequisite: PSY 100. Core: Social Science.

**240 Social Psychology (3.00)****IAI: S8 900**

An examination of the theories and research regarding human social behavior. Discussed in this area are social perception, self-perception, attitudes, social influence, attraction, altruism, aggression, group effects, and environmental psychology. Prerequisite: PSY 100. Core: Social Science.

**250 Statistics (3.00)****IAI: M1 902**

A course stressing the methods, concepts, and logic underlying the statistical evaluation of research data. The course stresses descriptive and inferential statistics, estimation and hypothesis testing, and “why” as well as “when” to use various statistical methods. A working knowledge of basic algebraic techniques is necessary. Only one of PSY 250 and BUS/ECN 241 may be taken for credit. Prerequisites: MTH 118 or higher. Core: Mathematics.

**255 Research Design & Experimentation (3.75)**

The activities involved in obtaining, accumulating, and organizing scientific knowledge through experimentation are stressed in this course. The concepts, logic, and methods which serve as a basis for designing and conducting scientific research are presented in lecture and laboratory periods, and are practiced in laboratory exercises and in individual projects. Prerequisites: PSY 100, PSY 250.

**270 Industrial Psychology (3.00)**

This course explores the relationship between individuals and their jobs. Topics include psychological theory and research related to job-design, selection, training, assessment, and career development. Prerequisite: PSY 100.

**280 Drugs and Behavior (3.00)**

An examination of drug effects on behavior, with emphasis on topics such as the neurophysiology of drug action, drug use versus drug abuse, physical versus psychological dependence, and the legal and social implications of drug use. A range of classes of psychoactive drugs is considered, including stimulants, depressants, alcohol, opiates, hallucinogens, and psychotherapeutic drugs. Prerequisite: PSY 100.

**282 Stress and Coping (3.00)**

This course surveys theories and research about stress and coping. Specific topics include the physiology of stress, psychoneuroimmunology, effects of stress on mental health and behavior, coping styles, and stress management. Prerequisite: PSY 100.

**295 Research Practicum (0.50-3.00)**

Students work in collaboration with faculty on ongoing research. Activities vary according to project needs and student background, but may include recruitment of participants, data collection, data coding and entry, literature review, statistical analysis, etc. This course is graded pass/no pass. Repeatable up to three times or three credit hours. Prerequisite: PSY 100.

**310 Cultural Psychology (3.00)**

(Same as: SOA 310.) The course considers what we mean by culture, and how taking culture into account affects our knowledge of basic psychology in areas like human development, the self-concept, gender expectations, as well as our understanding of mental illness. The course focuses on both psychological and anthropological approaches to studying culture and the pros and cons of different approaches. Prerequisites: PSY 100 and SOA 105, or any 200-level Psychology course, excluding PSY 250. ACR: Intercultural.



**320 Personality (3.00)**

The structure, development, expressions, and measurements of the normal personality. The course considers major personality theories, methods of psychotherapy and counseling, ideal models of human living, and the mature personality. Prerequisite: One 200-level Psychology course excluding PSY 250.

**324 Abnormal Psychology (3.00)**

The focus of this course is on understanding the causes, diagnostic criteria, and treatment of psychological disorders in adults (including such diverse problems as adult depression, anxiety disorders, personality disorders, and schizophrenia). Issues such as diagnostic interviewing, stigma, and cultural relativity are also discussed. Prerequisite: one 200-level Psychology course.

**325 Child Psychopathology (3.00)**

The focus of this course is on understanding the causes, diagnostic criteria, and treatment of psychological disorders in children and adolescents (including such diverse problems as childhood depression, ADHD, eating disorders, and autism). Particular emphasis is placed on treatment modalities that are specific to problems in childhood, such as parent training, play therapy, and family therapy. Prerequisite: One 200-level course in Psychology excluding PSY 250.

**330 Community Psychology (3.00)**

Community psychology presents a complementary perspective to traditional clinical psychology. Community psychologists focus on preventing mental disorders before they occur, and more generally on promoting mental health. They often address these goals by studying, designing, and implementing programs and policies that build communities (schools, neighborhoods, the larger society, etc.) which are more conducive to good mental health. Topics discussed include prevention, program evaluation, creation of settings, psychological conceptions of the environment, social support, community organization and development, empowerment and social action, mutual help, participant research, social justice, social policy, and ethics of community intervention. Prerequisites: One 200-level Psychology course, excluding PSY 250; Junior standing. ACR: Leadership, Ethics and Values.

**340 Learning (3.75)**

This course surveys theories of learning from an historical perspective. In addition, developments in methodology and applications of learning are discussed (e.g., behavior modification and programmed instruction). A weekly lab is included. Prerequisite: One 200-level course in Psychology excluding PSY 250.

**345 Cognitive Psychology (3.75)**

An examination of how humans acquire, store, retrieve, and use knowledge. The course emphasizes an information processing approach to cognition and deals with such topics as perception, selective attention, memory, imagery, problem-solving, reasoning, artificial intelligence, and decision-making. A weekly laboratory is included. Prerequisite: PSY 255.

**350 Clinical Psychology (3.00)**

This course provides an empirical overview of the various assessment techniques, treatment modalities, and ethical and controversial issues in the field of clinical psychology. Students also gain exposure to practical skills used by clinicians in various therapeutic settings. Special consideration is given to helping students practice various counseling techniques, develop self-awareness, and apply theories of psychotherapy to their own lives via role plays and experiential exercises. Prerequisite: one 200-level Psychology course.

**360 Psychological Assessment (3.00)**

This course examines theory, construction, evaluation, and interpretation of psychological tests. Special emphasis is placed on the ethical and appropriate use of tests and the intersection between testing and contemporary society. Special topics include testing in the areas of intelligence, personality, attitudes, interests, and abilities. Prerequisites: PSY 250, one additional 200-level Psychology course.

**370 Biological Psychology (3.75)**

An examination of the manner in which genetic, neural, biochemical, and endocrine factors contribute to behavior and mental processes. Special attention is given to biological contributions to behavioral development, sensory processes, sexual and aggressive behavior, motivation, sleep, emotion, and psychopathology. Laboratory activities include exposure to a variety of methods related to biopsychology, dissections of the ruminant brain and the eye, and activities related to sensory and motor processes. Prerequisite: BIO 100, 101, or 102; one 200-level Psychology course, excluding PSY 250.

**380 History of Psychology (3.00)**

An examination of the major factors providing the roots for psychology, as well as the significant persons and theories which shaped its subsequent development as the scientific approach to the study of behavior and mental processes. Prerequisites: one HST course; one 200-level Psychology course, excluding PSY 250.

**385 Health Psychology (3.00)**

This course studies how biological, psychological, behavioral, and social factors influence health and illness. Specific topics include psychological contributors to illness, behavior change, stress management/coping, disease prevention, weight control, coping with chronic illness, and the healthcare delivery system. Prerequisites: PSY 100 and one 200-level Psychology course or one 200-level Biology course.

**390 Seminar (1.00-3.00)**

Seminar courses are offered on a variable time schedule and focus on a variety of topics of current or recurrent interest in psychology. The topics chosen depend upon faculty and student interest and are publicized in the course schedule for the terms during which the seminar is offered. Repeatable with different topics. Prerequisites: PSY 100; one 200-level Psychology course, excluding PSY 250.

**397 Internship (0.00-9.00)**

Prerequisite: one 200-level Psychology course.

**399 Independent Study (1.00-9.00)**

Prerequisite: one 200-level Psychology course.

**490 Seminar (3.00)**

An in-depth study of a specific topic or issue in psychology. Students are expected to read and discuss original sources and current literature in psychology. Repeatable with different content. Prerequisites: PSY 255 and one 300-level Psychology course.

**497 Internship (0.00-9.00)**

Prerequisite: PSY 255 or a 300-level course in Psychology.

**499 Independent Study (1.00-9.00)**

Prerequisite: PSY 255.

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## Radiation Therapy (RDT)

Radiation Therapy is an interdisciplinary field that combines chemistry, physics, mathematics, computer technology, and medicine in the use of radiation to diagnose and treat disease. Radiation Therapy uses high energy X-rays, electron beams, or radioactive isotopes as cancer-killing agents. These therapies change the direct physical process of individual cells. The radiation therapist is a highly specialized healthcare professional who is an important part of the healthcare team. The team includes physicians, physicists, and nurses. Radiation therapy is one of the most effective treatments today for many cancers and an increasing number of other medical conditions. The radiation therapist delivers highly technical skills to patients requiring specialized care.

North Central College's degree program in Radiation Therapy prepares students for a career as a Radiation Therapist. The first option is a 3+1 program with Northwestern Memorial School of Nuclear Medicine. Students spend three years at North Central College, where they complete their liberal arts general education core along with prerequisite science and math courses. This is followed by a 12 month clinical experience at Northwestern Memorial Hospital. The student then graduates from North Central College with a liberal arts degree in Radiation Therapy. Admission to the final year of the program is based upon successful application to the program at Northwestern Memorial Hospital in the second term of the junior year. Student applicants are considered and evaluated solely by the faculty/staff at Northwestern Memorial Hospital. Student admission to the program at Northwestern is not guaranteed.

Another option is for the student to complete a four-year BS or BA degree at North Central College in chemistry, biology, or biochemistry, and then apply for admission to Northwestern Memorial Hospital for a one-year certificate program in Radiation Therapy.

Students intending to major in Radiation Therapy must apply for admission into the North Central College program at the end of their second year of study. Prerequisite courses and other requirements are subject to change. Keep in touch with the Pre-Professional Health Program Coordinator for the most recent information.

Degrees offered: B.A. and B.S.

### Radiation Therapy Major

#### B.A. Requirements:

##### Prerequisite Coursework:

Introductory Biology	BIO 101, BIO 102
Introductory Chemistry	CHM 141, CHM 142
Organic Chemistry	CHM 220, CHM 221, and CHM 222
Statistics	PSY 250 or ECN 241
Calculus I	MTH 141 or 151
Physics	PHY 141, PHY 142, PHY 143C or PHY 115 and PHY 116

**Upper Level Biology or Chemistry Coursework:**

A minimum of 11.25 credit hours in additional biology or chemistry coursework is required. At least 7.5 credit hours must be at the 300 level or higher. The courses should be a series which provides an area of concentration at the upper level. Some suggested series:

BIO 200, BIO 202, BIO 260

BIO 302, BIO 310, BIO 340, BIO 360, and BIO 430

CHM 205, CHM 210

CHM 341, BCM 365, BCM 465, CHM 405, and CHM 420.

**Major Requirements:**

RDT 410 Management and Methods of Patient Care I

RDT 411 Management and Methods of Patient Care II

RDT 412 Radiation Safety and Protection

RDT 414 Pathology/Sectional Anatomy

RDT 416 Radiation Physics

RDT 418 Radiation Therapy Physics

RDT 420 Radiation Biology

RDT 422 Medical Imaging and Processing

RDT 430 Principles and Practice of Radiation Therapy I

RDT 431 Principles and Practice of Radiation Therapy II

RDT 434 Quality Management

RDT 436 Treatment Planning

RDT 440 Operational Issues in Radiation Therapy

RDT 442 Clinical Practicum I

RDT 443 Clinical Practicum II

**B.S. Requirements:**

In addition to the B.A. requirements, MTH 152 must be completed.

**410 Management and Methods of Patient Care I (2.00)**

An overview of the foundations, concepts, and theories in radiation therapy, and the practitioner's role in the health care delivery system. The interrelation of standards of care, law, ethical standards and competence is examined, along with medical terminology (the standardized language of medical practice, including abbreviations and symbols). Concepts and competencies in assessment and evaluation of the patient for service delivery. Psychological and physical needs, and factors affecting treatment outcome are examined. Routine and emergency care procedures are presented. Prerequisite: Admission into the RDT program.

**411 Management and Methods of Patient Care II (2.00)**

Continuation of RDT 410, Management and Methods of Patient Care I. Prerequisite: Admission into the RDT program.

**412 Radiation Safety and Protection (2.00)**

Presents basic principles of radiation protection and safety for the radiation therapist. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies, and health care organizations are incorporated. Specific responsibilities of the radiation therapist are discussed, examined, performed, and evaluated. Prerequisite: Admission into the RDT program.

**414 Pathology/Sectional Anatomy (2.00)**

The course content is presented in two parts: general pathology and neoplasia. General pathology introduces basic disease concepts, theories of disease causation, and system-by-system pathophysiologic disorders most frequently encountered in clinical practice. Neoplasia provides an in-depth study of new and abnormal development of cells. It presents the processes involved in the

development and classification of both benign and malignant tumors, and site-specific information on malignant tumors. Sectional anatomy studies normal sectional anatomy via diagrams and radiological images. Prerequisite: Admission into the RDT program.

#### **416 Radiation Physics (2.00)**

Establishes a basic knowledge of physics pertinent to developing an understanding of radiations used in the clinical setting. Covers fundamental physical units, measurements, principles, atomic structure, and types of radiation. Also presents fundamentals of x-ray generating equipment, x-ray production, and the interaction with matter. Prerequisite: Admission into the RDT program.

#### **418 Radiation Therapy Physics (2.00)**

Reviews and expands concepts and theories presented in the radiation physics course. Presents detailed analysis of the structure of matter, properties of radiation, nuclear transformations, x-ray production, and interactions of ionizing radiation. Also covered are treatment units used in external radiation therapy, measurement and quality of ionizing radiation produced, absorbed dose measurement, dose distribution, and scatter analysis. Prerequisite: Admission into the RDT program.

#### **420 Radiation Biology (2.00)**

Presents basic concepts and principles of radiation biology. Covers the interactions of radiation with cells, tissues, and the body as a whole, and resultant biophysical events. The theories and principles of tolerance dose, time-dose relationships, and fractionation schemes as related to the clinical practice of radiation therapy are discussed, examined, and evaluated. Prerequisite: Admission into the RDT program.

#### **422 Medical Imaging and Processing (2.00)**

Covers the factors that govern and influence the production and recording of radiographic images for patient simulation, treatment planning, and treatment verification in radiation oncology. Radiation oncology imaging equipment and related devices are presented. Prerequisite: Admission into the RDT program.

#### **430 Principles and Practice of Radiation Therapy I (3.00)**

An overview of cancer and the specialty of radiation therapy. The medical, biological, and pathological aspects, as well as the physical and technical aspects, are discussed. The roles and responsibilities of the radiation therapist, the treatment prescription, and the documentation of treatment parameters and delivery are presented. Prerequisite: Admission into the RDT program.

#### **431 Principles and Practice of Radiation Therapy II (3.00)**

Examines and evaluates the management of neoplastic disease using knowledge in arts and sciences, while promoting critical thinking and the basics of ethical clinical decision making. The epidemiology, etiology, detection, diagnosis, patient condition, treatment, and prognosis of neoplastic disease are discussed and evaluated as they relate to histology, anatomical site, and patterns of spread. The radiation therapist's responsibility in the management of neoplastic disease is examined, and linked to the skills required to analyze complex issues and make informed decisions. Prerequisite: Admission into the RDT program.

#### **434 Quality Management (2.00)**

Presentation of the evolution of quality management (QM) programs and continuing quality improvement in radiation oncology. Topics include the need for quality assurance (QA) checks; QA of the clinical aspects and chart checks;

film checks; evaluations and tests performed on simulators, megavoltage therapy equipment, and therapy planning units; the role of radiation therapists in QM programs; legal and regulatory implications for maintaining appropriate guidelines; and the role computers and information systems serve within the radiation oncology department. Prerequisite: Admission into the RDT program.

#### **436 Treatment Planning (2.00)**

An overview of factors that influence and govern clinical planning of patient treatment. Included are isodose descriptions, patient contouring, radiobiologic considerations, dosimetric calculations, compensation, and clinical application of treatment beams. Optimal treatment planning is emphasized. Particle beams, stereotactic, and emerging technologies are presented. Prerequisite: Admission into the RDT program.

#### **440 Operational Issues in Radiation Therapy (2.00)**

Focuses on various radiation therapy operational issues. Continuing Quality Improvement project development and evaluation and assessment techniques are emphasized. Human resource issues and regulations impacting radiation therapists are examined. Covers accreditation agencies and the radiation therapist's role in the accreditation process. Presents billing and reimbursement issues pertinent to the radiation therapy department. Prerequisite: Admission into the RDT program.

#### **442 Clinical Practicum I (3.00)**

Sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice, and professional development are discussed, examined, and evaluated. Includes supervised clinical education, which offers exposure to a sufficient and well-balanced variety of radiation treatments, examinations, and equipment. Rotations include: three general radiation therapy treatment rooms, Simulator/CT simulator, Nursing department, and Physics/Dosimetry department. Prerequisite: Admission into the RDT program.

#### **443 Clinical Practicum II (2.00)**

Continuation of RDT 442, Clinical Practicum I. Prerequisite: Admission into the RDT program.

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## **Religious Studies (REL)**

*Professor: Wioleta Polinska*

*Associate Professors: Perry Hamalis, Brian Hoffert, David Janzen*

### **Mission Statement**

In Religious Studies courses, students are invited to deepen their understanding, appreciation, and toleration of religious traditions and the religious dimension of humanity through a variety of learning opportunities and academic methods.

The aims of religious studies are to analyze and understand the structure and diversity of religious phenomena. The study of various religions provides the basis for identifying what is similar and unique in the historical religious traditions. Complementing this approach are opportunities for concentrated study of several specific religions or concentration on a specific dimension of one religion, such as the study of the sacred scripture of that religious community.

Courses in religious studies may lead toward: a) graduate study, b) seminary and professional ministry, c) careers in social and/or religious service agencies, d) support of other majors dealing with religious beliefs and behavior, and e) careers requiring religious knowledge, such as religious journalism. In addition, students are encouraged to consult with faculty in Religious Studies to discover ways the study of religion can complement the student's personal and vocational goals. In this regard, double majors are frequently encouraged.

Degree offered: B.A.

### **Religious Studies Major**

30 credit hours, including REL 100 and at least two 300-level courses. Courses must be distributed among all four of the course listings below.

Biblical Studies: 110, 210, 215, 220, 222, 355.

Non-Christian Traditions: 255, 260, 265, 270, 280, 315, SOA 155.

Ethical and Social Dimensions of Religion: 115, 125, 225, 230, 240, 310, 340, 344, 345, 375.

Theology and Philosophy of Religion: 325, 330, 350, 360.

### **Religious Studies Minor**

21 credit hours, including REL 100 and at least one 300-level course. Courses must be distributed among all of the four course listings above.

#### **100 Introduction to World Religions (3.00) IAI: H5 900**

An introduction to the major religions of the world. The primary methodology is phenomenological. Special emphasis is given to the beliefs, rituals, sacred texts, and ethical dimension of each religion. Core: Humanities. ACR: Religion and Ethics.

#### **110 Introduction to Bible (3.00)**

An introductory survey course of the Bible that identifies major historical and cultural forces that influenced the development of Biblical religion and analyzes dominant theological themes in the Biblical texts. May not be taken for credit by a student who has already taken either REL 210 or REL 220. Core: Humanities. ACR: Religion and Ethics.

#### **115 Christian Ethics (3.00)**

An examination of the Christian basis for morality and arguments by which specific moral actions are justified. Attention is given to such perennial moral issues as capital punishment, sexuality, biomedical ethics, and political obligations. Core: Humanities. ACR: Religion and Ethics.

#### **125 Religious Ethics (3.00)**

A comparison of ethical experience, sources, norms, and methods as interpreted by at least one Eastern religion and one Western religion. Attention is given to specific issues such as marriage and family, war and peace, and social responsibility. Core: Humanities. ACR: Religion and Ethics.

**210 Old Testament (3.00)****IAI: H5 901**

An introduction to the Old Testament in its historical setting. Attention is given to the interpretation of the exodus, the monarchy, the prophetic movement, the exile, and the postexilic experience. Core: Humanities. ACR: Religion and Ethics.

**215 The Evolution of God (3.00)**

This course examines the origin and development of ancient Israel's portrayals of God. It traces these beliefs from their origins in the religions of the surrounding ancient Near Eastern cultures through the development of monotheism and the apocalyptic worldview, exploring the various ways in which ancient cultures contrasted divine and human standards of ethical behavior. The course concludes with various early Christian descriptions of the relation of the Christian Messiah to the God of Israel in the writings of the New Testament. Core: Humanities. ACR: Religion and Ethics.

**220 New Testament (3.00)****IAI: H5 901**

An introduction to the New Testament in its historical setting. Attention is given to the social and religious milieu of the early Christian community, the interpretation of the Synoptic Gospels, the theological themes in Paul's letters, and the unique motifs in the Johannine literature. Core: Humanities. ACR: Religion and Ethics.

**222 Violence, War, and Peace in the Bible (3.00)**

The course examines traditions from both the Old and New Testaments in regard to issues of violence, war, and peace in the biblical texts. Different portrayals of the character of God as warlike and vengeful, as well as beneficent and peace-loving, are examined, in places in dialogue with the religious traditions of the surrounding cultures. The different portrayals of violence and peace in the human community are discussed in light of these depictions of God. Core: Humanities. ACR: Religion and Ethics.

**225 Urban Ethics and Religion (3.00)**

This course examines the relationship between urban problems in America and religious communities and their teachings. Attention is given to the ways religious institutions can be both part of the problem and part of the solution within urban contexts, as well as to specific resources within religious traditions for illuminating and improving urban life. Field trip and guest speakers. Core: Humanities. ACR: Religion and Ethics.

**230 Gender in the Judeo-Christian Traditions (3.00)**

(Same as: GWS 230.) The study of how gender affects religious practices, beliefs, and experiences in Christianity and Judaism. Core: Humanities. ACR: Religion and Ethics.

**235 Sexuality and Christianity (3.00)**

(Same as GWS 235.) An examination of contemporary Christian approaches to sexuality in a dialogue with secular philosophies of sexuality. Core: Humanities. ACR: Religion and Ethics.

**240 Religion in the United States (3.00)****IAI: H5 905**

This course addresses religious diversity in the U.S. by examining several religious traditions. These traditions serve as a lens through which to view issues relevant to contemporary American culture. Particular attention is given to the resources present within each tradition for spiritual transformation within the North American context. Core: Humanities. ACR: Religion and Ethics.



**245 Religion and Ethics in Film (3.00)**

A study of religious and ethical values present in popular film. Attention is given to issues such as race, gender, minority religious traditions, sexual norms, and the intersection of religion and politics. Core: Humanities. ACR: Religion and Ethics.

**255 The Religions of India (3.00)**

An exploration of the major indigenous religions of South Asia with particular emphasis on shared concepts such as karma, the cycle of rebirth (samsara), and the transcendence of rebirth (nirvana/moksha). The course traces the evolution of Indian religion from its roots in the Vedas and Upanishads through the development of Buddhism, Jainism, Hinduism, and Sikhism, and concludes with an examination of “inclusivistic” and “exclusivistic” approaches to religious pluralism in contemporary Indian thought. Core: Humanities. ACR: Religion and Ethics.

**260 The Religions of China (3.00)**

An examination of the history, theory, and practice of the major religious traditions of China: Confucianism, Daoism, Buddhism, and the folk traditions that blend all three. The course focuses on the evolution of Chinese religion through a process of mutual influence within a general atmosphere of religious tolerance for sectarian differences. Core: Humanities. ACR: Religion and Ethics.

**265 The Religions of Japan (3.00)**

A survey of the major religious traditions of Japan, including Shinto, Buddhism (Tendai, Shingon, Zen, Pure Land and Nichiren), and the various “New Religions” that have come to prominence in the post-war period (such as Soka Gakkai and Tenrikyo). The theory and practices of specific religions are examined in their historical context, beginning with the early roots of Shinto and concluding with the dramatic changes that have transformed the Japanese religious landscape from the nineteenth century to the present. Core: Humanities. ACR: Religion and Ethics.

**270 Judaism (3.00)**

Beliefs, traditions, ethics, and history of Judaism, with special attention to Zionism and the Holocaust. Core: Humanities. ACR: Religion and Ethics.

**280 Islam and the Middle East (3.00)**

Islamic society, culture, and theology, with special attention to Turkey, the Arab World, Pakistan, India, Indonesia, and the Arab-Israeli conflict. Field trip to nearby Islamic community. Core: Humanities. ACR: Religion and Ethics.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****310 Death and Dying (3.00)**

(Same as: HTB 310.) An examination of general topics related to death and dying in America, with a special emphasis on the study of selected ethical and theological issues. Prerequisite: Junior standing. ACR: Religion and Ethics.

**315 Buddhism (3.00)**

A detailed exploration of the historical evolution of Buddhism from its initial formulation in India to its various incarnations in Southeast, Central, and East Asia, as well as its more recent manifestation in North America. Particular attention is given to the distinctions between the three major branches of the

religion (Theravada, Mahayana, and Tantrayana), as well as to the theory and practice of individual sects such as Zen and Pure Land. ACR: Religion and Ethics, Intercultural.

### **325 Jesus and Buddha in Dialogue: Spiritualities of West and East (3.00)**

An exploration of spiritual traditions of Christianity and Buddhism with attention to their similarities and differences arising from their unique cultural backgrounds. The course examines Buddhist and Christian teachings on a variety of issues such as their founders, ritual prayers, love, consumerism, and gender. Prerequisite: REL 100. ACR: Religion and Ethics, Intercultural Seminar.

### **330 Contemporary Christian Theologies (3.00)**

An examination of those contemporary Christian theologies which are making an impact on the direction of current theological discourse. Attention is given to African-American theology, feminist theology, liberation theology, and the contemporary debate on Christology. Prerequisite: One religion course. ACR: Religion and Ethics.

### **340 Sociology of Religion (3.00)**

(Same as: SOA 340.) A study of the interplay between religion and society. Attention is given to religion as a system of ideas and ritual patterns as well as a social institution. Prerequisite: One course in religion or SOA 100.

### **344 Religion and the Political Order (3.00)**

(Same as: PHL 344.) A historical survey of primary texts engaging the intersection of religion and political theory, as well as the relationship between political leadership and religious/ethical values. Emphasis is placed upon Western political philosophers shaped within the traditions of Judaism, Christianity, and/or Islam, as well as upon the themes of theocracy, civil religion, and secularization. Thinkers studied may include Plato, early Christian authors, Eusebius, John Chrysostom, Augustine, Al-Farabi, Maimonides, Averroes, Aquinas, Marsillus of Padua, Reformation authors, Hobbes, Locke, Rousseau, or De Tocqueville. Prerequisite: Any two courses in Philosophy, Religious Studies, or Political Science. ACR: Leadership, Ethics, and Values.

### **345 Religion, Ritual & Symbol (3.00)**

(Same as: SOA 345.) A cross-cultural examination of religious beliefs and religious institutions, and the symbolic meanings and social functions of myths and rituals. Special emphasis on the beliefs and practices of selected indigenous peoples. Prerequisite: Course work in religion or SOA 105. ACR: Intercultural.

### **350 Gender and World Religions (3.00)**

(Same as: GWS 350.) An analysis of feminist thought in non-Western religious traditions. The course discusses women's redefinition of traditional concepts, rituals, and practices in a number of religious traditions across the globe. ACR: Religion and Ethics and Intercultural Seminar. Prerequisite: REL 100 or a course in non-Judeo-Christian tradition.

### **355 The Historical Jesus (3.00)**

A systematic review of scholarly attempts to construct an accurate portrait of Jesus of Nazareth as he actually lived and worked in Palestine in the first century of the common era. Special attention is given to the "new quest" for the historical Jesus characterizing the scholarly debate on this topic since 1950. Prerequisite: One of REL 110, REL 220, or HOI 103. ACR: Religion and Ethics and Leadership, Ethics, and Values.

**360 Philosophy of Religion (3.00)**

(Same as: PHL 360.) An examination of the basic issues in the philosophy of religion, including the relation of faith and reason, the problem of the existence and nature of God, and the nature and significance of religious experience. Prerequisite: Previous course in philosophy or religion. ACR: Religion and Ethics.

**361 Science and Religion: Conflict or Dialogue? (3.00)**

(Same as: PHL 361.) This course examines the contemporary dialogue between science and religion in relation to different Western and Asian religious traditions. The course considers the implications of recent scientific theories for understanding and assessing the belief systems of various theistic and nontheistic religions. Prerequisites: Junior standing, one course in science. ACR: Intercultural Seminar.

**375 Topics in Religious Ethics (3.00)**

An intensive study of one topic or theme in contemporary religious ethics through the lens of at least two major religious and cultural traditions. Philosophical and scientific sources, films, and/or literature that illuminate the topic may also be examined. Content varies. Possible topics include: Pacifism and Just War, Work and Family, The Environment, Accounts of Human Nature and Human Perfection, or Asceticism. Repeatable with different topic. Prerequisite: Any two courses in Philosophy or Religious Studies. ACR: Intercultural Seminar.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## The Division of Science (SCI)

The Division of Science comprises the Departments of Biology, Chemistry and Physics, Computer Science, Mathematics, and Psychology. Several interdisciplinary courses are offered at the divisional level, and an interdisciplinary Science major is available in addition to the majors offered by individual departments.

**Mission Statement**

The goal of the Science division is to prepare students to function as competent, ethical individuals in their personal and professional lives. In order to accomplish this goal, we provide a challenging and supportive environment for students to: i) think critically, ii) develop investigative skills, and iii) communicate ideas effectively.

**109 Science Inquiry (3.50)**

The teaching of science by the method of inquiry, which is the foundation of scientific learning. Inquiry utilizes active, conceptually oriented methods of investigation. This course is for students who want to reduce their anxiety toward science by increasing their knowledge of and familiarity with the subject of scientific investigation. It is also for prospective elementary teachers who will teach science as part of their curriculum. Laboratory.

**141 Physical Geology (3.50)**

Examines basic geologic principles from a physical perspective. Includes such topics as the formation of rocks and minerals and internal and external processes modifying the earth's surface. Core: Science (Lab).

**210 Landmark Discoveries in Natural Science (3.00)**

An inquiry into the discovery process in science. Investigates the means by which new scientific theories are created and subsequently gain acceptance. The interaction of science with the larger human community is an important part of this course. Prerequisite: One of MTH 108, MTH 118, MTH 121, MTH 140 or higher level math course. Core: Science.

**297 Pre-Professional Health Science Internship (0.00-3.00)**

Students "shadow" health care professionals in the emergency room, surgery and the laboratory. Simultaneously, they work on a research paper dealing with an issue in health care, a paper done under the direction of the NCC supervising faculty member.

**299 Independent Study (1.00-9.00)****397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****432 Science: Fact or Fiction**

Outlines current views on the scientific method and questions whether science, as we know it, was an inevitable outcome of human intellect. The concept of science as a profession is also explored. What are the accepted standards of conduct within the scientific community? What is the relationship between the scientific community and the rest of society? How can scientists become more active in helping society recognize faulty science or pseudoscience? Specific

case studies are used to investigate these questions and to discuss the ethical issues facing scientific researchers. Prerequisites: Six and one half credit hours in science (including one laboratory course). ACR: Leadership, Ethics, and Values.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

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## Social Science/History

See **History** for a description of courses and programs of study in Social Science/History.

# Sociology and Anthropology (SOA)

*Professor: Louis Corsino*

*Associate Professors: Jennifer Keys, Matthew Krystal*

*Assistant Professor: Kristin Geraty Bonacci*

*Adjunct Faculty: Carlene Sipma-Dysico*

## Mission Statement

The department of Sociology and Anthropology assists students in developing a sociological imagination and/or anthropological worldview in order to understand social structure, cultural dynamics, contemporary social problems, and inequality. We encourage students to use the concepts, theories, and methods to promote social justice and pursue meaningful careers or other roles in public life.

Sociology and anthropology are closely related disciplines. Their aim is to understand and explain the social and cultural forces that influence human behavior both past and present, both in small scale and large scale societies.

For its part, sociology challenges us to understand our own lives in terms of the social and cultural forces at work in society. This is a difficult challenge, for the subject matter of sociology — the family, poverty, urban life, organized crime, race and ethnic relations, juvenile delinquency, and the like — is often thought of in individual terms. However, from a sociological perspective, the goal is to uncover the “public issues” that often underlie these more “private troubles.”

From its perspective, anthropology offers insights into the study of humankind, in all its conditions. Such a broad and ambitious goal requires a unique configuration of perspectives. Thus, anthropology is holistic and comparative; is evolutionary or historical; seeks to complement scientific, humanistic, and cultural insider’s views; and is based on experiential learning. Most anthropologists are trained in four commonly conceptualized sub-disciplines: cultural anthropology, biological anthropology, archaeology, and linguistic anthropology. While study in all four of these sub-disciplines is available at North Central College, the strength of the department is centered in cultural anthropology.

With respect to career opportunities, sociology and anthropology offer valuable preparation for positions in private corporations, government agencies, educational institutions, and not-for-profit organizations. For example, positions as urban planner, social service provider, community liaison, public relations professional, juvenile counselor, police officer, educator, public health worker, admissions counselor, journalist, and security officer are available for majors with a bachelor’s degree in sociology. Anthropology majors have opportunities in a wide variety of professional positions, especially those in international, intercultural, and interactive contexts. For those students who are considering an advanced degree, sociology and anthropology prepares students to enter professional programs in law, business administration, public policy, theology, social work, public and fine arts administration, religious studies, and public health, as well as advanced programs in sociology and anthropology.

Degree offered: B.A.

Students may choose a major in Sociology, Sociology and Anthropology, or in Anthropology.

## Sociology Major

30 to 36 credit hours, depending on the concentration. All students majoring in sociology are required to take six core courses that together examine the central themes, methods, theories, and career opportunities in the discipline.

Core Courses: 18 credit hours

- SOA 100 Introduction to Sociology
- SOA 190 Urban Problems
- SOA 200 Research Methods in Social Science: Quantitative
- SOA 201 Social Theory
- SOA 202 Research Methods in Social Science: Qualitative
- SOA 498 Public Sociology

Within the major, students must then select *one* of the following concentrations:

A. Criminal Justice: 18 credit hours

- SOA 250 Criminology
  - SOA 280 Race and Ethnicity **-or-**
  - SOA 380 Social Class in American Society
  - SOA 300 Organized Crime
  - SOA 350 Juvenile Delinquency
  - SOA 490 Criminal Justice
- And one course from the following:
- LEV 230 Conflict Resolution
  - PSY 280 Drugs and Behavior
  - PSC 336 Civil Rights, Liberties, and Justice

B. Community Studies: 18 credit hours

- SOA 203 Community Studies
  - SOA 280 Race and Ethnicity
  - SOA 375 Protest and Change
  - SOA 380 Social Class in American Society
  - SOA 494 Chicago Field Study
- And one course from the following:
- HST 210 City Life
  - HST 325 American Cities and Suburbs
  - PSC 343 Economic and Social Justice
  - PSY 330 Community Psychology
  - ENG 360 Writing for Social Change

C. General Concentration: 12 credit hours

In addition to the core requirements above, students complete at least 12 credit hours within SOA, of which 6 credit hours must be at the 300-level or above.

## Sociology Minor

18 credit hours including SOA 100, 200 or 202, 201, and nine additional credit hours of sociology elective of which at least three credit hours must be at the 300-level or above.

## Sociology and Anthropology Major

27 credit hours, to include the following:

- SOA 100 Introduction to Sociology
- SOA 105 Introduction to Cultural Anthropology
- SOA 155 Native Americans
- SOA 165 Introduction to Archaeology **-or-**
- SOA 205 Introduction to Physical Anthropology
- SOA 190 Urban Problems
- SOA 200 Research Methods in Social Science: Quantitative

SOA 202	Research Methods in Social Science: Qualitative
SOA 201	Social Theory
SOA 345	Religion Ritual and Symbol

### Anthropology Major

36 credit hours, to include the following:

Core Courses: 15 credit hours

SOA 105	Introduction to Cultural Anthropology
SOA 200	Research Methods in Social Science: Quantitative
SOA 201	Social Theory
SOA 202	Research Methods in Social Science: Qualitative
SOA 497/499	Independent Study in Anthropological Method and Theory (See SOA department chair for opportunities. Examples include independent studies covering or connected to Richter funded research, Field Museum internship, Chicago Term, approved study abroad, or approved field schools.)

- A. Subfield Exploration: six credit hours from:
- |         |                                       |
|---------|---------------------------------------|
| SOA 165 | Introduction to Archaeology           |
| SOA 205 | Introduction to Physical Anthropology |
| ENG 370 | Language and Linguistics              |
- B. Indigenous Peoples Series: nine credit hours:
- |         |                                  |
|---------|----------------------------------|
| SOA 155 | Native Americans                 |
| SOA 363 | Mexico and its Neighbors -or-    |
| SOA 345 | Religion, Ritual and Symbol      |
| SOA 421 | Indigenous Peoples and the State |
- C. Interdisciplinary Electives: six credit hours from:
- |         |                                      |
|---------|--------------------------------------|
| ART 264 | Non-Western Art Survey               |
| EAS 292 | Topics in Japanese Culture           |
| FRN 370 | Francophone Africa                   |
| FRN 331 | Contemporary France                  |
| GER 310 | German Life and Culture              |
| GLS 492 | Seminar in Global Studies            |
| HST 165 | Introduction to East Asia            |
| HST 175 | Latin American History               |
| HST 261 | Traditional China                    |
| HST 263 | Japanese History                     |
| HST 265 | Modern China                         |
| HST 312 | Immigration and U.S. Ethnic Identity |
| HST 330 | East Asian Thought                   |
| HTB 115 | Human Geography                      |
| HTB 175 | Cultural Regions of the World        |
| REL 255 | Religions of India                   |
| REL 260 | Religions of China                   |
| REL 265 | Religions of Japan                   |
| SOA 185 | Peoples and Cultures of Africa       |
| SOA 310 | Cultural Psychology                  |
| SPN 331 | Latin American Area and Civilization |

A minor in a non-English language or a minimum level of proficiency (two years of college level or equivalent) is recommended.

## **Anthropology Minor**

18 credit hours including SOA 105, 155, 165 or 205, 202, and six additional credit hours selected from: SOA 345, 363, or 421.

### **100 Introduction to Sociology (3.00)**

**IAI: S7 900**

An introduction to the basic concepts, theories, and methods of the study of human groups. Includes an examination of deviance, class, race and gender inequality, and social institutions from the sociological perspective. Core: Social Science.

### **105 Introduction to Cultural Anthropology (3.00)**

**IAI: S1 901N**

An examination of the diversity of human cultures. Human adaptations to various environments. Kinship, religion, political, and economic institutions in non-Western societies. Core: Social Science.

### **155 Native Americans (3.00)**

Continuity and change, diversity and commonality among the indigenous peoples of the United States and Canada. Concentration on native nations of the upper Midwest. Special emphasis on ecological and spiritual relationships with the land. Core: Social Science.

### **165 Introduction to Archaeology (3.00)**

Introduces concepts, principles, and methods used to reconstruct cultural history and prehistory. Explores sequences of cultural development learned through archaeological analysis. Case studies by instructor. Core: Social Science.

### **185 Peoples and Cultures of Africa (3.00)**

(Same as: HST 185.) An introductory survey of the cultural diversity and complexity of sub-Saharan Africa. Attention is given to the long period of independent development of traditional societies, the forms and extent of European domination, and the post-1945 struggles to regain independence and create new cultural identities. Core: Humanities or Social Science.

### **190 Urban Problems (3.00)**

An introduction to urban life from a sociological perspective. Examines issues of urban culture, racism, poverty, power, and community from both analytic and practical perspectives. Major goal of the course is to engage in an enlightened debate on the nature of urban life. Core: Social Science.

### **200 Research Methods in Social Sciences: Quantitative (3.00)**

(Same as: HTB 200.) An assessment of the strengths and limitations of various modes of quantitative data collection including experiments, questionnaires, content analysis, and the use of secondary data. Emphasis is placed on ethical issues, becoming a critical consumer of research, and developing the ability to design and carry out an independent study.

### **201 Social Theory (3.00)**

Introduction to the three major theoretical perspectives of sociology: conflict, functionalism, and microinteractionism as these relate to issues of social order and disorder in society.

### **202 Research Methods in Social Sciences: Qualitative (3.00)**

An overview of qualitative methods, including in-depth interviewing, oral history, focus groups, and participant observation. Addresses practical issues, such as question development, negotiating access, maintaining rapport, sampling strategies, note taking, and analysis. Delves more deeply into ethical issues and the “back stages” of the research process.



**203 Community Studies (3.00)**

An examination of the challenges and opportunities confronting communities in contemporary society, with a focus upon issues of social justice, social change, and community service. The course serves both as an introduction to urban and community life and an introduction to meaningful careers in public life, social services, and community organizing.

**205 Introduction to Physical Anthropology (3.00)**

The evidence for human evolution. Humankind as a member of the primate order. The origin and present status of human races. Controversies surrounding the biological bases of intelligence and social behavior. Laboratory work included. Core: Social Science or Science.

**210 Gender Studies (3.00)**

(Same as: GWS 210.) The study of gender as a social product, including theoretical frameworks, gender-defining institutions, and feminism.

**220 Family (3.00)**

(Same as: GWS 220.) The sociological study of the family. Topics examined from a structuralist/feminist perspective include the history of the family, the relationship between work and family, and the impacts of class and race on family structure. Core: Social Science.

**250 Criminology (3.00)**

A survey of historical and contemporary theories of crime, an analysis of the nature and extent of major types of crime, an overview of the American criminal justice system.

**280 Racial & Ethnic Minorities (3.00)**

An examination of racial and ethnic diversity in American society; race, ethnic, and class inequality; prejudice, discrimination, and institutional racism; patterns of race and ethnic relations; racial and ethnic responses to racism and subordination. Core: Social Science.

**295 Research Practicum (0.50-3.00)**

Students work in collaboration with faculty on ongoing research. Activities vary according to project needs and student background, but may include recruitment of participants, data collection, data coding and entry, bibliography construction, literature review, or statistical analysis. This course is graded pass/no pass. Can be taken more than once for up to three total credit hours. Prerequisite: Consent of instructor.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)****300 Organized Crime (3.00)**

An examination of organized crime in contemporary society. The course reviews relevant models and explanations of organized crime, the various goods and services provided by organized crime groups (from gambling, to loan sharking, to labor racketeering, to drug trafficking), the emergence of criminal groups in a comparative perspective, and law enforcement responses aimed at social control.

**310 Cultural Psychology (3.00)**

(Same as: PSY 310.) The course considers what we mean by culture, and how taking culture into account affects our knowledge of basic psychology in areas like human development, the self-concept, gender expectations, as well as our understanding of mental illness. The courses focuses on both psychological and anthropological approaches to studying culture and the pros and cons of different approaches. Prerequisites: PSY 100 and SOA 105, or any 200-level psychology course, excluding PSY 250. ACR: Intercultural.

**340 Sociology of Religion (3.00)**

(Same as: REL 340.) A study of interplay between religion and society. Attention given to religion as a system of ideas and ritual patterns as well as a social institution. Prerequisite: Course work in religious studies or SOA 100.

**345 Religion, Ritual & Symbol (3.00)**

(Same as: REL 345.) A cross-cultural examination of religious beliefs and religious institutions, and the symbolic meanings and social functions of myths and rituals. Special emphasis on the beliefs and practices of selected indigenous peoples. Prerequisite: Course work in religion or SOA 105. ACR: Intercultural.

**350 Delinquency (3.00)**

Historical development of the juvenile justice system and “the invention of delinquency.” An overview of the contemporary juvenile court and justice system. An examination of the nature and extent of delinquency in American society and a survey of theories of the causes of delinquent behavior. Prerequisite: SOA 100 or SOA 250.

**360 Sport in Society (3.00)**

(Same as: HPE 360.) An historical study of sport across time and cultures. A comparative analysis of sport and its uses in ancient, medieval, and modern societies is undertaken. Work-leisure patterns that developed over the course of American history are examined. Primary consideration of the urban, industrial, and commercial processes that contributed to culture formation, with particular emphases on class and gender relations, commercialized leisure practices, and the impact of the mass media in the formation of value systems. Discussion of theories relative to the role of sport in society, with particular emphasis on globalization, colonialism, and cultural hegemony in the Caribbean, Pacific Rim, and Asia. ACR: Intercultural.

**363 Mexico and its Neighbors (3.00)**

(Same as: HST 363.) Continuity and change, diversity and commonality among the indigenous peoples of Mexico, Guatemala, and the Southwestern U.S. from first human occupation to the present. Emphasis on indigenous politics and transnational flows of people, culture, and material. Prerequisite: Any 100-level social science course. ACR: Intercultural.

**375 Protest and Change (3.00)**

A sociological study of discontent and social change. Highlights the origins, concerns, life cycle, and impact of social movements, as well as the tactics activists use and the challenges they face. Selected case studies may include civil rights, feminism, animal welfare, and the abortion debate.

**380 Social Class in American Society (3.00)**

An analysis of social class in American society. Examines a variety of social class-related issues, including prestige systems, social mobility, poverty, world systems, structured inequality, and community organizing. Special emphasis placed upon inequality in terms of the values of social justice and attempts to

bring about social changes through different forms of leadership and community organizing. Prerequisites: Junior standing, SOA 100 or SOA 190; or permission of instructor. ACR: Leadership, Ethics, and Values.

**390 Topics in Sociology (3.00)**

An in-depth consideration of current topics in sociology, such as social deviance, work and society, violence, and social disasters.

**397 Internship (0.00-9.00)**

**399 Independent Study (1.00-9.00)**

**421 Indigenous Peoples and the State (3.00)**

The multi-dimensional study of the clash of cultural values, attitudes, and ideologies that commonly occurs in global encounters and relationships between state systems and native peoples. Economic, socio-political, and ideological issues are among the topics covered. Prerequisite: Junior standing; SOA 105 or permission of instructor. ACR: Intercultural.

**490 Criminal Justice in America (3.00)**

An examination of the theoretical and practical responses to crime in American society. Selected topics will include criminal behavior, law, policing, the judiciary, corrections, and juvenile justice. Prerequisite: SOA 250.

**494 Chicago Field Study (3.00)**

A first hand study of city life in Chicago. Prerequisite: SOA 100 or SOA 190.

**497 Internship (0.00-9.00)**

**498 Public Sociology (3.00)**

This capstone experience challenges SOA majors to synthesize and assess what they have learned in the program and to reflect on how sociological skills and insights can be applied to their own lives, future careers, and to the broader community. Students actively engage with issues of public importance, and consider ways to facilitate positive community change and to make sociological knowledge accessible to policy makers, community leaders, and popular audiences. Prerequisite: Sociology major; Junior or Senior standing.

**499 Independent Study (1.00-9.00)**

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## Spanish

See **Modern and Classical Languages** for a description of courses and programs of study in Spanish.

# Speech Communication (SPC)

*Professor: Richard Paine*

*Associate Professor: Mara K. Berkland, Amy Buxbaum, Stephen H. Macek*

*Assistant Professors: John Madormo, Hillary Shulman, John Stanley*

*Adjunct Faculty: Barrie S. Mason, Noreen Mysyk*

## Mission Statement

The department of Speech Communication is committed to the nurturing of students who understand both the theoretical principles undergirding and the pragmatic skills enabling the competent and ethical creation, interpretation, and critique of messages occurring in a variety of face-to-face, public, mediated and artifactual interactions. It grounds this commitment within respect for cultural and personal diversity, the disciplinary knowledge bequeathed by the history of our field, and the need to continually adapt to the rapidly evolving information age.

Humans communicate with each other in a wide array of forms: mass media, face-to-face interaction, and public speaking, to name only a few.

The coming of the “information age” has placed the study of this human quality at the center of many academic endeavors. The revolution in communication technology has heightened the pressures to be competent and ethical senders and receivers of these messages.

The department seeks to prepare students for the ongoing revolution in communication systems. Students can study human message systems in a variety of tracks and emphases. Also, extensive opportunities exist for co-curricular “hands-on” learning in forensics (intercollegiate speech team), WONC radio, video production facilities, and a network of area internships.

Graduates are qualified to begin careers in a number of fields: business, sales, public relations, training and development, and broadcasting. Many pursue further training in graduate and professional schools.

Degree offered: B.A.

Students may choose one of the speech communication majors (see specific requirements under each program). The three majors are: I) Broadcast Communication, II) Speech Communication, or III) Organizational Communication.

## Broadcast Communication Major

This track emphasizes a theoretical and technical understanding of broadcast media, and performance and production in radio and television. Graduates in this track may seek to enter broadcasting as on-air personalities or behind-the-scenes staff and managers (e.g., production, programming, news, music, sports, promotions, public affairs), or may pursue advanced degrees in mass media or communication.

Major Requirements:

This major consists of a minimum of 33.5 credit hours, including completion of the skill practice requirement, core courses, and selected courses from other categories, as listed below.

Skill Practice Requirement:

Three separate terms of credit and non-credit SPC 117 Radio Performance or SPC 113 TV Performance, or any combination of SPC 117, SPC 113, and non-credit or credit internships.

NOTE: The performance practice courses do not count toward the major, minor, or departmental limit of 51 credit hours. However, these credits do

count toward graduation (six credit hour limit in each department) and the courses are graded, whether taken for credit or non-credit.

Eight core courses:

SPC 100	Speech Communication
SPC 185	Mass Media and Society
SPC 262	Radio Production and Direction
SPC 269	Television Production (3.50)
SPC 273	Station Programming
SPC 287	Advanced Public Speaking
SPC 325	Communication Law
SPC 412	Media Criticism

Two SPC writing courses from:

SPC 265	Broadcast News (1.50)
SPC 267	TV/Film Screenwriting (1.50)
SPC 277	Broadcast Copywriting

One advanced production course from:

SPC 405	Advanced Radio Production and Direction
SPC 417	Advanced Video Production

One additional course from:

THE 182	Acting I
SPC 223	Oral Interpretation
SPC 367	Persuasion Theories

Recommended Electives

Up to two electives selected from:

- Any additional speech communication courses.
- Any English writing course above 125.

## Broadcast Minor

18 credit hours from the SPC Broadcast track, to include at least three courses above the 100-level and at least one at the 300- or 400-level.

## Speech Communication Major

Speech communication studies how, why, and with what effects people create, interpret, and evaluate verbal and nonverbal messages, especially in face-to-face contexts. This program includes the study of various communication areas: rhetoric, organizational, media theory, and interpersonal. Graduates may pursue advanced degrees in communication or careers in such communication-related areas as community affairs liaison, media analyst, lobbyist, corporate representative, program coordinator, public information officer, media buyer, sales representative, employee/community relations, speech-writing, human resources management, communication education, or general management.

Major Requirements:

This major consists of a minimum of 39 credit hours, completion of the practicum requirement, core courses, and selected courses from other categories, as listed below.

Practicum Requirement:

Three separate terms of one type or any combination of the following activities: credit or non-credit internship; department-approved independent study or project; or credit or non-credit SPC 113, SPC 117, or SPC 119.

NOTE: The performance practice courses (SPC 113, SPC 117, or SPC 119) do not count toward the major, minor, or departmental limit of 51 credit hours. However, these credits do count toward graduation (six credit hour limit) and the courses are graded, whether taken for credit or non-credit.

NOTE: Students who are interested in pursuing graduate work in a particular communication sub-discipline should select among the non-core options

accordingly. For example, students interested in seeking an advanced degree in media may consider SPC 185, SPC 260, SPC 389, SPC 391/491, SPC 412, an internship in media and an independent study in the area of media theory.

Nine core courses:

SPC 100	Speech Communication
SPC 200	Interpersonal Communication
SPC 214	Group Process
SPC 223	Oral Interpretation
SPC 285	Argumentation and Debate
SPC 287	Advanced Public Speaking
SPC 300	Communication Theory
SPC 367	Persuasions Theories
SPC 410	Rhetorical Criticism

One from:

SPC 185	Mass Media and Society
SPC 230	Business and Professional Communication
SPC 260	Introduction to New Media
ENG 270	Writing, Rhetoric and Culture

Three from:

SPC 317	Intercultural Communication
SPC 330	Organizational Communication
SPC 389	Gender and Mass Media
SPC 391/491	Seminar in Broadcast Media
SPC 392/492	Seminar in Speech Communication
SPC 397/497	Internship
SPC 399/499	Independent Study
SPC 412	Media Criticism
SPC 493	Seminar in Organizational Communication

## **Speech Communication Minor**

18 credit hours from the Speech Communication track, including at least three courses above the 100-level and at least one at the 300- or 400-level.

## **Organizational Communication Major**

This interdisciplinary program focuses on communication in professional settings, emphasizing historical and contemporary perspectives on the multitude of communicative practices that constitute organizational life. Students learn to think critically about communication in organizations, as well as develop specific skills for the presentation and analysis of organizational messages. Selected courses from other fields complement a core set of courses. Depending on the courses selected as well as coursework in a minor, students are prepared for positions in business, industry, non-profit, community, and governmental organizations, and may take career paths in internal corporate communication, human resources, training and development, media and community relations, public relations, sales and marketing, customer service, community advocacy, technical communication, and management.

Major Requirements:

This major consists of a minimum of 45 credit hours, including 10 core courses and five specialty courses as specified below.

Ten core courses (30 credit hours):

SPC 100	Speech Communication
SPC 214	Group Process
SPC 230	Business & Professional Communication

- SPC 287 Advanced Public Speaking  
 SPC 330 Organizational Communication Theory  
 SPC 430 Advanced Organizational Communication  
 PHL 210 Professional Ethics
- One communication context course from:
- SPC 185 Mass Media and Society  
 SPC 200 Interpersonal Communication  
 SPC/IMS 260 Introduction to New Media
- Two advanced communication courses from:
- SPC 285 Argumentation and Debate  
 SPC 300 Communication Theory  
 SPC 317 Intercultural Communication  
 SPC 367 Persuasion Theories  
 SPC/GWS 389 Gender and Mass Media  
 SPC 397/497 Internship  
 SPC 399/499 Independent Study  
 SPC 392/492 Seminar in Speech Communication  
 SPC 493 Seminar in Organizational Communication
- Five specialty courses
- One research methods course from:
- SOA 200 Research Methods: Quantitative  
 SOA 202 Research Methods: Qualitative
- One writing course from:
- ENG 220 News Writing  
 SPC 277 Broadcast Copywriting  
 ENG/IMS 200 Writing Across Media
- One additional writing course from:
- ENG 250 News Editing  
 ENG 260 Integrating Word and Image  
 ENG 270 Writing, Rhetoric, and Culture  
 ENG 360 Writing for Social Change  
 ENG 455 Writing in Technical & Professional Settings
- Two specialty courses from:
- BUS 135 Introduction to International Business  
 BUS 268 Marketing  
 BUS 372 Consumer Behavior  
 BUS 378 Sales & Sales Management  
 BUS 384 Human Resource Management  
 BUS 455 Promotional Strategy  
 ECB 110 Business and Society  
 HST 320 U.S. Social Movements  
 LEV 121 Issues in Leadership  
 LEV 230 Conflict Resolution  
 LEV 240 Leadership and Culture  
 LEV 301 Servant Leadership  
 LEV 390 Seminar on Leadership Theory  
 LEV 495 Applied Leadership  
 PSC 213 Elections and Campaigns  
 PSC 214 American Political Parties and Interest Groups  
 PSY 270 Industrial Psychology  
 PSY 330 Community Psychology  
 PSY 340 Learning  
 SOA 203 Community Studies

## Recommended course sequence:

## First Year (9 hours):

SPC 100

SPC 214

SPC 185, 200, or 260 (communication context course)

## Second Year (12 hours):

SPC 230

SPC 330

PHL 210

ENG 200, ENG 220, or SPC 277 (first writing course)

## Third Year (12-15 hours):

SOA 200 or 202 (methods course)

SPC 287

SPC 430 (or senior year)

First advanced communication course

First specialty course

## Fourth Year (9-12 hours):

SPC 430 (or junior year)

Second advanced communication course

Second writing course

Second specialty course

## Recommended Minors:

This major is compatible with a number of fields, and in order to develop specific expertise in a subject related to their career goals, students are strongly encouraged to pursue a minor. Related minors include Marketing, International Business, Human Resource Management, Print Journalism, Interactive Media Studies, Leadership, Ethics, and Values, Psychology, Sociology, Gender and Women's Studies, Global Studies, Political Science, and Urban and Suburban Studies. Other minors may be appropriate; students should consult with their academic advisor.

## Recommended Internship:

The faculty highly recommends that majors incorporate field experience working in a professional environment with their program of study by completing at least one internship during their junior and/or senior year. Students should work with their academic advisor and Career Services to identify appropriate internship opportunities, and they should consult the department's current internship policy if they wish to receive academic credit for the experience.

**Organizational Communication Minor**

At least 21 credit hours to include SPC 330 and SPC 430, plus 15 credit hours from the organizational communication core.

**100 Speech Communication (3.00)****IAI: C2 900**

An introduction to speech communication theory, selected interpersonal and small group communication skills, and a wide array of public speaking skills, including preparation, presentation, and evaluation of speeches. Recommended primarily for freshmen and sophomores. Core: Communication.

**113 TV Performance (0.00-1.50)**

Offered to all students who wish to participate in Cardinal Video Productions, the campus video production company. This course is designed for video producers, directors, editors, camera operators, on-camera reporters and announcers, screenwriters, news and promotions staffers. Instructor approval needed for 1.5 credit hours. This is a graded course, regardless of credit.



**117 Radio Performance (0.00-1.50)**

For announcers, engineers, music directors, new directors, production, traffic, sports, public affairs, and promotions staffers. Offered to all students who wish to work at the campus radio station, WONC-FM. Instructor approval needed for 1.5 credit hours. This is a graded course, regardless of credit.

**119 Forensics Performance (0.00-1.50)**

For debaters, oral interpreters, and public speakers. Offered to all students who wish to participate in intercollegiate forensics. Instructor approval needed for 1.5 credit hours. This is a graded course, regardless of credit.

**125 Communication Concepts (1.50)**

This course further explores selected concepts from SPC 100 or 200 in addition to other concepts. An integral topic of the course is listening. A selection of other topics such as impromptu speaking, communication apprehension, semantics, and communication ethics is included.

**185 Mass Media and Society (3.00)**

The history of mass communication in the United States with an emphasis on the sociological and cultural effects of media on society. Core: Social Science.

**200 Interpersonal Communication (3.00)**

A study of communication in face-to-face interactions. The course examines the role of perception of self and others in communication and explores such topics as nonverbal communication, verbal styles, relationship development, and conflict management. Skills training is an important component of the course. Core: Communication.

**214 Group Process (3.00)**

The understanding and practice of small group communication theory and skills in information-sharing and decision-making discussions. Core: Communication.

**223 Oral Interpretation I (3.00)**

Preparation and analysis of prose fiction, poetry, and drama for oral presentation through both solo and duet performance.

**230 Business & Professional Communication (3.00)**

This introductory course in organizational communication focuses on developing skills and strategies involved in written, face-to-face, and electronic communication in professional settings. Students learn fundamentals of interviewing, writing, and presenting in professional contexts and may investigate organizational communication practices such as performance feedback, training, meeting management, and organizational identity. Prerequisites: SPC 100, SPC 200, or SPC 214; Sophomore standing.

**260 Introduction to New Media (3.00)**

(Same as: IMS 260.) This course offers an overview of the Internet and other forms of new media, and examines their impact on human communication, culture, politics, and daily life. It covers the major themes in the sociological and cultural study of new media, and includes some instruction in basic web design skills.

**262 Radio Production and Direction (3.00)**

The preparation, production, and direction of program materials. Uses WONC-FM production studios as the laboratory. Prerequisite: SPC 117 or instructor consent.

**265 Broadcast News (1.50)**

An intensive study of the writing, editing, and production of broadcast news. Students learn to write news while integrating audio and video news elements. Prerequisite: One of ENG 220; SPC 277; or SPC 117 and instructor consent.

**267 TV-Film Screenwriting (1.50)**

The research, writing, and preproduction of television and motion picture screenplays. The behind-the-scenes relationships among producers, directors, screenwriters, and agents, as well as mechanics of script format, are studied.

**268 Advanced TV-Film Screenwriting (1.50)**

A more intensive approach to screenwriting with emphasis on script structure, plot analysis, and character development. Also discussed: Writers Guild of America formatics, screenwriting software choices, securing a literary agent, soliciting producers, and deciphering options and contracts. Prerequisite: SPC 267.

**269 Television Production (3.50)**

An introduction to producing for television, with an emphasis on the student as message-creator and the development of visual literacy. Productions include comedies and dramas, interview programs, news, and public service announcements. Students assume various production roles such as producer, director, editor, etc., and work in a studio setting as well as on-location and in the Pfeiffer edit suite. Laboratory. Prerequisite: SPC 113.

**273 Station Programming (3.00)**

Study of philosophical, legal, and business considerations that determine the programming of radio and television stations. Courses may focus on any one of the following: news and public affairs, audience analysis, programming

research, or other areas related to both commercial and non-commercial programming practices. Prerequisite: SPC 117 or instructor's approval.

**277 Broadcast Copywriting (3.00)**

The research, writing, and preproduction of radio and television scripts for public service announcements, station promotions, and commercials. The relationship between writers with producers, station managers, and advertising agency personnel is studied, as well as an analysis of target audiences.

**285 Argumentation and Debate (3.00)**

Theory and practice in argumentation. Students prepare for and participate in debates in order to develop skills in research, organization, critical thinking, and oral presentation. Core: Communication.

**287 Advanced Public Speaking (3.00)**

Assumes knowledge of principles of and experience in public speaking. The focus of this course is twofold: 1) the study of the historic evolution of the field of rhetoric as revealed through the teachings of major rhetorical theorists (Aristotle through 1830), and 2) the presentation of various types of speeches. Prerequisite: SPC 100 or instructor's approval. Core: Communication or Social Science.

**297 Internship (0.00-9.00)****299 Independent Study (1.00-9.00)**

**300 Communication Theory (3.00)**

An introduction to the enduring issues of theory and research in the discipline, with special emphasis given to concepts and themes peculiar to speech communication, ethics, and historical evolution of the discipline. Intended to be a foundation for study at the advanced level in speech communication. Prerequisites: SPC 200 or SPC 214; SPC 287.

**317 Intercultural Communication (3.00)**

A study of the basic components involved in intercultural communication. Topics considered include, but are not limited to: cultural biases, cultural determinants of experiences and backgrounds, social perception, verbal interaction, nonverbal interaction, and opinion leadership. Prerequisite: Junior or senior standing. ACR: Intercultural.

**325 Communication Law (3.00)**

A study of First Amendment law in the United States, with an emphasis on freedom of speech for print and broadcast media. Case studies are used to show how broadcast stations and newspapers assert their First Amendment rights while adhering to Federal Communication Commission regulations and other legal restrictions. Prerequisite: One of SPC 273, ENG 220, or IMS 200.

**330 Organizational Communication Theory(3.00)**

A survey of the major theoretical perspectives contributing to the study of organizational communication, from classical management through cultural, critical, feminist, and postmodern perspectives. Attention is given to using theoretical perspectives for analyzing and diagnosing communication problems and for effecting change in organizations. Prerequisites: SPC 214 and SPC 230.

**367 Persuasion Theories (3.00)**

A study of the humanistic and scientific theories of oral persuasion as practiced in a variety of situations, including interpersonal, public speaking, organizational, and mass media contexts. Prerequisite: SPC 287.

**389 Gender and the Mass Media (3.00)**

(Same as: GWS 389.) The critical analysis of the complex relations between gender and the mass media. Special emphasis is placed on the social construction of gender, representations of the body, and the cultural significance of the media. Prerequisite: Junior standing.

**390 Seminar (3.00)**

Examination of specialized topics within the areas of speech communication, organizational communication, and media.

**391 Seminar in Broadcast Media (3.00)**

Advanced seminar course.

**392 Seminar Speech Communication (3.00)**

Advanced seminar course.

**397 Internship (0.00-9.00)****399 Independent Study (1.00-9.00)****405 Advanced Radio Production & Direction (3.00)**

The preparation and direction of program materials (commercials, promos, PSAs, music, drama, etc.) on an advanced level. Laboratory uses WONC-FM production studios. Prerequisites: Junior standing, SPC 262.

**410 Rhetorical Criticism (3.00)**

A study of contemporary approaches to the critical analysis of communication. Students examine numerous examples of contemporary rhetoric (speeches, speakers, movements) and consider key factors that can be used to explain the effects of public address acts. Prerequisite: SPC 287.

**412 Media Criticism (3.00)**

A critical study of media analysis theories, with an emphasis on television and film. Students learn to use the theoretical tools media scholars use to analyze the content and effects of media messages. Ethical questions and other related issues are also examined. Prerequisites: Junior or senior standing, SPC 185, SPC 287.

**417 Advanced Video Production (3.00)**

Advanced video production work with an emphasis on the aesthetics of film-style directing and editing. Students work to communicate visually through dramatic, comedic, documentary, and experimental forms. Students shoot entirely on location and have access to computer-based graphics, animation and editing software in the Pfeiffer Hall edit suite. Prerequisite: SPC 269

**430 Advanced Organizational Communication (3.00)**

This course bridges theory and practice by emphasizing key organizational communication processes. Paying particular attention to contemporary research and applications, this course focuses on several topics such as superior-subordinate and peer-to-peer communication, socialization processes, globalization and diversity issues, emotional labor, conflict and decision-making, organizational identity and image, new technology in organizations, organizational change, and leadership. Prerequisites: SPC 330; junior or senior standing.

**490 Seminar (3.00)**

Study of special topics in speech, communication, or broadcasting.

**491 Seminar in Broadcast Media (3.00)**

Advanced seminar course.

**492 Seminar in Speech Communication (3.00)**

Advanced seminar course.

**493 Seminar in Organizational Communication (3.00)**

This advanced seminar course offers an in-depth study of a particular topic of organizational communication. Topics may include communication and organizational cultures, organizational rhetoric, crisis communication, corporate social responsibility, and communication in non-profit and alternative organizations. The topics chosen depend upon faculty and student interest and are publicized in the course schedule for the terms during which the seminar is offered. Prerequisites: SPC 330; junior or senior standing.

**497 Internship (0.00-9.00)****499 Independent Study (1.00-9.00)**

# Sport Management

See **Health and Physical Education** for a description of courses and programs of study in Sport Management.

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## Theatre (THE)

*Professor: Deborah L. Harris*

*Assistant Professors: Kelly Howe, Carin Silkaitis*

*Adjunct Faculty: John Grant Stokes*

### Mission Statement

The department of Theatre is a community of artist/scholar/citizens dedicated to provoking and sustaining interest in theatre as a source of insight into the human condition, through both skills and inquiry-based learning in our classrooms and public performances on our stages.

The Theatre program at North Central College is designed to engage students in the wide array of theory, technique, scholarship, and aesthetics that comprise the theatre arts. The program serves: 1) majors and minors preparing for careers in theatre and allied careers where knowledge of theatre production is required; 2) students who take academic courses to meet general education requirements or who find courses in theatre, musical theatre, and dance to be attractive components of a liberal arts education; and 3) those who participate in campus musical and non-musical productions as a way of enriching their lives.

The department offers a broad spectrum of courses in acting, dance, design, direction, music, and production. The co-curricular program, supervised by the faculty, offers students opportunities for creative expression and skills practice through both the fully-mounted mainstage season and several student-directed series productions.

Degree offered: B.A.

All Theatre and Musical Theatre majors, and Theatre and Dance minors must achieve a C or above in all courses which are used to satisfy the major/minor requirements.

### Theatre Major

A. Six terms of Theatre Practicum (THE 115, THE 116, THE 207, and/or THE 208). Practicum credit is given to students participating in the production of faculty-directed mainstage plays. They may be taken for credit or no credit, and a maximum of six hours may count towards the 120 hours required for graduation. These hours are in addition to, not part of, the hours required for the major. Students are expected to take these courses for credit unless they will exceed 12 hours in the term.

B. Core Requirements. 18 credit hours:

THE 100	Script Analysis
THE 180	Techniques of Production
THE 101	Introduction to Acting <b>or</b>
THE 182	Fundamentals of Acting
THE 270	Directing

THE 359 Theatre History and Literature I

THE 361 Theatre History and Literature II

C. Nine additional hours of theatre. ENG 401 Seminar in Drama will apply toward this requirement.

### **Musical Theatre Major**

A. Six terms of Theatre Practicum (THE 115, THE 116, THE 207, and/or THE 208). Practicum credit is given to students participating in the production of faculty-directed mainstage plays. They may be taken for credit or no credit, and a maximum of six hours may count towards the 120 hours required for graduation. These hours are in addition to, not part of, the hours required for the major. Students are expected to take these courses for credit unless they will exceed 12 hours in the term.

B. Core Requirements: 15 credit hours from:

THE 180 Techniques of Production

THE 182 Fundamentals of Acting

THE 255 Stage Makeup

THE 270 Directing

THE 359 Theatre History and Literature I **-or-**

THE 361 Theatre History and Literature II

C. Musical Theatre majors must achieve at least a B- in MUS 211 and THE 221. Students with a strong music background are strongly encouraged to either minor or double major in music.

THE 145 Musical Theatre Dance

MUS 221 Voice Lessons (6 terms)

THE 221 Voice Lessons: Musical Theatre (6 terms)

THE 245 Musical Theatre Dance II

THE 246 Jazz Dance (0.00 or 1.50 hours)

THE 248 Tap Dance (0.00 or 1.50 hours)

THE 252 Ballet (0.00 or 1.50 hours)

THE 254 Choreography

THE 265 American Musical Theatre

THE 282 Contemporary Acting Styles

THE 350 Advanced Performance Styles/Musical Theatre

THE 353 Acting on Camera

THE 355 Business of Theatre

THE 450 Senior Musical

THE 470 Devising Theatre: Radical and Community-Based Performance

One additional course from: ENG 401, THE 240, or any 300-level or higher theatre course or English drama course

MUS 101 Music Theory I

MUS 108 Aural Harmony I

MUS 211 Piano (three terms)

Two additional music courses from: MUS 102, MUS 109, MUS 201, MUS 208, MUS 205, MUS 250, MUS 251, MUS 328

### **Theatre Minor**

A minimum of 18 hours, including:

A. Three terms of Theatre Practicum (THE 115, THE 116, THE 207, and/or THE 208). Practicum credit is given to students participating in the production of faculty-directed mainstage plays. They may be taken for credit or no credit, and a maximum of six hours may count towards the 120 hours required for graduation. These hours are in addition to, not part of, the hours required for the minor. Students are expected to take these courses for credit unless they will exceed 12 hours in the term.

- B. 12 credit hours selected from: THE 100, THE 180, THE 101 **or** 182, THE 359 **or** 361
- C. Six credit hours from any theatre courses, including non-departmental drama courses such as ENG 401. A maximum of three credit hours of dance may count towards the theatre minor.

### **Dance Minor**

A minimum of 19 credit hours, including the completion of a senior recital covering at least two styles of dance. Students must take each of the courses for credit once; optional repetition of technique courses may be taken for no credit.

THE 145	Musical Theatre Dance I
THE 245	Musical Theatre Dance II
THE 246	Jazz Dance (0.00-1.50)
THE 248	Tap Dance (0.00-1.50)
THE 252	Ballet (0.00-1.50)
THE 254	Choreography
THE 257	Dance History
PHL 220	Aesthetics
THE 399	Independent Study (advanced study in dance) <b>-or-</b>
THE 352	Advanced Ballet

### **100 Script Analysis (3.00)**

This course focuses on reading a script as the basic element in theatre. Through a careful examination of a variety of plays from different periods, a pattern emerges for discerning what options exist for interpreting a script. Students read from classic and contemporary theatre, engage in class discussions, and write analyses of the chosen plays. Students gain practical knowledge useful for actors, directors and designers.

### **101 Introduction to Acting (3.00)**

Specifically designed for students with little to no stage experience, this course emphasizes the development of the actor's instruments through warm-ups, games, improvisations, scenes and monologues. By helping students to overcome stage fright and become more at ease with facing crowds, and by making students more informed observers of the theatrical experience as a whole, this course is highly beneficial to non-majors, as well as to beginning actors.

### **115 Theatre Practicum I (0.00-1.00)**

Theatre is studied through the staging, mounting, and production of a faculty-directed, all-College theatrical production. This course is repeatable up to a maximum of six credit hours earned. Students are expected to take this course for credit unless exceeding 12 credit hours in a term. Prerequisite: Instructor consent.

### **116 Theatre Practicum II (0.00-2.00)**

Theatre is studied through the staging, mounting, and production of a faculty-directed, all-College theatrical production. Students must hold major performance roles or take on major production positions to enroll. This course is repeatable up to a maximum of four credit hours earned. Students are expected to take this course for credit unless they will exceed 12 hours in the term. Prerequisite: THE 115 and instructor consent.

### **145 Musical Theatre Dance I (2.00)**

(Same as: HPE 145.) An introductory course in jazz, ballet, and tap techniques for the stage. The course includes instruction in the history and theory of

musical theatre, dance and the basic building blocks of choreography. This course assumes no prior dance experience and is open to all students interested in dance training for performance. This course may be repeated for credit once.

**175 Introduction to Theatre Arts (3.00)**

**IAI:F1 907**

A comprehensive overview of the process of creating theatre productions, this course explores theatre through criticism, history, design and aesthetic principles. Core: Humanities.

**180 Techniques of Production (3.00)**

A laboratory in scenic construction, painting, rigging, and mounting technique and design. Students also participate in department productions.

**182 Fundamentals of Acting (3.00)**

Designed for students with previous acting experience, including high school and/or community theatre, this course consists of exercises in voice, movement, improvisation, and text study. The course seeks to give the student an awareness of what acting is in both theory and performance. Presentation of scenes and attendance at productions are required.

**190 Stage Management (3.00)**

This course serves as an introduction to the administrative work of the stage manager, while exploring the relationship between the artistry and execution of producing plays and musicals. Students study production protocols, create a prompt book, and learn the forms and formats needed to maintain professional standards while working with directors, actors, and the technical crew.

**207 Musical Theatre Workshop I (0.00-1.00)**

The relationships of music and drama are studied through the staging, mounting, and production of an all-College musical. This course is repeatable up to a maximum of six credit hours. Students are expected to take this course for credit unless they will exceed 12 hours in the term. Prerequisite: Instructor consent.

**208 Musical Theatre Workshop II (0.00-2.00)**

The relationship of music and drama studied through the staging, mounting, and production of an all-College musical. Students must hold major performance roles or take on major production positions to enroll. This course is repeatable up to a maximum of four credit hours. Students are expected to take this course for credit unless they will exceed 12 hours in the term. Prerequisite: THE 207 and instructor consent.

**221 Voice Lessons: Musical Theatre (0.00, 0.50, 1.00)**

Available to all students. May be repeated. Students may take hour lessons for 1.00 credit with permission of the instructor. 1/2 hour lessons=0.50 credit; 1 hour lessons=1.00 credit; 0.00 credit option is only for students who have reached 12 credit hour full time limit..

**240 Voice and Movement (3.00)**

This class focuses on the human voice and body as an instrument of communication both on stage and in everyday life. The course seeks to give the student an understanding of voice and movement and their use as expressive tools for the performance. Prerequisite: THE 182 or instructor's consent.



**245 Musical Theatre Dance II (2.00)**

(Same as: HPE 245.) An extension of Musical Theatre Dance I. This course has its emphasis in jazz, tap, and ballet techniques as applied to musical theatre at an intermediate level. This course also covers choreography in jazz and tap, and auditioning techniques. This course may be repeated for credit once. Prerequisite: THE 145 or instructor consent.

**246 Jazz Dance (0.00-1.50)**

(Same as HPE 246) This course offers a concentration on jazz dance from an historical, theoretical, and performance perspective. This course builds and expands upon the tap dance portion of THE 245. Repeatable course. Prerequisite: THE 245 or instructor consent

**248 Tap Dance (0.00-1.50)**

(Same as HPE 248) This course offers a concentration on tap dance from an historical, theoretical, and performance perspective. This course builds and expands upon the tap dance portion of THE 245. Repeatable course. Prerequisite: THE 245 or instructor consent.

**252 Ballet (0.00-1.50)**

(Same as HPE 252) This course offers a concentration on ballet from an historical, theoretical, and performance perspective. This course builds and expands upon the ballet portion of THE 245. Repeatable course. Prerequisite: THE 245 or consent of instructor.

**254 Choreography (1.50)**

A choreography workshop that explores the technique and skills required to create dance and movement for the stage. The course explores methods of approaching various types of work, from musical staging to dance numbers. Repeatable course. Prerequisite: THE 245 or consent of instructor.

**255 Theatrical Makeup (3.00)**

An introduction to the principles and techniques of theatrical makeup design and application.

**257 Dance History (3.00)**

A study of the history of Western theatrical dance from the first court ballets in the late 16<sup>th</sup> century through early 21<sup>st</sup> century Postmodernism. The course explores the dances, choreographers, dancers, and theories in the cultural context of each period. Core: Humanities.

**265 American Musical Theatre (3.00)**

A study of the American musical theatre from the 19th century to present. Composers and librettists covered include George M. Cohan, Victor Herbert, Jerome Kerr, Rodgers and Hammerstein, and Stephen Sondheim. Field trip to an area production is required. Core: Humanities.

**270 Directing (3.00)**

The course serves as an introduction to the art of directing plays for the theatre. It utilizes background information and experience with acting, stagecraft, and dramatic literature to provide the groundwork for discussion of various approaches to, and techniques of, play production. The course culminates in the public performance of student-directed short scenes and one acts. Prerequisites: THE 182, and sophomore standing.

**280 Stage Lighting (3.00)**

A study of theatrical lighting, design, and operation in department productions.

**282 Contemporary Acting Styles (3.00)**

This course builds on the ideas and work of THE 182. More advanced and intensive scene work is integrated with voice, movement, and textual improvisation during the term. Prerequisite: THE 182.

**290 Scenic Design (3.00)**

The scenic designer is the person charged with the responsibility of finding the form of the physical world of the play. In order to accomplish this task, the designer must develop and call upon a number of skills. In this course students work with some of the problems scenic designers encounter in their attempts to find and develop form, and learn the process of developing design solutions. Prerequisite: THE 180.

**343 Improvisation (3.00)**

This course builds on the improvisational skills introduced in THE 182 and THE 282. More advanced and intensive improvisational work is integrated with performance theory, research, and advanced critical thinking during the term. Prerequisite: THE 182 and sophomore standing.

**350 Advanced Performance Styles/Musical Theatre (3.00)**

This courses examines the different vocal techniques and movement styles necessary for musical theatre. It focuses on a performer's approach to developing a song in the context of contemporary musical theatre, examining the work in terms of structure and content. This course may be taken twice. Prerequisites: Sophomore standing; one of THE 282, two terms of MUS 221, or instructor consent.

**352 Advanced Ballet (0.00-1.50)**

This course continues the development of all beginning areas of ballet, and expands the ballet vocabulary. Prerequisite: THE 252 or instructor consent.

**353 Acting on Camera (3.00)**

This course explores the acting methods used for film and television. Students are trained in camera techniques used for commercial, industrial, film, and television auditions. Students work in front of the camera each week, utilizing actual copy from popular shows, commercials, and movies. Students leave this course audition ready. The course includes extensive scene memorization, class discussions, performance critique writing, and journal self-assessment writing. Prerequisite: THE 182.

**355 Business of Theatre (3.00)**

This course explores the requirements for the business portion of theatre, from building a theatrical resume to selecting a head shot, to registering with an agent. The course includes several field trips to visit experts in specialized areas of theatrical business. The course includes establishing a small business for the actor. Prerequisite: Sophomore standing.

**359 Theatre History and Literature I (3.00)**

A study of the theatre and its literature from its ancient beginnings through the English Restoration. The course explores the drama, productions, theories, personages, and physical theatre in the cultural context of each period.

**361 Theatre History and Literature II (3.00)**

A study of the theatre and its literature from the 19th century Age of Romanticism to the present day. The course explores the drama, productions, theories, personages, and physical theatre in the cultural context of each age.

**363 Classical Asian Theatre (3.00)**

A survey of classical Asian theatre traditions, including the Noh, Kabuki and Bunraku theatres of Japan; Beijing Opera and Yuan drama of China; Sanskrit and Kathakali dance dramas of India; Korean p'ansori dramas and mask dances; and the Balinese Dancers of Indonesia. The course explores the ways in which these performance traditions reflect each country's heritage, religion and culture. Prerequisite: Sophomore standing. ACR: Intercultural.

**382 Classical Acting Styles (3.00)**

An advanced acting class focusing on period styles and an actor's approach to the Classics. Scene study includes the plays of Ancient Greece, Shakespeare, Moliere, and the Restoration. Prerequisite: THE 182 and sophomore standing.

**390 Seminar in Technical Theatre (3.00)**

Advanced seminar course. Topics change yearly Repeatable. Prerequisite: THE 180 and sophomore standing.

**393 Seminar in Theatre (3.00)**

Advanced seminar course. Prerequisite: Sophomore standing.

**397 Internship (0.00-9.00)**

Prerequisite: Sophomore standing.

**399 Independent Study (1.00-9.00)**

Prerequisite: Sophomore standing.

**450 Senior Musical (3.00)**

This is the capstone course for Musical Theatre majors. Graduating seniors work with the faculty advisor to select the show, divide responsibilities for production, and present a fully mounted production on the stage. Prerequisite: Musical Theatre major; senior standing. ACR: Leadership, Ethics and Values.

**470 Devising Theatre: Radical and Community-Based Performance (3.00)**

This course explores three overlapping subfields in theatre and performance studies: devised theatre (also referred to as collective creation), radical theatre, and community-based theatre. The course begins with an exploration of the terms "devised," "radical," and "community." The remainder of the course proceeds with a case study model; it examines a variety of ways theatre practitioners have imagined relationships between radicality, community, and performance. Students split their time equally between making performance and reading/writing about performance theory.

**493 Seminar in Theatre (3.00)**

Advanced seminar course. Prerequisite: Sophomore standing.

**497 Internship (0.00-9.00)**

Prerequisite: Sophomore standing.

**499 Independent Study (1.00-9.00)**

Prerequisite: Sophomore standing.

# Urban and Suburban Studies (USS)

*Professors: Stephen Maynard Caliendo, Lou Corsino, Gerald Gems,  
Richard Guzman, Ann Durkin Keating*

*Associate Professors: William Barnett, Judith Brodhead, Zachary Jack,  
Wendy Koenig, Stephen Macek*

*Assistant Professor: Kristin Geraty Bonacci*

## Mission Statement

The minor in Urban and Suburban Studies provides an opportunity for exploration of the cultural and sociological dimensions of metropolitan regions across the globe, with a particular emphasis on the concept of social justice.

Urban and Suburban Studies offers an interdisciplinary minor introducing students to the cultural and sociological dimensions of metropolitan regions. Courses explore the variety of communities and constituencies which comprise metropolitan regions both today and in the past. North Central's location in the Chicago metropolitan area provides an ideal setting for exploration. Additionally, students are encouraged to take advantage of study abroad opportunities, particularly NCC programs in San José, Costa Rica, and London, as well as the Chicago Term.

## Urban and Suburban Studies Minor

The minor consists of 21 credit hours, including:

USS 300 Urban and Suburban Studies

An additional 18 hours of elective from:

HST 120 Chicago History

REL 120 Urban Ethics

SOA 190 Urban Problems

HST 210 City Life

ART 261 Chicago Art and Architecture

HST 325 American Cities and Suburbs

HPE 262 Sport in Modern Society

HPE 360 Sport in Society

SPC 390 Seminar (when appropriate)

USS 397 Internship

USS 399 Independent Study

ENG 460 Topics (when appropriate - consult with USS faculty)

SOA 494 Chicago Field Study

CHM 430 Chemistry Special Topics (when appropriate)

SOA 203 Community Studies

PSC 210 Chicago Politics

### 300 Urban and Suburban Studies (3.00)

Interdisciplinary exploration of the cultural and sociological dimensions of metropolitan regions. The course is international in scope, explores both cities and their suburbs, and provides the opportunity to examine leadership, ethics, and values in a metropolitan context through the concept of social justice. ACR: Intercultural.

### 325 Leadership and Place (3.00)

(Same as: USS 325.) Leadership and Place traces the influence of home towns and home places on contemporary and historical leadership paradigms while considering such ethical questions as: What role does place play in forming a

responsible and responsive leader? How does one lead responsibly and well far from home? How and where do rural, urban, and suburban ethical standards and value judgments converge and diverge? Where have the leaders of the past come from and where are they likely to be found in the future? Paying close attention to small communities and neighborhoods as key loci in the production of twentieth-century civic leaders and as ethical centers in a Jeffersonian republic, course texts, lectures, and discussions feature real-life case studies designed to engage students in debates weighing ethical and moral positions viewed through the lens of place. Leadership and Place uniquely encourages students in the study of personal (inside-out) as well as cultural (outside-in) place-based, ethical perspectives while inviting them to consider the foundational role home communities play in ethical leadership on the local, regional, and national level. Prerequisite: Junior Standing. ACR: Leadership, Ethics and Values.

### **397 Internship (0.00-9.00)**

### **399 Independent Study (1.00-9.00)**

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## **Verandah (VER)**

Some of the most valuable educational experiences are those spontaneous conversations that arise between students and professors at locations outside of the classroom, such as the Boilerhouse, Old Main Plaza, or off campus. The “verandah” has come to describe a place, but also an informal space for free exchange of ideas and creative pursuit of activities.

Each year North Central College faculty exercise their imaginations by creating Verandah Experiences that are intellectually and personally stimulating for both students and faculty. Verandah courses may offer academic credit, without traditional exams, papers or course evaluations. They may not meet in a classroom — a verandah course might be in a neighboring community, city, state, or country.

### **EXP Verandah Experience (0.00-1.00)**

This short-term, topics-based course supports unique opportunities for student and faculty engagement in a special inquiry, activity, or other initiative that fosters connected learning. Repeatable course, with varying topics. A maximum of 4 credit hours may be applied towards the 120 credit hours required for graduation. The course is graded on a Pass/No Pass basis.

# Integrated Five-Year Bachelor's/ Master's Programs

The College has approved four five-year programs leading to both a bachelor's and a master's degree. Specific admission criteria and program requirements are outlined below; however, all programs share two common elements:

Students may not take more than 12 hours of graduate work prior to earning a bachelor's degree.

Graduate probation and dismissal policies apply to all graduate coursework, regardless of when it is taken.

## **FIVE-YEAR INTEGRATED ACCOUNTING C.P.A. TRACK/ M.B.A. PROGRAM**

The Accounting 5-Year Integrated C.P.A. track allows North Central College students to obtain a B.A. or B.S. degree in accounting as well as the M.B.A. degree within a five-year period. This five-year program is particularly attractive for accounting majors who want to take the C.P.A. exam in Illinois where candidates must have a bachelor's degree and a total of 150 semester hours of coursework to sit for the exam.

### **Admission Criteria**

The integrated degree is only available to students of high achievement, including

- Presidential Scholar recipients with high cumulative grade point averages
- Students nominated by faculty members
- Transfer students with high cumulative grade point averages

Students with a 3.333 cumulative grade point average or better, in accounting and overall, may apply to the graduate program at the end of the Fall term of their junior year. Applications are reviewed by the Accounting Integrated Track Committee, and candidates are interviewed by a member of the Committee.

### **Program Requirements**

The Accounting 5-year program enables full-time students to complete 12 hours of graduate work by the end of the senior year. Six of these hours count toward both the undergraduate and graduate degrees. An additional six hours of graduate coursework are taken during the senior year, beyond the 120 hours required for the bachelor's degree. Students graduate with a B.A. or B.S. at the end of their senior year. In the fifth year, the student completes an additional 24 hours of graduate work to complete M.B.A. requirements.

## **FIVE-YEAR INTEGRATED B.A. OR B.S./ M.S. IN WEB AND INTERNET APPLICATIONS PROGRAM**

Academically strong undergraduates may apply to the Integrated Undergraduate/Graduate Web and Internet Applications Program. Students in this program can earn both the B.A. or B.S. and the M.S. degree in Web and Internet Applications with 144 credit hours, normally completing both degrees within five years.

### **Admission Criteria**

Students interested in applying to the program must meet the following requirements:

- Successful completion of CSC 210, CSC 220, CSC 230, and CSC 306.
- Cumulative G.P.A. of 3.333 or higher, both overall and in the major, **-or-** Cumulative G.P.A. of 3.000 or higher overall and 3.500 or higher in the major.

Students who meet these criteria may apply to the program anytime between the first term of the junior year and the first term of the senior year.

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### **Program Requirements**

The program enables full-time students to complete 12 hours of graduate work, normally during the senior year. Six of these hours count toward both the undergraduate and graduate degrees. The other six hours are beyond the 120 hours required for the bachelor's degree. Students graduate with a B.A. or B.S. at the end of their senior year. In the fifth year, they complete an additional 18 hours of graduate work, including a Master's Project, to earn the Master of Science degree in Computer Science.

### **FIVE-YEAR INTEGRATED B.A. OR B.S./ M.A. IN LIBERAL STUDIES PROGRAM**

Students accepted into this program earn both a bachelor's degree (in any discipline) and the Master of Arts degree in Liberal Studies with the completion of 141 credit hours. Normally both degrees are completed within five years.

### **Admission Criteria**

Students with a minimum G.P.A. of 3.333 may apply to the program no earlier than the third term of their freshman year and no later than the first term of their junior year.

### **Program Requirements**

Students in this program may count a maximum of 12 graduate hours toward the 120 hours required for the undergraduate degree. These hours may be used to meet major or minor requirements (with department or program approval) or as electives. After receiving their bachelor's degree, students take an additional 21 hours of graduate work in their fifth year to complete the requirements for the Master of Arts degree in Liberal Arts.

### **FIVE-YEAR INTEGRATED B.A. OR B.S./ MASTER OF LEADERSHIP STUDIES PROGRAM**

Students who have shown academic strength may apply to enter the integrated Undergraduate/Master of Leadership Studies program. Students accepted into this program earn a bachelor's degree (in any discipline) and the Master of Leadership Studies degree with the completion of 141 credit hours. Normally the bachelor's degree is earned after four years and the master's degree is completed by the end of the fifth year.

### **Admission Criteria**

Students with a minimum cumulative G.P.A. of 3.333 and minimum major G.P.A. of 3.333 may apply any time during their junior year through the first term of their senior year.

### **Program Requirements**

Students in this program may count a maximum of 12 graduate hours toward the hours required for the undergraduate degree. These hours may be used to meet major or minor requirements (with department or program approval) or as electives. After receiving their bachelor's degree, students take an additional 21 hours of graduate work in their fifth year to complete the requirements for the Master of Leadership Studies degree.

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**John D. Bramsen '60**, Retired Mathematical Sociologist, Chicago, Illinois.

**Willard F. Brestal**, Of Counsel, Dommermuth, Brestal, Cobine, and West, Ltd., Naperville, Illinois.

**John J. Case**, President, Agrinetics, Inc., Naperville, Illinois.

**Gerald M. Cole**, Managing Partner, Mid America Group Services, Ltd., Chicago, Illinois.

**Theodore E. Desch**, Retired Senior Vice President, Law and Corporate Affairs, Blue Cross and Blue Shield of Illinois, Naperville, Illinois.

**Jesse R. DeWitt**, Retired Bishop, The United Methodist Church, Dexter, Michigan.

**Harris W. Fawell '51**, Retired U.S. Representative, 13th District, State of Illinois, Naperville, Illinois.

**Donald J. Hackl**, President, Loeb, Schlossman & Hackl, Inc., Architects, Chicago, Illinois.

**Rita G. Harvard**, Partner, Harvard Management Associates, Naperville, Illinois.

**Roger F. Hruby, Sr. '58**, *Executive Committee, Ex-officio*, Managing Partner, RedShift Capital LLC, Burr Ridge, Illinois.

**Samuel W. Hunt, Jr.**, Retired Chief Fiduciary Officer, Northern Trust Bank, San Marino, California.

**John A. Koten '51**, President, The Wordsworth Group, Barrington, Illinois.

**Hazelyn McComas**, Bible Study Leader, Milwaukee, Wisconsin.

**Jean C. Murray, O.P.**, President and Professor Emerita, Dominican University, River Forest, Illinois.

**Richard G. Norenberg '55**, Thoracic Surgeon, Bay Pines Veterans Medical Center, Bay Pines, Florida.

**Julius S. Scott, Jr.**, Retired College President, Hilton Head Island, South Carolina.

**G. Ward Stearns '56**, Retired President, Harris Bank Naperville, Naperville, Illinois.

**Richard F. Wehrli '56**, Chairman of the Board, Naperville Excavating, Naperville, Illinois.

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**William N. Plamondon**, President and Chief Executive Officer, R. I. Heller & Co., Ft. Lauderdale, Florida.

**Myron K. Wentz '63**, President, Sanoviv, National City, California.

## **FACULTY**

**Harold R. Wilde**, President of the College and Professor of Political Science. 1991. A.B., Amherst College, 1967; A.M., Ph.D., 1973, Harvard University.

**R. Devadoss Pandian**, Vice President for Academic Affairs and Dean of Faculty, and Professor of Mathematics. 1985, 1996. B.S., 1963, M.S., 1966, Madras University, India; M.Phil., Madurai University, India, 1971; Ph.D., George Washington University, 1983.

Full-time members of the teaching faculty are listed alphabetically below. The date following the name and title indicates the first year of service at North Central College.

**Diane Bruce Anstine**, Associate Professor of Economics. 1997. B.A., 1990, M.A. 1991, Miami University; M.S., 1995, Ph.D., 1997, University of Kentucky.

**Jeffrey D. Anstine**, Associate Professor of Management. 2002. B.A., State University of New York at Albany, 1987; Ph.D., University of Kentucky, 1995.

**Leila Azarbad**, Assistant Professor of Psychology. 2010. B.A., Illinois Wesleyan University, 2001; M.Ed., 2002, Ph. D., 2006, University of Virginia.

**Norval Bard**, Professor of French and Director of the Roberta I. Myers Language Resource Center. 1997. B.A., Wheaton College, 1985; M.A., 1993, Ph.D., 1997, The Pennsylvania State University.

**William C. Barnett**, Associate Professor of History. 2005. B.A., Yale University, 1988; M.A., University of Texas at Austin, 1997; Ph.D., University of Wisconsin-Madison, 2005.

**Mara K. Berkland**, Associate Professor of Speech Communication. 2003. B.A., Gustavus Adolphus College, 1997; M.A., University of Denver, 1998; Ph.D., University of Utah, 2003.

**Jeffrey A. Bjorklund**, Professor of Chemistry. 1995. B.S., Saint John's University, 1983; Ph.D., University of Minnesota, 1991.

**Paul C. Bloom**, Associate Professor of Physics. 2006. B.A., Reed College, 1990; M.S., 1992, Ph.D., 1998, University of California, Davis.

**Martha Bohrer**, Associate Professor of English. 2004. B.S.S., Cornell College, 1978; M.A., Miami University, Ohio, 1996; Ph.D., University of Chicago, 2003.

**Paul F. Brandt**, Professor of Chemistry. 2001. B.S., Southwest State University, 1984; Ph.D., University of Colorado at Boulder, 1990.

**Kevin Bratland**, Instructor of Health and Physical Education. 2006. B.A., Wartburg College, 2003; M.S., University of Northern Iowa, 2004.

**Judith Brodhead**, Associate Professor of English and Administrative Coordinator of Cultural Events. 1989. B.A., 1973, M.A., 1976, Rutgers University.

**Mark Broucek**, Instructor of Health and Physical Education. 2006. B.A., 1983, M.S., 1987, Arizona State University.

**Karen M. Bunkenburg**, Assistant Professor of Health and Physical Education. 2005. B.A., St. John Fisher College, 1996; M.Ed., Indiana State University, 1998.

**Amy E. Buxbaum**, Associate Professor of Speech Communication. 2005. B.S.C., 1991, M.A., 1993, Ohio University; Ph.D., University of Colorado, 2005.

**Stephen Maynard Caliendo**, Professor of Political Science. 2005. B.A., Clarion University of Pennsylvania, 1993; M.A., 1995, Ph.D., 1998, Purdue University.

**Kenneth D. Campbell**, Associate Professor of Management. 1990. B.S., Miami University, 1976; M.B.A., University of Phoenix, 1982; Ph.D., Georgia State University, 1989.

**Allen B. Carius**, Professor of Health and Physical Education. 1966. B.S., 1964, M.S., 1967, University of Illinois.

**Thomas D. Cavenagh**, Schneller Sisters Professor of Leadership, Ethics, and Values, Professor of Business Law and Conflict Resolution and Director of Leadership, Ethics and Values. 1990. B.A., Trinity College, 1984; J.D., DePaul University, 1987.

**Xiaoye (Sherry) Chen**, Assistant Professor of Marketing. 2012. B.A., Beijing International Studies University, 2000; M.A., University of Waterloo, 2004; Ph.D., McGill University, 2011.

**Suzanne M. Chod**, Assistant Professor of Political Science. 2010. B.S., Bowling Green State University, 2002; M.A., 2003, Ph.D., 2007, Michigan State University.

**Rebecca Clemente**, Professor of Education. 1997. B.S., Ashland University, 1971; M.Ed., 1988, Ph.D., 1992, Kent State University.

**Jean Clifton**, Associate Professor of Management. 2000. B.A., 1981, M.A., 1988, University of Minnesota; Ph.D., Cornell University, 1999.

**Thomas Clifton**, Associate Professor of Management Information Systems. 2000. B.S., 1982, Ph.D., 1990, University of Minnesota.

**Heather M. Coon**, Professor of Psychology. 2000. B.A., Mount Holyoke College, 1988. M.A., 1995, Ph.D., 2000, University of Michigan.

**Beverly Richard Cook**, Professor of Spanish. 1989. B.A., 1979, M.A., 1983, Ph.D., 1988, University of Kentucky.

**Louis Corsino**, Professor of Sociology. 1998. B.A., University of Notre Dame, 1970; M.A., 1973, Ph.D., 1977, University of Massachusetts.

**Michael de Brauw**, Assistant Professor of Classics. 2008. B.A., University of Chicago, 1996; M.A., 1998, Ph.D., 2003, University of Texas at Austin.

**Michael J. Duane**, Professor of Management. 1990. B.A., Mankato State University, 1972; M.A., 1975 and 1981, Ph.D., 1984, University of Minnesota.

**Sara J. Eaton**, Professor of English. 1989. B.S., 1970; Ph.D., 1985, University of Minnesota.

**Hale Ekinci**, Assistant Professor of Art. 2011. B.A., Connecticut College, 2006; M.F.A., University of Florida, 2008; M.F.A., Columbia College, 2011.

**Sheryl L. Finkle**, Professor of Education. 1996. B.S., 1975, M.S., 1981, Illinois State University; Ph.D., Ohio State University, 1990.

**David H. Fisher**, Professor of Philosophy. 1988. B.A., Carleton College, 1965; M.A., Columbia University-Union Theological Seminary, 1967; M.A., 1973, Ph.D., 1976, Vanderbilt University.

**John Fitzgerald**, Instructor of Health and Physical Education. 2007. B.A., University of Chicago, 1998; M.B.A., Loyola University Chicago Graduate School of Business, 2001.

**Alberto Fonseca**, Assistant Professor of Spanish. 2009. B.A., Universidad Nacional de Colombia, 2001; M.A., Virginia Polytechnic Institute and State University, 2004; Ph. D, University of Kansas, 2009.

**Luke Franks**, Assistant Professor of History. 2011. B.A., Brown University, 1993; Ph.D., University of California, 2009.

**Jennifer L Fredette**, Assistant Professor of Political Science. 2012. B.A., University of the Pacific, 2004; M.A., 2006; Ph.D., 2010, University of Washington.

**Mary T. Galvan**, Associate Professor of Marketing. 1992. B.A., Rockford College, 1979; M.A., 1981, Ph.D., 1988, Northern Illinois University.

**Gerald R. Gems**, Professor of Health and Physical Education. 1988. B.A., Northeastern Illinois University, 1977; M.S., University of Arizona, 1980; Ph.D., University of Maryland, 1989.

**Kristin Geraty Bonacci**, Assistant Professor of Sociology. 2009. B.A., University of Notre Dame, 2001; M.A., 2004, Ph.D., 2010, Indiana University.

**Silvia Goldman**, Assistant Professor of Spanish. 2012. B.A., Instituto Nacional de Docencia IPA, 2001; M.A., University of Washington, 2004; Ph.D., Brown University, 2011.

**Frank Gramarosso**, Associate Professor of Health and Physical Education. 1985. B.S., 1975, M.A., 1976, Northwestern University.

**David Gray**, Associate Professor of Accounting. 2007. B.S., Millikin University, 1986; M.A., Northern Illinois University, 1992; CPA.

**Patrick E. Gray**, Visiting Assistant Professor of Finance. 1978. B.S., University of Maryland, 1972; M.B.A., DePaul University, 1974.

**Richard R. Guzman**, Professor of English. 1977. B.A., University of California at Berkeley, 1971; M.A., California State University at Hayward, 1973; Ph.D., University of Virginia, 1977.

**Perry T. Hamalis**, Associate Professor of Religious Studies. 2004. B.A., Boston College, 1992; M.Div., Holy Cross Greek Orthodox School of Theology, 1996; Ph.D., University of Chicago, 2004.

**Sophie Hand**, Professor of French. 1990. B.A., Ursinus College, 1982; M.S., 1986, Ph.D., 1992, University of Wisconsin.

**Brian Hanlon**, Associate Professor of Marketing. 2006. B.S., 1998, M.B.A., 2001, J.D., 2004, DePaul University.

**Deborah L. Harris**, Professor of Speech Communication/Theatre. 1994. B.F.A., Birmingham-Southern College, 1985; M.F.A., 1987, Ph.D., 1991, University of Illinois.

**Allison Purcell Hayes**, Assistant Professor of Accounting. 2009. B.A., St. Ambrose University, 2005; M.A.S., Northern Illinois University, 2006; C.P.A.

**Katherine C. Heller**, Assistant Professor of Mathematics. 2010. B.S., University of South Carolina, 2004; M.S., 2006, Ph.D. 2010, University of Virginia.

**Brian Hoffert**, Associate Professor of Religious Studies and History. 2000. B.A., University of Toronto, 1990; A.M., University of Hawaii, 1993; Ph.D., Harvard University, 2002.

**David A. Horner**, Harold and Eva White Distinguished Professor in the Liberal Arts and Professor of Chemistry and Physics. 1983. B.A., Otterbein College, 1977; M.S., 1979, Ph.D., 1984, University of California at Berkeley.

**Kelly Howe**, Assistant Professor of Theatre. 2010. B.A., Muhlenberg College, 2003; M.A., 2006, Ph.D., 2010, University of Texas.

**Shereen Ilahi**, Assistant Professor of History. 2008. B.A., 1998, M.A., 2002, Ph.D., 2008, University of Texas, Austin.

**Zachary M. Jack**, Associate Professor of English. 2003. B.A., Iowa State University, 1996; M.F.A., University of Alabama, 2001.

**Jennifer Jackson**, Associate Professor of English. 1996. B.A., 1979, M.A., 1985, Miami University, Ohio; Ph.D., Rensselaer Polytechnic Institute, 1992.

**Bruce Janacek**, Associate Professor of History. 1999. B.A., University of Pittsburgh, 1984; M.A., The George Washington University, 1987; Ph.D., University of California, Davis, 1996.

**Jeffrey A. Jankowski**, Associate Professor of Chemistry. 2003. B.S., Illinois Benedictine College, 1988; Ph.D., University of North Carolina at Chapel Hill, 1993.

**David Janzen**, Associate Professor of Religious Studies. 2005. B.Th., Canadian Mennonite University, 1992; M.Div., 1995, Ph.D., 1999, Princeton Theological Seminary.

**Stephen D. Johnston**, Roger and Nadeane Hruby Professor in the Liberal Arts and Sciences and Professor of Biology. 1999. B.S., 1990, M.S., 1991, Iowa State University; Ph.D., University of Wisconsin, 1996.

**Jenni Kapanen**, Instructor of Health and Physical Education. 2004. B.A., Franklin Pierce College, 1999; M.A., Loras College, 2004.

**Ann Durkin Keating**, Dr. C. Frederick Toenniges Professor of History. 1991. B.A., University of Illinois, 1978; M.A., 1979, Ph.D., 1984, University of Chicago.

**Nancy J. Keiser**, Professor of Education. 2002. B.A., Luther College, 1976; M.S., Ed.D., 1997, Northern Illinois University.

**Karl N. Kelley**, Professor of Psychology. 1988. B.S., 1982, M.S., 1985, Ph.D., 1987, Virginia Commonwealth University.

**Jennifer Keys**, Associate Professor of Sociology. 2003. B.A., Ohio University, 1993; Ph.D., State University of New York at Albany, 2002.

**Doh-Khul Kim**, Associate Professor of Economics and Finance. 2008. B.A., Chung-Ang University, Seoul, Korea, 1989; M.A., Temple University, 1992; Ph.D., University of Georgia, 2001.

**Maureen Kincaid**, Associate Professor of Education. 1998. B.A., 1984, M.S.Ed., 1987, Ed.D., 1997, Northern Illinois University.

**Kathleen King**, Visiting Instructor of Education. 2006. B.A., Loras College, 1987; M.Ed., DePaul University, 1997.

**Jonathon J. Kirk**, Assistant Professor of Music. 2010. B.A., Augustana College, 1997; M.M. Eastman School of Music, 1999; M.A., Brown University, 2004; D.Mus., Northwestern University, 2008.

**Matthew Kirkpatrick**, Assistant Professor of English. 2012. B.A., The Pennsylvania State University, 1996; M.A., Johns Hopkins University, 2005; Ph.D., University of Utah, 2012\*.

**Matthew Klosterman**, Assistant Professor of Health and Physical Education. 2007. B.A., 1999, M.A., 2002, Loras College.

**Kari S. Kluckhohn**, Assistant Professor of Health and Physical Education. 2002. B.S., 1994, M. S., 2000, University of Wisconsin - La Crosse.

**Wendy Koenig**, Associate Professor of Art. 2008. B.A., University of Louisville, 1988; M.F.A., Ohio University, 1998; Ph.D., The Ohio State University, 2004.

**Matthew B. Krystal**, Associate Professor of Anthropology. 2003. B.A., Washington University, 1990; M.A., 1993, Ph.D., 2001, Tulane University.

**James P. Kulawiak**, Associate Professor of Health and Physical Education. 1989. B.S., Western Illinois University, 1977; M.S., U.S. Sport Academy, 1994.

**Robert Tad Lehe**, Professor of Philosophy. 1983. A.B., Wheaton College, 1971; M.A., Northern Illinois University, 1979; Ph.D., University of Chicago, 1980.

**Shwuyi Leu**, Associate Professor of Education. 2008. B.A., Tamkang University, Taipei, Taiwan, 1986; M.A., 1994, M.Ed., 1999, Ph.D., 2002, University of Illinois.

**Lisa A. Long**, Professor of English. 1998. B.A., University of Minnesota, 1989; M.A., 1991, Ph.D., 1997, University of Wisconsin.

**Sarah Lureau**, Assistant Professor of Accounting. 2008. B.S., Marist College, 2005; M.A.S., Northern Illinois University, 2006, CPA.

**Mary Jean Lynch**, Professor of Psychology. 1986. B.A., Northwestern University, 1976; M.A., University of Chicago, 1977; Ph.D., Northwestern University, 1982.

**Stephen H. Macek**, Associate Professor of Speech Communication. 2002. B.A., University of Wisconsin at Madison, 1987; M.A., 1993, Ph.D., 2001, University of Minnesota-Twin Cities.

**John V. Madormo**, Assistant Professor of Broadcast Communication and General Manager of WONC (89.1 FM) Radio Station. 1980. B.A., Northern Illinois University, 1974.

**Jeordano Martinez**, Professor of Music. 1986. B.M., Baylor University, 1964; M.M., Southern Illinois University at Carbondale, 1971.

**Fukumi Matsubara**, Professor of Japanese. 1995. B.A., Nara Women's University, 1981; M.S., George State University, 1990; Ph.D., Indiana University, 1997.

**Heidi M. Matthews**, Professor of Health and Physical Education and Director of the Athletic Training Education Program. 1993. B.S., University of Wisconsin, 1981; M.S., University of Arizona, 1982.

**Mary T. McMahon**, Associate Professor of Mathematics and Mathematics Education Coordinator. 1986. B.A., St. John's University, 1969; M.S., Queens College of the City University of New York, 1972.

**Timothy Morris**, Professor of Philosophy. 1978. B.A., University of Iowa, 1973; A.M. 1976, Ph.D., 1984, University of Chicago.

**Robert Moussetis**, Associate Professor of International Business. 1998. B.S., San Diego State University, 1987; M.B.A., 1991, D.B.A., 1996, United States International University.

**William Muck**, Assistant Professor of Political Science. 2008. B.A., Valparaiso University, 1997; M.A., Marquette University, 1999; M.A., 2001, Ph.D., 2005, University of Colorado at Boulder.

**Jonathan F. Mueller**, Professor of Psychology. 1983. B.A., 1978, M.A.T., 1979, Beloit College; M.A., 1981, Ph.D., 1985, Northern Illinois University.

**Godfrey A. Muganda**, Associate Professor of Computer Science. 1990. B.S., Eastern Mennonite College, 1979; M.S., College of William and Mary, 1980; Ph.D., Lehigh University, 1984.

**Francine G. Navakas**, Svend and Elizabeth Bramsen Professor in the Humanities and Professor of English. 1978. B.A., University of Chicago, 1968; M.A., University of California at Berkeley, 1969; Ph.D., University of Chicago, 1972.

**Neil R. Nicholson**, Assistant Professor of Mathematics. 2010. B.A., Lake Forest College, 2002; Ph.D., The University of Iowa, 2007.

**Christopher O'Connor**, Visiting Assistant Professor of Biology. 2010. B.S., 1996, Ph.D., 2004, University of Illinois.

**Kay O'Donnell**, Assistant Professor of Journalism. 2012. B.A., University of Southwestern Louisiana, 1987; M.A., University of New Orleans, 1992; Ph.D., Southern Illinois University, 2010.

**Richard E. Paine**, Professor of Speech Communication/Theatre. 1983. B.A., Harding University, 1976; M.A., Western Kentucky University, 1979; Ph.D., University of Oklahoma, 1989.

**Nancy L. Peterson**, Professor of Chemistry. 1994. B.A., Concordia College, 1986; M.S., 1989, Ph.D. 1992, University of Minnesota.

**Wioleta Polinska**, Professor of Religious Studies. 2000. Magister of Microbiology, Warsaw University, 1986; M.Div., Bethel Theological Seminary, 1991; Ph.D., Princeton Theological Seminary, 1997.

**Matthew A. Pons**, Assistant Professor of Mathematics. 2007. B.A., University of North Carolina, 2002; M.S., 2005, Ph.D., 2007, University of Virginia.

**Christine Rabenold**, Assistant Professor of Art. 2007. B.A., Temple University, 1997; M.F.A., The School of the Art Institute of Chicago, 2001.

**Stephen C. Renk**, Professor of Computer Science. 1990. B.A., 1973, M.S., 1979, Ph.D., 1986, University of Iowa.

**Mary Beth Ressler**, Assistant Professor of Education. 2010. B.A., Loyola University, 2002; M.A., Northern Illinois University, 2007; Ph.D., The Ohio State University, 2010.

**Sohinee Roy**, Assistant Professor of English. 2011. B.A., 2000, M.A., 2002, Jadavpur University; Ph.D., West Virginia University, 2011.

**Gregory Ruthig**, Assistant Professor of Biology. 2011. B.S., Washington and Lee University, 1998; Ph.D., University of Virginia, 2006.

**Biswajit Saha**, Visiting Assistant Professor of Chemistry. 2011. B.S., University of Calcutta, 1995; M.S., Indian Institute of Technology, 1997; Ph.D., Kyushu University, 2003.

**Caroline St. Clair**, Professor of Computer Science. 2000. B.S., Loyola University, 1984; M.S., 1991, Ph.D., 2000, DePaul University.

**Thomas F. Sawyer**, Professor of Psychology. 1978. B.A., Ball State University, 1972; Ph.D., Bowling Green State University, 1979.

**Patricia M. Schacht**, Assistant Professor of Psychology. 2008. B.A., University of Notre Dame, 2001; M.S., University of Cardiff, Wales, 2005; Ph.D., University of Notre Dame, 2007.

**David J. Schmitz**, Associate Professor of Mathematics. 2001. B.S., The University of Notre Dame, 1990; S.M., 1991, Ph.D., 2001, The University of Chicago.

**Jacqueline T. Schutt**, Visiting Instructor of Music. 2010. B.A., 1982; 1984; M.M., 1989, University of Illinois.

**Kendall L. Selsky**, Visiting Assistant Professor of Health and Physical Education. 2009. B.A., North Central College, 1993; M.S., Illinois State University, 1994.

**Kristine A. Servais**, Associate Professor of Education. 2002. B.S., 1978, M.S., 1983, University of Wisconsin at Whitewater; Ed.D., Northern Illinois University, 2001.

**Brandon Sheridan**, Assistant Professor of Economics. 2012. B.S., Centre College, 2006; M.S., 2009; Ph.D., 2012\*, University of Kentucky.

**John H. Shindler**, Professor of English. 1981. B.A., Williams College, 1968; Ph.D., Rutgers University, 1975.

**Hillary Shulman**, Assistant Professor of Speech Communication. 2011. B.S., University of Wisconsin, 2004; M.S., 2007, Ph. D., 2011, Michigan State University.

**Carin D. Silkaitis**, Assistant Professor of Theatre. 2002. B.A., Indiana University, 1993; M.F.A., The Theatre Conservatory, Roosevelt University, 1998.



**Robert Simon**, Instructor of Health and Physical Education. 2007. B.A., Alma College, 2003; M.A., University of Missouri-Kansas City, 2005.

**Barry Skurkis**, Associate Professor of Art. 1982. B.F.A., The School of the Art Institute of Chicago, 1975; M.A., University of Notre Dame, 1978.

**Donnavieve N. Smith**, Associate Professor of Marketing. 2005. B.S., 1990, M.B.A., 1993, University of Illinois; Ph.D., University of Illinois at Chicago, 2002.

**John Stanley**, Assistant Professor of Speech Communication/Theatre. 2000. B.S., Central Missouri State University, 1998; M.A., Eastern Illinois University, 1999.

**Jinai Sun**, Visiting Assistant Professor of Chinese. 2011. B.A., Harbin Normal University, 2001; M.Ed., 2009; Ph.D., 2011, The Pennsylvania State University.

**Gerald A. Thalmann**, Associate Professor of Accounting. 1996. B.S., University of Wisconsin-Platteville, 1978; M.B.A., University of Wisconsin-Whitewater, 1985; C.P.A.

**Daniel R. VanHorn**, Assistant Professor of Psychology. 2009. B.S., Wittenberg University, 2003; M.S., 2005, Ph.D., 2009, Purdue University.

**Lawrence G. Van Oyen**, Professor of Music and Director of Bands. 1993. B.M., Michigan State University, 1982; M.A., Eastern Michigan University, 1987; Ph.D., University of Nebraska, 1994.

**Jonathan Visick**, Professor of Biology. 2000. B.S., Brigham Young University, 1984; M.S., 1985, Ph.D., 1991, University of Washington.

**Monica Vuksanovich**, Visiting Assistant Professor of Spanish. 2009. B.A., Augustana College, 1996; M.A., 2001, Ph.D., 2009, University of Iowa.

**Judy C. Walters**, Associate Professor of Computer Science. 1983. B.A., University of Iowa, 1968; M.S., Illinois Institute of Technology, 1984.

**Andrew L. Whitaker**, Grantman Professor in Business and Economics and Professor of Economics and Finance. 1988. B.A., Michigan State University, 1983; M.S., 1985, Ph.D., 1988, University of Illinois.

**William E. Wienke**, Visiting Assistant Professor of Health and Physical Education. 2004. B.S., Illinois State University, 1971; M.A., Northern Illinois University, 1975.

**Richard J. Wilders**, Marie and Bernice Gantzert Professor in the Liberal Arts and Sciences and Professor of Mathematics. 1975. B.S., Carnegie-Mellon University, 1967; M.S., 1969, Ph.D., 1975, The Ohio State University.

**Ramona M. Wis**, Mimi Roland Professor in the Fine Arts and Professor of Music. 1994. B.S., University of Illinois, 1977; M.M., Northern Illinois University, 1983; Ph.D., Northwestern University, 1993.

**Gregory H. Wolf**, Professor of German. 2005. B.A., The University of the South, 1989; M.A., 1991, Ph.D., 1996, The Ohio State University.

**Tammy Wynard**, Visiting Instructor of Health and Physical Education. 2011. B.S., Illinois State University, 1997; M.S., Indiana University, 2002.

**John J. Zenchak**, Professor of Biology. 1978. B.A., Youngstown State University, 1966; M.S., 1970, Ph.D., 1976, West Virginia University.

**Haley Zimmerman**, Instructor of Health and Physical Education and Assistant Athletic Trainer. 2009. B.S., Aurora University, 2004; M.S., Northern Illinois University, 2006.

## **ADJUNCT FACULTY**

**Patricia Bayona**, Adjunct Assistant Professor of Spanish. 2012. B.A., La Universidad de Los Andes, 1995; M.A., 2002; Ph.D., 2009, The University of Western Ontario.

**Julie M. Carballo**, Adjunct Instructor of Education. 2006. B.A., Loras College, 1984; M.Ed., University of Illinois at Chicago, 1986; M.A., Governors State University, 1993.

**Keith Feiler**, Adjunct Instructor of Economics and Finance. 2010. B.A., North Central College, 1966; M.A., University of Illinois, 1971; M.B.A., DePaul University, 1985.

**Marisa D. Fontana**, Adjunct Assistant Professor of Sociology. 2010. B.A., Wayne State University, 1996; M.A., 1999, Ph.D., 2007, University of Illinois at Chicago.

**Sharon J. Gilbert**, Adjunct Instructor of Psychology. 2009. B.A., North Central College, 1987; M.S., Benedictine University, 1995.

**Linda J. Ogden Hagen**, Adjunct Associate Professor of Voice. 1986. B.M., North Central College, 1972; M.M., The College Conservatory of Music, University of Cincinnati, 1974.

**Blair Kamin**, Adjunct Professor of Art. 2005. B.A., Amherst College, 1979; M.E.D., Yale University, 1984.

**Patricia Grace King**, Adjunct Assistant Professor of English. 2006. B.A., Eastern Mennonite University, 1989; M.A., James Madison University, 1992; Ph.D., Emory University, 2000.

**Sean A. Labbé**, Adjunct Assistant Professor of Psychology. 2008. B.M., Illinois State University, 1991; M.S.Ed., Northern Illinois University, 2001.

**Barrie S. Mason**, Adjunct Instructor of Speech Communication. 1998, 2011. B.S., Texas Woman's University, 1967; M.A., University of Missouri, 1979.

**Eugene (Jack) Mouse**, Adjunct Assistant Professor of Music. 1996. B.M., College of Emporia, 1969.

**Paul J. Mullen**, Adjunct Assistant Professor of Psychology. 2006. B.S., Loyola University, 1991; M.A., 1998, Psy.D., 1999, Chicago School of Professional Psychology.

**Jaclyn Murawska**, Adjunct Instructor of Mathematics. 2008. BS., 1991, M.S.T., 1996, University of Illinois.

**Noreen F. Mysyk**, Adjunct Associate Professor of Speech Communication. 2003. B.S., 1967, M.S., 1969, M.S., 1985, Loyola University of Chicago; Ed.D., Northern Illinois University, 2005.

**Nicole R. Rivera**, Adjunct Assistant Professor of Psychology. 2008. B.M., Illinois State University, 1991; M.S.Ed., Northern Illinois University, 2001.

**Jelena Sanchez**, Adjunct Instructor of Spanish. 2007. B.A., 1995, M.A., 1997, University of Illinois at Chicago.

**Carlene Sipma-Dysico**, Adjunct Assistant Professor of Sociology. 2002. B.A., University of North Carolina, 1988; M.A., San Diego State University, 1997.

**John Grant Stokes**, Adjunct Instructor of Theatre. 2011. B.S.; M.A., Eastern Michigan University; M.F.A., Wayne State University.

**Barbara S. Vanderwall**, Adjunct Assistant Professor of Music. 2004. B.M., North Central College, 1971, M.M., College Conservatory of Music at the University of Cincinnati, 1976.

**Herman B. White, Jr.**, Adjunct Professor of Physics. 1994. A.B., Earlham College, 1970; M.S., Michigan State University, 1974; Ph.D., Florida State University, 1991.

**Jeffrey E. Woodruff**, Adjunct Assistant Professor of Business Administration. 1979. B.A., Springfield College, 1966; M.B.A., New York Institute of Technology, 1978.

**Richard J. Wyllie**, Adjunct Associate Professor of Mathematics. 1995. B.A., North Central College, 1963; M.A., Northwestern University, 1967; Ed.D., Northern Illinois University, 1996.

## **FACULTY EMERITI**

Emeriti professors are listed alphabetically. The dates which follow the name and title indicate the beginning and end of active service to North Central College.

**Nancy C. Chapman**, Associate Professor of English Emerita. 1989-2000. B.A., North Central College, 1960; M.S., Northern Illinois University, 1983.

**Gus A. Constantine**, Professor of Education Emeritus. 1960-1986. B.A., Atlantic Christian College, 1950; M.A., East Carolina College, 1952; Ed.D., Duke University, 1958.

**Joan M. Vargovcik Der**, Professor of Accounting Emerita. 1984-2008. B.S., Illinois State University, 1974; M.S., DePaul University, 1980; C.P.A., C.M.A.

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**Gary Ernst**, Professor of International Business and Marketing Emeritus. 1986. B.S., 1968, M.S., 1982, Roosevelt University; Ed.D., Northern Illinois University, 1992.

**Margery Feters**, Associate Professor of Management and Marketing Emerita. 1989-2005. B.S., 1978, M.B.A., 1982, DePaul University; M.S., Illinois Benedictine College, 1993.

**David A. Frolick**, Professor of Political Science Emeritus. 1971-2007. B.A., Quincy College, 1965; M.A., 1967, Ph.D., 1971, American University.

**Linda Qinglin Gao**, Professor of Mathematics Emerita. 1992-2012. B.S., Beijing Normal University, 1982; M.S., Beijing Institute of Technology, 1984; M. S., 1987, Ph.D., 1992, University of Iowa.

**Priscilla N. Grundy**, Professor of English Emerita. 1969-1999. A.B., Middlebury College, 1957; M.A., 1969, Ph.D., 1978, Northern Illinois University.

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**Donald E. Johnson**, Professor of Mathematics and Computer Science Emeritus. 1961-1997. B.A., North Central College, 1957; M.S., University of Wisconsin, 1959; Ph.D., Illinois Institute of Technology, 1973.

**Bernard P. Izzo**, Professor of Music Emeritus. 1961-1986. B.M.E., Heidelberg College, 1948; M.M., American Conservatory of Music, 1949.

**B. Pierre Lebeau**, Professor of History Emeritus. 1966-1999. B.A., 1955, M.A., 1975, The Ohio State University.

**Daphne Lee**, Associate Professor of Accounting Emerita. 1989-2005. B.A., Spalding College, 1960; M.A., 1963, M.M., 1980, Northwestern University; C.P.A.

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**Thomas M. Love**, Professor of Economics Emeritus. 1972-2004. B.S., University of Wisconsin-Stevens Point, 1962; M.S., 1965, Ph.D. 1967, University of Wisconsin.

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**Winifred M. Makowski**, Associate Professor of Education Emerita. 1989-2005. B.S., Chicago Teachers College North, 1963; M.Ed., 1969, Ed.D., 1988, Loyola University.

**Terrence G. Marsh**, Professor of Biology and Harold and Eva White Distinguished Professor in the Liberal Arts Emeritus. 1969-2002. A.B., Earlham College, 1963; M.S., Oregon State University, 1965; Ph.D., University of Kentucky, 1969.

**Thomas R. McFaul**, Professor of Ethics and Religious Studies Emeritus. 1986-2003. B.A., Northern Illinois University, 1964; M.Div., Pacific School of Religion, 1967; Ph.D., Boston University, 1972.

**Ann M. McKinley**, Professor of Music Emerita. 1968-1994. B.M., 1950, M.M., 1953, Ph.D., 1963, University of Michigan.

**Donald E. McVicker**, Professor of Anthropology Emeritus. 1973-1999. B.A., 1955, M.A., 1962, Ph.D., 1969, University of Chicago.

**Howard E. Mueller**, Dr. C. Frederick Toenniges Professor of Religious Studies Emeritus. 1976-2005. B.A., North Central College, 1958; B.D., Evangelical Theological Seminary, 1961; S.T.M., Yale University Divinity School, 1962; Ph.D., Northwestern University, 1973.

**William H. Naumann**, Professor of Religious Studies Emeritus. 1960-1990. B.A., Asbury College, 1951; M.A., Kent State University, 1954; B.D., Oberlin College, 1957; M.A., 1959, Ph.D., 1966, Yale University.

**John L. Phend**, Associate Professor of Speech Communication/Theatre Emeritus. 1978-2007. B.A., Valparaiso University, 1969; M.A., Northwestern University, 1973.

**Barbara Sciacchitano**, Professor of History Emerita. 1975-2008. B.A., Vassar College, 1956; M.A., 1971, Ph.D., 1979, University of Illinois at Chicago.

**Donald T. Shanower**, Professor of Speech Communication/Theatre Emeritus. 1955-1986. B.A., 1947, M.A., 1949, Kent State University; Ph.D., University of Michigan, 1960.

**Carolyn A. Sheehy**, Clare and Lucy Osterle Director of Library Services Emerita. 1990-2008. B.A., Scripps College, 1964; M.A., Mills College, 1973; M.A., Northern Illinois University, 1987.

**Anne T. Sherren**, Professor of Chemistry Emerita. 1966-2001. B.A., Agnes Scott College, 1957; Ph.D., University of Florida, 1961.

**Richard E. Slovacek**, Professor of Management and Marketing Emeritus. 1970-2002. B.S., University of Illinois, 1963; M.B.A., Loyola University, 1970; Ph.D., California Coastal University, 1986.

**Roger D. Smitter**, Professor of Speech Communication/Theatre Emeritus. 1988-2004. B.A., Taylor University, 1969; M.A., Ball State University, 1970; Ph.D., The Ohio State University, 1977.

**Wesley S. Stieg**, Professor of Biology Emeritus, 1960-2000. B.A., North Central College, 1956; M.S., University of Illinois, 1959; Ph.D., The Chicago Medical School, 1973.

**Thomas Sweeney**, Professor of Political Science Emeritus. 1987-2006. B.S., North Central College, 1965; M.A., Georgetown University, 1968; J.D., Northwestern University School of Law, 1969; Ph.D., Pennsylvania State University, 1976.

**James A. Taylor**, Dean of the Faculty Emeritus. 1976-1989. B.A., Kent State University; M.S., 1956; Ph.D., 1962, University of Illinois.

**Allen Vander Meulen, Jr.**, Professor of Economics Emeritus. 1978-1997. B.S., Northwestern University, 1954; B.D., Yale University Divinity School, 1958; M.A., University of Massachusetts, 1969; Ph.D., Brown University, 1975.

**Shirley Anne Wilson**, Professor of Mathematics Emerita. 1984-2006. B.S., Massachusetts Institute of Technology, 1972; M.S., University of Illinois, 1974; Ed.D., Auburn University, 1985.

## ADMINISTRATION AND STAFF

Calendar year listed after title indicates year of appointment at North Central College; second date indicates appointment to present position.

### PRESIDENT

**Harold R. Wilde**, President of the College. 1991. A.B., Amherst College, 1967; A.M., Ph.D., 1973, Harvard University.

**Margaret Wiora**, Executive Secretary/Assistant to the President. 1989, 1999. B.A., College of St. Catherine, 1975.

### ACADEMIC AFFAIRS

**R. Devadoss Pandian**, Vice President for Academic Affairs and Dean of Faculty. 1985, 1995. B.S., 1963, M.S., 1966, Madras University, India; M.Phil., Madurai University, India, 1971; Ph.D., George Washington University, 1983.

**Susan M. Rickert**, Administrative Assistant to the Vice President for Academic Affairs. 2002, 2008. B.A., Western Illinois University, 1987.

**Marti Bogart**, Associate Dean for Academic Affairs. 1982, 1999. B.S., John Carroll University, 1978; M.S., 1980, Ph.D., 1985, Purdue University.

**Francine G. Navakas**, Associate Academic Dean. 1978, 2001. B.A., University of Chicago, 1968; M.A., University of California at Berkeley, 1969; Ph.D., University of Chicago, 1972.

### *Academic Opportunities*

**Perry T. Hamalis**, Director of Academic Opportunities. 2004, 2007. B.A., Boston College, 1992; M.Div., Holy Cross Greek Othodox School of Theology, 1996; Ph.D., University of Chicago, 2004.

**Sandra J. Chapman**, Assistant to the Director of the Office of Academic Opportunities. 2011. B.S., Western Michigan University, 1987; M.B.A., Kansas State University, 1997.

### ***Academic Support***

**Amy Avery**, Director of Academic Support Services. 1999, 2010. B.A., California State University, 1992; M.A., Pepperdine University, 1995; Psy. D., Chicago School of Professional Psychology, 2000.

**Jennifer Pippen**, Assistant Director of Academic Support Services. 2006. B.A., North Central College, 1998; M.A., Trinity International University, 2002.

### ***Advising***

**Deborah Harris**, Director of Advising. 1994, 2010. B.F.A., Birmingham-Southern College, 1985; M.F.A., 1987; Ph.D., 1991, University of Illinois.

### ***Center for Teaching and Learning***

**Rebecca Clemente**, Director of the Center for Teaching and Learning. 1997, 2009. B.S., Ashland University, 1971; M.Ed., 1988, Ph.D., 1992, Kent State University.

**Andrew T. Ford**, Visiting Fellow for Special Projects. 2009. B.A., Seton Hall University, 1966; M.A., 1968, Ph.D., 1971, University of Wisconsin.

### ***Fine Arts (reports jointly; see Institutional Advancement)***

#### ***First Year Experience***

**Karl Kelley**, Director of First Year Experience. 1988, 2012. B.S., 1982; M.S., 1985; Ph.D., 1987, Virginia Commonwealth University.

### ***Graduate and Continuing Education***

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**Frank Johnson**, Director of Graduate and Continuing Education. 1998, 2002. B.A., St. Ambrose University, 1982; M.S., Aurora University, 1988.

### ***Human Resources (reports jointly; see Business Affairs)***

### ***Information Technology Services (reports jointly; see Business Affairs)***

### ***International Programs***

**John H. Shindler**, Director of International Programs. 1981, 1994. B.A., Williams College, 1968; Ph.D., Rutgers University, 1975.

**Kimberly M. Larsson**, Assistant to the Director of International Programs. 2003, 2008. B.S. Central Missouri State University, 1993; M.B.A., University of Wisconsin-Whitewater, 1995.

### ***Leadership, Ethics, and Values***

**Thomas D. Cavenagh**, Director of Leadership, Ethics, and Values. 1990. B.A., Trinity College, 1984; J.D., DePaul University, 1987.

**Renee K. Kosiarek**, Assistant to the Director of Leadership, Ethics, and Values. 2011. B.A., University of Illinois at Chicago, 1994; J.D., Loyola University, 1998.

**Brooke R. Murphy**, Assistant to the Director of Leadership, Ethics, and Values. 2010. B.A., 2003; M.Ed., 2005, University of Pittsburgh.

### *Library*

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**Belinda Cheek**, Access Services Librarian. 1986. B.A., North Central College, 1983; M.A., Northern Illinois University, 1990.

**Thomas M. Gill**, Instructional Media Coordinator. 1997. B.F.A., University of Illinois, 1991.

**Rosemary Henders**, Instructional Services Librarian. 1999. B.S., University of Wisconsin, 1970; M.A., Northern Illinois University, 1993.

**Emily Prather**, Technical Services Coordinator. 2007. B.A., Transylvania University, 2004; M.S.L.S., University of Kentucky, 2005.

**Aimee Walker**, Coordinator of User Experience. 2008. B.A., North Central College, 2008; M.L.I.S., Dominican University, 2008.

### *Registrar*

**Jonathan M. Pickering**, Registrar and Director of Institutional Research. 1997, 2005. B.A., 1992, M.B.A., 1997, Olivet Nazarene University.

**Timothy J. Brown**, Coordinator of Transfer Advising. 2008, 2011. B.A., North Central College, 2005.

**Therese M. Lux**, Associate Registrar. 1997, 2002. B.A., College of St. Francis, 1975; M.S.Ed., Northern Illinois University, 1982.

**Elizabeth A. Merkel**, Registration Systems Coordinator. 2012. B.A., University of Iowa, 2002.

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## **BUSINESS AFFAIRS**

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**Mary A. Brown**, Administrative Assistant to the Vice President for Business Affairs. 2010

### *Business Office*

**Patricia A. Perkins**, Assistant Comptroller. 1991, 2005. B.S., University of Illinois at Chicago, 1971; B.S., Central State University, 1988.

### *Business Operations*

**Michael J. Hudson**, Assistant Vice President for Business Operations. 1995, 2009. B.S., 1993, M.S., 1994, Eastern Illinois University.

**Brittany Graham**, Sustainability Coordinator. 2012. B.S., 2009; M.S., 2011, University of Iowa.

**John A. Rygielwicz**, Head Groundskeeper. 1976, 2000.

***Human Resources (reports jointly to Academic Affairs)***

**Michelle M. Skinder**, Assistant Vice President for Human Resources. 2011. B.A., Northern Illinois University, 1990; M.B.A., Keller Graduate School of Management, 2004.

**Lauren Forsythe**, Employee Benefits Coordinator. 2011. B.A., Marquette University, 2005; M.A., Southern Illinois University Carbondale, 2009.

**Lucinda Mroozian**, Human Resources Information Systems Manager. 2010. B.S., University of Michigan at Dearborn, 1990; M.B.A., North Central College, 2010.

**Michele E. Norman**, Payroll Manager. 1994, 2001.

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***Information Technology Services (reports jointly to Academic Affairs)***

**Mary Kathryn Wilders**, Assistant Vice President for Information Technology Services. 1998. B.S., Bowling Green State University, 1963; M.A., John Carroll University, 1970; Ph.D., The Ohio State University, 1974; B.S., North Central College, 1988.

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**Michael A. Quintero**, Database Communications and Network Systems Analyst. 2000. B.S., North Central College, 2000.

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**Chad Sutton**, Network Administrator. 2009, 2010. B.A., North Central College, 1993.

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### ***Admission***

**Martin Sauer**, Dean of Admission and Financial Aid. 2005. B.A., Augustana College, 1984; M.A.Ed., Western Illinois University, 1993.

**Kristin Arredia**, Admission Counselor. 2010. B.S., North Central College, 2010.

**Kristina Bonn**, Enrollment Information Systems Specialist. 2002, 2009. B.S., 2003, M.L.D., 2011, North Central College.

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**Linda Doyle**, Associate Director of Transfer Admission. 1992, 2007. B.A., Adrian College, 1971.

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**Ashley Dudich**, Admission Counselor. 2007. B.A., North Central College, 2005.

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**Christine Hyatt**, Office Manager - Admission. 1977, 1996.

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### *Athletics*

**James L. Miller**, Director of Athletics. 1987, 2005. B.A., North Central College, 1986; M.S.Ed., Northern Illinois University, 1995.

**Stefanie Baker-Watson**, Assistant Athletic Director. 2007. B.S., Ohio University, 1996; M.S., Northeastern Illinois University, 1997.

**Kevin Bratland**, Head Wrestling Coach. 2006. B.A., Wartburg College, 2003; M.S. University of Northern Iowa, 2004.

**Mark Broucek**, Head Men's & women's Swimming Coach. 2006. B.A., 1983, M.S., 1987, Arizona State University.

**Karen Seremet Kunka Bunkenburg**, Head Volleyball Coach. 2005. B.A., St. John Fisher College, 1996; M.Ed., Indiana State University, 1998.

**Allen B. Carius**, Head Coach of Men's Cross Country and Associate Head Men's Track and Field. 1966, 2010. B.S., 1964, M.S., 1967, University of Illinois.

**Stafford Davis IV**, Assistant Football Coach. 2010. B.S., 2005, M.B.A., 2008. Illinois State University.

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**John Fitzgerald**, Head Baseball Coach. 2007. B.A., University of Chicago, 1998; M.B.A., Loyola University, 2001.

**Frank Gramarosso**, Head Men's Track and Field and Associate Head Coach of Men's Cross Country. 1985, 2010. B.S., 1975, M.A., 1976, Northwestern University.

**Susan Kane**, Assistant Athletic Director. 2002, 2012. B.A., North Central College, 2002.

**Jenni Kapanen**, Head Women's Soccer/Lacrosse Coach. 2004. B.A., Franklin Pierce College, 1999; M.A., Loras College, 2004.

**Todd Kelly**, Assistant Men's Basketball Coach. 2009. B.A., Millikin University, 2001; M.S., Western Illinois University, 2004.

**Matthew Klosterman**, Head Men's Soccer Coach. 2007. B.A., 1999, M.A., 2002, Loras College.

**Kari Kluckhohn**, Head Women's Track and Assistant Women's Cross Country Coach. 2002. B.S., 1994, M. S., 2000, University of Wisconsin-La Crosse.

**James P. Kulawiak**, Head Women's Softball Coach. 1989. B.S., Western Illinois University, 1977; M.S., U.S. Sport Academy, 1994.

**Heidi M. Matthews**, Director of Athletic Training Education Program. 1993. B.S., University of Wisconsin, 1981; M.S., University of Arizona, 1982.

**Mahesh Narayanan**, Head Women's Cross Country Coach and Assistant Women's Track and Field Coach. 2000. B.A., 1997, M.A., 2005, North Central College.

**Lydia Pond**, Coordinator of Recreation Programs and Assistant Athletic Facilities, Events and Recreation Manager. 2010. B.S., 2009, M.S., 2010, Eastern Illinois University.

**Rick Ponx**, Assistant Head Coach. 2004, 2007. B.A., Elmhurst College, 1985; M.Ed., Bowling Green State University, 1990.

**Todd Raridon**, Head Men's Basketball Coach. 2004. B.A., Hastings College, 1980.

**Michelle Roof**, Head Women's Basketball Coach. 2010. B.S., Eastern Illinois University, 2001.

**Robert Simon**, Athletic Trainer. 2007, 2009. B.A., Alma College, 2003; M.A., University of Missouri-Kansas City, 2005.

**Bradley Spencer**, Assistant Football Coach. 2004. B.A., North Central College, 2004.

**Jeffrey Thorne**, Assistant Football Coach. 2002, 2009. B.A., Eastern Illinois University, 1994.

**John A. Thorne**, Head Football Coach. 2002. B.A., Illinois Wesleyan University, 1969; M.Ed., Northern Illinois University, 1978.

**Debbie Whitman**, Assistant Women's Basketball Coach. 2011. B.A., Northern Illinois University, 1993.

**Haley Zimmerman**, Assistant Athletic Trainer. 2009. B.S., Aurora University, 2004; M.S. Northern Illinois University, 2006.

### *Financial Aid*

**Marty Rossman**, Director of Financial Aid. 2005. B.S., Eureka College, 1998.

**Janice Baumgartner**, Student Loan Officer. 1971, 1981. B.A., North Central College, 1975.

**Ann Benjamin**, Assistant Director of Financial Aid. 2005. B.A., University of Iowa, 2002.

**Heather Williams**, Financial Aid Counselor. 2010. B.S., Western Illinois University, 2007.

### *Student Affairs*

**Kimberly Sluis**, Dean of Students. 2006, 2010. B.A., North Central College, 1999; M.A., Indiana University, 2001.

**Sarah Avery**, Area Hall Director. 2009. B.A., Northwestern University, 2006; M.A., Washington University, 2008.

**Danielle Bank**, Career Counselor. 2010. B.A., North Central College, 2006; M.Ed., Loyola University, 2010.

**Jared Bogan**, Area Hall Director and Assistant Director of Residence Life. 2008, 2011. B.A., Wabash College, 2006; M.L.D., North Central College, 2010.

**Sally Carpenter**, Co-Director of the Wellness Center and Advanced Practice Nurse. 2004, 2009. B.S.N., University of Hawaii, 1983; M.S., DePaul University, 1986.

**Amy Clarke-Sievers**, Director of Student Involvement. 2007. B.A., North Central College, 2003; M.Ed., University of South Carolina, 2005.

**Jeffrey D. Denard**, Director of Career Development Center. 1985, 1993. B.A., University of Denver, 1975; M.A., Western State College, 1980.

**Janis Fitzsimmons**, Executive Director of Urban Education Laboratory. 1986, 2011. B.A., 1974, M.A., 1975, Northwestern University; Ph.D., University of Chicago, 1998.

**Jeremy Gudauskas**, Assistant Dean of Students. 2005, 2010. B.A., 1999, M.L.D., 2001, North Central College.

**Gary P. Ireland**, Director of Student Development and Assistant Dean of Students. 2002, 2010. B.A., 1985, M.A., 1990, Concordia University.

**Danielle Izac**, Area Hall Director. 2011. B.A., North Central College, 2007; M.S., Illinois State University, 2010.

**Michael Kelly**, Director of Campus Safety. 2001, 2002.

**Kevin McCarthy**, Director of Residence Life. 2007, 2010. B.A., Alma College, 2007.

**Jennifer Nosaka**, Area Hall Director. 2011. B.A., Illinois State University, 2009.

**Rebecca Nowak**, College Health Nurse. 2009. B.S.N., Elmhurst College, 1988.

**Emanuel Pavlopoulos**, Assistant to the Director of Campus Safety for Transportation. 2011.

**Nicole Perelgut**, Counselor/Educator. 2011. B.A., Northern Illinois University, 2004; M.S., Illinois School of Professional Psychology, 2007..

**Dorothy Pleas**, Director of Multicultural Affairs. 2010. B.S., Vanderbilt University, 1999; M.S., Southwestern University, 2008.

**Lynn L. Pries**, Campus Chaplain. 1994. B.A., North Central College, 1967; M.Div., Evangelical Theological Seminary, 1971; D.Min., Garrett-Evangelical Theological Seminary, 1986.

**Brian Rainville**, Director of Ministry and Service. 2009, 2011. B.A., Evangel University, 2003; M.S., Missouri State University, 2006.

**Whitney Roberts**, Assistant Director of Ministry & Services. 2010. B.A., North Central College, 2008.

**Titiana Sifri**, Co-Director of the Dyson Wellness Center and Licensed Clinical Professional Counselor.. 2010. B.A, 1999, M.A., 2002, Naropa University.

**Marlene Starzyk**, Assistant Director/Internship Coordinator. 1991, 2010. B.A., Rosary College, 1973.

## **INSTITUTIONAL ADVANCEMENT**

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**Joan Long**, Administrative Assistant to the Vice President for Institutional Advancement. 1989, 1999. B.A., North Central College, 2005.

**Mary Anne Bratek**, Manager of Institutional Advancement Services. 1995. B.A., Western Illinois University, 1981.

### ***Alumni and Development***

**Adrian Aldrich**, Director of Alumni Relations. 2005. B.A., North Central College, 2002; M.Ed., Grand Valley State University, 2004.

**Maria Caselli**, Associate Director of Development. 2000, 2008. B.A., 2001, M.A., 2008, North Central College.

**Andrea Ishikawa**, Development Officer/Phonathon Manager. 2005, 2008. B.A., The Ohio State University, 1984.

**Bonnie Kniss**, Assistant Director of Alumni Relations. 2007, 2010. B.A., North Central College, 2006.

**Barbara M. Knuckles**, Managing Director of Development and Corporate Relations. 1992, 2005. B.A., 1970, M.S., 1971, University of Illinois at Urbana-Champaign.

**Jean Morris**, Senior Associate Director of Development. 1991, 2002. B.S.Ed., Northern Illinois University, 1961.

**Bruce Nortell**, Director of Planned Giving. 1988. B.A., Boston University, 1968; J.D., University of Chicago, 1971.

**Lisa Pettaway**, Director of The Annual Fund. 1995, 2002. B.A., 1994, M.B.A., 2000, North Central College.

**Michelle Porcellino**, Grant Writer. 2010. B.A., North Central College, 2005; M.T.S.C., Miami University, 2008.

**Mary M. Reynolds**, Associate Director of Alumni Relations and Coordinator of Major Campus Events. 1995, 2005. B.A., Eastern Illinois University, 1988; M.S., University of Wisconsin at Whitewater, 1994.

### *Office of Marketing and Communication*

**James W. Godo**, Assistant Vice President for Marketing and Communications. 1993, 2009. B.A., North Central College, 1993; M.A., Northern Illinois University, 2000.

**Valla Aguilar**, Director of Marketing. 2010. B.A., North Central College, 2002; M.B.A., DePaul University, 2006.

**Mark Albanese**, Assistant Sports Information Director. 2008. B.A., University of Wisconsin-Whitewater, 2007.

**Mary Dettman**, Assistant Director of Marketing, Graphic Designer. 2007, 2010. B.A., Purdue University, 2006.

**Kathleen Doyle**, Director of Web Communications. 2007. B.A., University of Michigan, 1992; M.S., University of Illinois, 2004.

**Nancy Dunker**, Associate Director of Public Relations and College Communication. 2001, 2006. B.S., Northern Illinois University, 1973; M.S., National-Louis University, 2002.

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**Laura Zahn Pohl**, Editorial Director/Managing Editor of *North Central NOW*. 2003, 20011. B.A., University of Iowa, 1979.

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### ***Community Development***

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### ***Fine Arts***

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**Myrle-Marie Bongiovanni**, Fine Arts Manager. 2008. B.F.A., University of Southern Mississippi; 2002, M.A., Tulane University, 2003.

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