Chemistry

DEPARTMENT

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SCHOOL

Arts and Sciences

FACULTY

Arden P. Zipp (Chair), James Ayers, Nancy Meagher, Jason Pontrello, Frank Rossi, Michael Von Tersch

ADJUNCT FACULTY

For a listing of adjunct faculty see pages 312-315.

PROGRAMS OFFERED

Bachelor of Arts in Chemistry
Bachelor of Science in Chemistry
Bachelor of Science in Adolescence Education: Chemistry (7-12)

MAJORS OFFERED

Chemistry
Adolescence Education: Chemistry (7-12)
Chemistry leading to the 3+2 Engineering Program

CONCENTRATION OFFERED

Environmental Science

MINORS OFFERED

Chemistry

DESCRIPTION

Study of chemistry prepares students for laboratory, sales and management positions in industry; for advanced study of chemistry; for teaching careers in chemistry and related sciences. Students use modern chemical instrumentation and are actively involved in research projects. Learning proceeds through a balance of theoretical (classroom) and practical (laboratory) experiences. The program is approved by the American Chemical Society.

SPECIAL FEATURES

- Small classes, personal attention
- Student use of the most modern instruments and methods
- Extensive laboratory experience
- Opportunities to cooperate with faculty in original research
- Excellent record of graduate school placements and fellowships

Requirements

1. Degree Requirements listed on pages 38-48 of this catalog apply to the following majors.

2. Liberal Arts Requirements: B.A. – 90 credit hours;
   B.S. – 75 credit hours;
   B.S. (in adolescence education) – 60 credit hours.

Major in Chemistry [CHE]

Chemistry majors study inorganic, organic, analytical, physical, and biochemistry, with theoretical and practical laboratory work in all these areas of modern chemical science.

CAREER POTENTIAL

- Laboratory technician
- Sales of chemical products and analytical instruments
- Research worker in chemical or medical fields
- With graduate study, high-level industrial and academic positions

A. Required Courses: 38 credit hours
   CHE 221: General Chemistry I
   CHE 222: General Chemistry II
   CHE 301: Organic Chemistry I
   CHE 302: Organic Chemistry II
   CHE 304: Organic Chemistry Laboratory II
   CHE 410: Quantitative Analysis
   CHE 411: Chemical Instrumentation
   CHE 431: Physical Chemistry I
   CHE 432: Physical Chemistry II
   CHE 471: Quantitative Measurements Laboratory
   CHE 472: Equilibrium Measurements Laboratory
   CHE 473: Thermodynamics and Kinetics Laboratory
   CHE 474: Spectroscopy Laboratory
   Six additional credit hours in chemistry at the 300 level or above, excluding courses in section B.

B. Elective Advanced Labs: A total of two credit hours from a minimum of two of the following courses*:
   CHE 442: Advanced Preparations
   CHE 453: Introductory Biochemistry Lab
   CHE 470: Advanced Laboratory
   CHE 475: Inorganic Preparations Laboratory

   * One credit may be substituted with CHE 480 with prior department approval.

C. Other: 17-20 credit hours
   MAT 115: Elementary Functions
   MAT 121: Calculus A
   MAT 122: Calculus B
   MAT 425: Methods of Applied Mathematics *

   * Or a math course selected in consultation with advisor

   Plus
   PHY 201: Principles of Physics I
   PHY 202: Principles of Physics II

   Plus
   14-27 credit hours of free electives
   B.S. – Foreign Language: 0-6 credit hours

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Major in Chemistry with a concentration in Environmental Science [CHE/ENVS]

This program is designed to familiarize the student with the interdisciplinary nature of environmental problems. In addition to the College's General Education requirement for the bachelor of science or bachelor of arts, the following courses are required.

A. Required Courses: 47-48 credit hours
BIO 110-111:* Principles of Biology I and II *or*
BIO 201-202: Biological Sciences I and II
BIO 412: General Ecology
CHE 221-222: General Chemistry I and II
GLY 261: Physical Geology
GLY 367: Geomorphology
GLY 371: Meteorology
GLY 492: Planning and Land Use Topics: Internship
MAT 121-122: Calculus A and B
PHY 201-202: Principles of Physics I and II
ENS 486: Seminar in Environmental Science

* Biology majors take BIO 201-202

B. Related Courses: Six credit hours
Two courses to be chosen from the following (may also fulfill General Education requirements).
ECO 110: Principles of Macroeconomics
ECO 105: Political Economy and Social Thought
GRY 120: Cultural Geography
GRY 221: Social Geography
POL 100: Introduction to American Government and Politics
SOC 150: Introduction to Sociology

Two courses from the same department are not permitted.

Sufficient complementary courses shall be taken to fulfill the 124 hours required to earn the degree.

C. Additional Requirements for Chemistry Majors: 33 credit hours
CHE 301-302: Organic Chemistry I and II
CHE 304: Organic Chemistry Laboratory II
CHE 410: Quantitative Analysis
CHE 411: Chemical Instrumentation
CHE 431: Physical Chemistry I
CHE 471: Quantitative Measurements Laboratory
CHE 472: Equilibrium Measurements Laboratory
CHE 473: Thermodynamics and Kinetics Laboratory
CHE 474: Spectroscopy Laboratory
MAT 201: Statistical Methods
Nine additional hours in chemistry at the 300 level or above, excluding courses in section D.

D. Elective Advanced Labs: A total of two credit hours from a minimum of two of the following courses *:
CHE 442: Advanced Preparations
CHE 453: Introductory Biochemistry Lab
CHE 470: Advanced Laboratory
CHE 475: Inorganic Preparations Laboratory

* One credit may be substituted with CHE 480 with prior department approval.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Major in Chemistry leading to the 3 + 2 Engineering Program [CEN]

This program leads to the award of the bachelor of science in chemistry from SUNY Cortland and the bachelor of science in engineering from a cooperating institution: State University College of Ceramics at Alfred University, Binghamton University, University at Buffalo, Case Western Reserve University or Clarkson University.

Requirements for the chemistry major under the program include:

A. Study within the Major Area
38 credit hours in chemistry including CHE 221, 222, 301, 302, 304, 410, 411, 431, 432, 434, 471, 472, 473, 474, and 451 (or 540). Up to nine additional credit hours of engineering and chemistry courses taken at the cooperating engineering institution in the fourth and fifth years may be used toward meeting American Chemical Society certification requirements.

B. Courses in Related Areas
Fifteen credit hours in mathematics including MAT 135, 236, 237 and 430; and eight credit hours in physics, including PHY 201 and 202.

C. Additional Courses
Six credit hours of English composition; 21 credit hours in General Education.

D. Courses at the cooperating engineering institution
For the additional degree in engineering, students will take courses at the cooperating engineering institution. A maximum 30 credit hours of courses approved by the cooperating institution will be transferred to Cortland to complete the 124 credit hours required to earn the degree.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Major in Adolescence Education: Chemistry (7-12) [ACH]

This major leads to New York State certification to teach chemistry in grades 7-12.

Students will be accepted to the program after 45 credit hours have been completed. At that time students must have an overall grade point average of 2.5 and a grade point average of 2.5 in chemistry, related areas and the professional preparation courses.

A. Required Courses: 28 credit hours
CHE 221: General Chemistry I
CHE 222: General Chemistry II
CHE 301: Organic Chemistry I
CHE 340: Inorganic Chemistry
CHE 410: Quantitative Analysis
CHE 431: Physical Chemistry I
CHE 471: Quantitative Measurements Laboratory
CHE 472: Equilibrium Measurements Laboratory
Six additional hours in chemistry at the 300 level or above, excluding courses in section B.

B. Elective Advanced Labs: A total of two credit hours from a minimum of two of the following courses *:
- CHE 442: Advanced Preparations
- CHE 453: Introductory Biochemistry Lab
- CHE 470: Advanced Laboratory
- CHE 473: Thermodynamics and Kinetics Laboratory
- CHE 474: Spectroscopy Laboratory
- CHE 475: Inorganic Preparations Laboratory

* One credit may be substituted with CHE 480 with prior department approval.

C. Related Courses: 28 credit hours
- MAT 121: Calculus A
- MAT 122: Calculus B
- PHY 201: Principles of Physics I
- PHY 202: Principles of Physics II
- BIO 110-111: Principles of Biology I and II
- GLY 261-262: Physical and Historical Geology

D. Required Professional Courses: 38 credit hours
- PSY 101: General Psychology
- PSY 232: Adolescent Psychology
- AED 391: Introduction to Adolescence Education
- AED 442: Methods I: Teaching the Sciences in the Middle and Secondary Schools
- AED 443: Methods II: Teaching the Sciences in the Middle and Secondary Schools
- AED 444: Laboratory Practicum
- AED 445: Student Teaching: Adolescence Education – Science
- HLH 199: Critical School Health Issues
- SHH 300 or PSY 350: Language Acquisition
- LIT 449: Literacy in the Middle and Secondary School

E. Additional Requirements: 28-33 credit hours
- Composition and General Education Courses: 27 credit hours
- Foreign Language Courses: 0-6 credit hours
- Free Elective Courses: 0-1 credit hours

F. Admission to the Major
Completion of 45 credit hours with at least a 2.5 grade point average overall and at least a 2.5 grade point average in each of areas A, B and C above. Students enrolled in an adolescence education science program will not be allowed to progress through courses in the pedagogical sequence if they have not met all the criteria for admission to teacher education by the time they have completed AED 391: Introduction to Adolescence Education. The pedagogical sequence is designated by AED 391, AED 442, AED 443, AED 444 and AED 445.

G. Eligibility for Student Teaching
To be eligible for AED 445: Student Teaching, a minimum overall grade point average of 2.5 is required. Additionally, a minimum grade point average of 2.5 is required in each of areas A, B, and C above. A minimum of 24 credit hours in chemistry courses and 22 credit hours in related science and math courses is needed. CHE 221, 222, 301, 340; BIO 110/201; 111/202; PHY 201; GLY 261; MAT 121, 122; PSY 101, 232; and AED 391, 442, 443, 444 must be completed before the student teaching experience. Additionally, each teacher candidate will be required to submit a professional portfolio.

H. Other
Specific information regarding requirements (for example, state examinations and reporting of child abuse and maltreatment) for New York State teaching certification can be found on pages 49-50 of this catalog.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Minor in Chemistry [CHE]

A. Required Courses:
CHE 221, 222, and 301 plus sufficient chemistry electives at the 300-level or above to total at least 19 credit hours.

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 19

Example of the bachelor's degree in Chemistry over four years

First Year

Fall
CHE 221
MAT 121
CPN 100 or 102
ECO 105
POL 110
COR 101
Total credit hours: 17-18

Spring
CHE 222
MAT 122
CPN 101 or 103
ANT 102
ATH 120
Total credit hours: 16-17

Second Year

Fall
CHE 301
MAT 425
PHY 201
HIS 110
ENG 200
Total credit hours: 17

Spring
CHE 302
CHE 304
PHY 202
SCI 320
MUS 100
Foreign language
Total credit hours: 17

Third Year

Fall
CHE 431
CHE 410
CHE 451
CHE 470: Adv. Lab 1/2
ATS 103
Foreign language
Total credit hours: 16

Spring
CHE 432
CHE 411
CHE 470: Adv. Lab 3/4
ENG 204
PHY 150
Foreign language
Total credit hours: 15

Fourth Year

Fall
CHE 470: Adv. Lab 5/6
CHE 340
CHE 480
GLY 310
ANT 102
Foreign language
Total credit hours: 14-16

Spring
CHE 452
CHE 360
CHE 480
BIO 110
CAP 350
Total credit hours: 14-16

Chemistry

COURSE DESCRIPTIONS

CHE 121: Elementary Chemistry I
(F) Concepts underlying chemical reactions. Application of chemical processes and materials to daily life. Not open to science or math majors. Three lectures, one two-hour laboratory. (4 cr. hr.) ■

CHE 122: Elementary Chemistry II
(S) Continuation of CHE 121. Not open to science or math majors. Prerequisite: CHE 121. (3 cr. hr.) ■

CHE 125: Chemistry and the Environment
(O) Basic chemical principles applying to understanding modern environmental problems; food, materials, energy, pollution. Cannot be applied toward chemistry major or minor. Three lectures and/or demonstrations. (3 cr. hr.) ■

CHE 129, 229, 329, 429, 529: Special Topics in Chemistry
Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

CHE 190: Chemical Bases of Health and Fitness
(O) Background for understanding exercise physiology. Chemical structure of foods and tissues, biochemical synthesis, blood chemistry, energy and thermodynamics, chemical kinetics. Cannot be applied toward chemistry major or minor. Previous experience in chemistry recommended. Two lectures, one three-hour lab. (3 cr. hr.) ■

CHE 221: General Chemistry I
(F) Atomic theory, structure, chemical bonding. Application of thermodynamic, structural and kinetic considerations to inorganic systems. Electrochemistry, quantitative analysis, other current topics. Three lectures, one three-hour laboratory. (4 cr. hr.) ■

CHE 222: General Chemistry II
(S) Three lectures, one three-hour laboratory. Honors laboratory section available. Prerequisite: CHE 221. (4 cr. hr.) ■

CHE 224: Problem-Solving in General Chemistry I
(F) Methods of solving problems in general chemistry: stoichiometry, atomic and molecular structure, bonding. Corequisite: CHE 221. S, U grading. Cannot be applied toward chemistry minor. (1 cr. hr.)

CHE 225: Problem-Solving in General Chemistry II
(S) Methods of solving problems in general chemistry: thermodynamics, kinetics, chemical equilibrium. Corequisite: CHE 222. S, U grading. Cannot be applied toward chemistry minor. (1 cr. hr.)

CHE 301: Organic Chemistry I
(F) Organic compounds, their structure, properties, relationships, synthesis and uses. Three lectures, one three-hour laboratory. Prerequisites: CHE 221 and 222. (4 cr. hr.) ■

CHE 302: Organic Chemistry II
(S) Three lectures. Prerequisite: CHE 301. (3 cr. hr.) ■

CHE 304: Organic Chemistry Laboratory II
(S) Synthetic, analytical techniques in organic chemistry. Includes spectroscopy, chromatography. Prerequisite: CHE 301; pre- or corequisite CHE 302. (1 cr. hr.)

CHE 340: Inorganic Chemistry
(C) Structures and reactivities of elements and compounds emphasizing modern theories of bonding and periodicity. Prerequisites: CHE 221 and 222. (3 cr. hr.) ■

CHE 360: Introductory Radiochemistry
(O) Radioactivity, interactions with matter, detection, characterization and application of radioisotope techniques in study of physical and biological systems. Two lectures, one three-hour laboratory. Prerequisite: CHE 222. (3 cr. hr.) ■

CHE 410: Quantitative Analysis
(F) Theory, methodology of modern chemical analysis. Volumetric, electrochemical and spectrophotometric methods. Three lectures. Prerequisite: CHE 222. (3 cr. hr.) ■

CHE 411: Chemical Instrumentation
(S) Theory of instrumental design. Application to a variety of spectrophotometric techniques in chemistry. Three lectures. Prerequisite: CHE 222. (3 cr. hr.)

CHE 431: Physical Chemistry I
(F) Kinetic theory of gases, thermodynamics, introductory quantum chemistry, chemical bonding. Molecular spectroscopy. Also listed as PHY 431. (3 cr. hr.) ■

CHE 432: Physical Chemistry II
(S) Chemical kinetics, solid and liquid states, phase equilibria, properties of solutions and surface chemistry. Prerequisite: CHE 431. Also listed as PHY 432. (3 cr. hr.) ■

CHE 434: Engineering Thermodynamics
(O) Fundamentals of classical thermodynamics from engineering perspective. Properties of pure substances and use of thermodynamic tables, control volume analysis, heat engines and refrigerators. (3 cr. hr.) ■

CHE 442: Advance Preparations
(A) Synthesis problems and techniques in organic and inorganic chemistry. Preparation may involve glassblowing and other specialized techniques. Not allowed for General Education science credit or minor in chemistry. Prerequisite: Consent of department. (1-3 cr. hr.)

CHE 451: Introductory Biochemistry I
(F) Compounds, reactions of biological importance, amino acids, nucleic acids, proteins, lipids, carbohydrates, vitamins, enzyme systems, digestion, absorption and pathways of intermediary metabolism. Three lectures. Prerequisite: CHE 301. (3 cr. hr.) ■

CHE 452: Introductory Biochemistry II
(O) Three lectures. Prerequisite: CHE 451. (3 cr. hr.) ■

CHE 453: Introductory Biochemistry Lab II
(O) Laboratory practice with biochemical substances and experiments illustrating chemical reactions which may occur in biological systems. Concurrent with, or after, CHE 451. (1 cr. hr.)

CHE 470: Advanced Laboratory
(O) Laboratory work in special topics, which may be repeated for credit as topics change. Two three-hour labs for one quarter. Prerequisite: Permission of department. (1 cr. hr.) ■

CHE 471: Quantitative Measurements Laboratory
(F) Classical and instrumental methods of quantitative analysis, including volumetric, spectrophotometric, and atomic spectroscopy. Two three-hour labs for one quarter. Prerequisite: CHE 410 which may be taken concurrently. (1 cr. hr.)

Course codes: A = every semester, B = at least once per year, C = at least once every two years, F = fall, M = summer, O = occasionally, S = spring, W = winter, ■ = LAS

CHE 472: Equilibrium Measurements Laboratory
(F) Instrumental techniques applied to the determination of equilibrium constants of chemical reactions. Equilibrium constants measured are acid dissociation, formation constants of coordination complexes, M:L ratios of coordination complexes, and solubility product constants. Two three-hour labs for one quarter. Prerequisite: CHE 471. (1 cr. hr.)

CHE 473: Thermodynamics and Kinetics Laboratory
(S) Modern laboratory exercises in chemical kinetics and thermodynamics. Two three-hour labs for one quarter. Prerequisite: CHE 431. (1 cr. hr.)

CHE 474: Spectroscopy Laboratory
(S) Lab studies of the energy levels of molecules using modern spectroscopic methods. Computational chemistry or applications of spectroscopy may be included. Two three-hour labs for one quarter. Prerequisite: CHE 432 which may be taken concurrently. (1 cr. hr.)

CHE 475: Inorganic Preparations Laboratory
(O) Classical methods of inorganic synthesis and characterization of inorganic compounds prepared in the laboratory. Two three-hour labs for one quarter. Prerequisite: CHE 340 which may be taken concurrently. (1 cr. hr.)

CHE 480: Independent Research
(A) Limited to qualified upperclassmen. May be taken for total of six credits. Prerequisite: Consent of department. (1-3 cr. hr.)

CHE 499: Chemistry Tutoring
(A) Tutoring lower-level chemistry students taking courses using personalized instruction method (Keller Plan). Students act as tutors for four-and-a-half hours a week, attend half hour discussions a week. May be taken up to three times for maximum of three credit hours provided a different course is tutored each time. Not applicable to chemistry minor. Prerequisites: B average in chemistry courses; consent of instructor. H, S, U grades are assigned. (1 cr. hr.)

CHE 500: Advanced Organic Chemistry
(O) Reaction mechanisms, physical organic chemistry and theoretical concepts in organic chemistry; recent developments. Prerequisite: CHE 302. (3 cr. hr.)

CHE 540: Advanced Inorganic Chemistry
(O) Periodic relationships occurring among elements and their compounds. Current theories of atomic structure, bonding, acid-base behavior and coordination. Prerequisite: CHE 431. (3 cr. hr.)

Related Education Courses

AED 391: Introduction to Adolescence Education
(A) Students will develop a coherent and comprehensive personal educational philosophy; analyze the role of education and teachers in society; demonstrate an understanding of teacher certification standards and requirements; evaluate teaching, lesson planning and implementation and cooperative skills; and develop a portfolio. The course includes 25 hours of field observation/teaching experience. (3 cr. hr.)

AED 442: Methods I: Teaching the Sciences in the Middle and Secondary Schools
(S) The course examines history and foundations of education, especially science education; explores disciplinary models and their application to classroom management; examines tools for measurement and evaluation of performance and achievement of diverse learners; develops criteria for curriculum development and lesson planning aligned with state and national standards; examines federal and state laws governing education of students with disabilities; develops strategies for collaborating with administrators, faculty, staff, parents/guardians, and community members. Includes 25 hours of field experience in middle or secondary schools. Open only to majors who have been formally admitted to adolescence education: biology; chemistry; earth science; or physics. Prerequisites: PSY 232 and AED 391. (3 cr. hr.)

AED 443: Methods II: Teaching the Sciences in the Middle and Secondary Schools
(F) Introduction to aspects of teaching laboratory-based science to a diverse population of students through the development of a course syllabus, a comprehensive plan for laboratory safety, and lesson plans aligned with state and national learning standards and state science core curriculum guides. Twenty-five hours of field experience in middle and secondary schools. Prerequisite: AED 442. Corequisite: AED 444. (3 cr. hr.)

AED 444: Laboratory Practicum
(F) Opportunity to work with an experienced teacher in the planning, preparation, and implementation of laboratory exercises in an introductory, college-level lab course through one-on-one and small group activities. Fulfills twenty-five hours of field experience requirement. Corequisite: AED 443. (1 cr. hr.)

AED 445: Student Teaching: Adolescence Education — Science
(A) Full-time supervised student teaching in two public school placements: one, eight-week placement at the seventh or eighth grade level and one, eight-week placement at the ninth, tenth, eleventh, or twelfth grade level. A discipline-specific student teaching seminar is held on campus once during the semester. Prerequisites: PSY 232, AED 443 and 444. See major department for eligibility criteria. S, U grades are assigned. (14 cr. hr.)

LIT 449: Literacy in the Middle and Secondary School
(A) Methods, materials and assessment for fostering literacy at the middle and secondary levels. (3 cr. hr.)

Course codes: A = every semester, B = at least once per year, C = at least once every two years, F = fall, M = summer, O = occasionally, S = spring, W = winter, ■ = LAS

Childhood/Early Childhood Education

DEPARTMENT

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SCHOOL

Education

FACULTY

Cynthia Benton (Chair), Heather Bridge, Susana Davidenko, Virginia Dudgeon, Karen Hempson, Hee-Young Kim, Elizabeth Klein, Emilie Kudela, Andrea Lachance, Tony Byungho Lee, Thomas Lickona, Lin Lin, Joy Mosher, Ellen Newman, Renee Potter, Margaret Richardson, Patricia Roiger, Kimberly Rombach, Judith Schillo, Shufang Shi, Susan Stratton, Gail Tooker

ADJUNCT FACULTY

For a listing of adjunct faculty see pages 312-315.

PROGRAMS OFFERED

Bachelor of Science in Childhood Education
Bachelor of Science in Early Childhood Education
Bachelor of Science in Early Childhood and Childhood Education

MAJORS OFFERED

Childhood Education (1-6)
Early Childhood Education (Birth-2)
Early Childhood/Childhood Education (Birth-6)

DESCRIPTION

A major in Childhood and/or Early Childhood (CHD, DEC, ECH) certification programs offers a foundation for building an enriching life as an educator and can also be applied toward careers in the education field and in areas as diverse as law, industrial training or social work.

Professional education courses are offered by the Childhood/Early Childhood Education Department. Courses in the student's concentration are offered by the appropriate departments in the School of Arts and Sciences.

SPECIAL FEATURES

- Student Teaching Centers in urban and suburban settings
- Study abroad
- Student teaching at London Metropolitan University, England and the University of the Sunshine Coast, Australia
- Rural and urban partnership programs
- National Honor Societies in Education: Phi Delta Kappa and Kappa Delta Pi
- Cortland's Urban Recruitment of Educators (C.U.R.E.) Scholarship
- Outdoor Education Center at Raquette Lake
- College and community projects

Requirements

1. Degree Requirements listed on pages 38-48 of this catalog apply to all education majors.
2. Liberal Arts Requirements: 66 credit hours
3. Foreign Language: All students must have proficiency in a foreign language. B.S. students complete one year of a foreign language, six credit hours, or its equivalent — through the 102 level.

CONCENTRATION IN THE LIBERAL ARTS

The concentration provides depth of study in a field that will support at least one of the New York State Learning Standards (State Education Department). Approved concentrations include: biology, earth science, English language arts, environmental studies, French, humanities, mathematics, social sciences and Spanish. Concentrations are 30-33 credit hours with a minimum of 18 credit hours at the 300 and 400 level.

ENROLLMENT IN THE MAJORS

Enrollment in the Childhood/Early Childhood Education Department majors is limited, and admission to any of the programs is competitive. Admission to the College does not guarantee admission to an education major or program.

Students who begin as freshmen at Cortland may apply to the Childhood/Early Childhood Department majors after completing at least 30 credit hours and earning a minimum 2.5 grade point average at Cortland. Transfer students who have at least a 2.5 grade point average from their previous institution and have completed a minimum of 30 credit hours may be admitted directly to the major. Transfer students who are not directly admitted to the childhood/early childhood education majors may apply after they have earned 15 credit hours at Cortland and have a minimum 2.5 grade point average. All students applying to these majors will be submitted to judicial screening and must demonstrate appropriate professional dispositions. Application is made during the College-wide change of major period. Unsuccessful applicants may reapply until they have earned 64 credit hours. Candidates who have completed 64 credit hours and have not been accepted into the certification program must declare an alternate major.

ELIGIBILITY FOR STUDENT TEACHING

To be eligible for student teaching, students must be in good academic standing, have no incompletes, complete all prerequisite education courses, have an overall Cortland grade point average of 2.5 and have no grade lower than a C- in required education courses. Students must be eligible at the time of application; if ineligible, they must reapply when eligibility is achieved.

ADVISEMENT MANUAL

Advisement manuals for education majors are available online. Students must follow the manual in place at the time of their matriculation. Students should study the manual carefully since it supplements the information provided in this catalog.

Major in Childhood Education (1-6) [CHD]

The childhood education major prepares students to become elementary school teachers in grades 1-6. Students learn to develop curriculum in all areas of the New York State Learning Standards.

CAREER POTENTIAL

- Elementary school teacher
- Educational resource coordinator
- Sales representative in training and educational programs

A. College-wide and General Education Courses: 44 credit hours
COR 101: The Cortland Experience
CPN 100 or 102: Academic Writing I
CPN 101 or 103: Academic Writing II
MAT 101: Concepts of Elementary School Mathematics I
Foreign language (six credit hours)

General Education Program
GE 1:
ECO 105: Political Economy and Social Thought *or*
POL 100: Introduction to American Government and Politics

GE 2: Any GE 2 course
Recommended:
FSA 103: Gender, Race and Class Issues in Education *or*
GRY 221: Social Geography

GE 3:
ANT 102: Introduction to Cultural Anthropology *or*
GRY 120: Cultural Geography *or*
GRY 125: Human Geography and Global Development

GE 4: Any GE 4 course

GE 5: Any GE 5 course
Recommended: HIS 101: The World Since 1500

GE 6:
ENG 200: Introduction to Literature *or*
ENG 202: Introduction to Fiction *or*
ENG 203: Introduction to Poetry *or*
ENG 204: Introduction to Drama

GE 7: Any GE 7 course
Recommended:
SCI 320: Science, Technology and Culture *or*
GRY 370: Will the World Provide?

GE 8:
SCI 141: Integrated Earth Science and Biology *and*
SCI 142: Integrated Physics and Chemistry

B. Content Core: 31 credit hours
ECO 105: Political Economy and Social Thought *or*
POL 100: Introduction to American Government and Politics (whichever not taken as GE 1)
ENG 302: Advanced Writing *or*
ENG 306: Advanced Writing Workshop
HIS 200: The United States to 1877
HIS 201: The United States since 1877
HLH 265: Health and the Child
INT 270: Exploring Education
MAT 102: Concepts of Elementary School Mathematics II
PED 245: Activities for Children
PSY 101: General Psychology I
PSY 231: Child Psychology *or*
PSY 332: Educational Psychology
SCI 141: Integrated Earth Science and Biology *and*
SCI 142: Integrated Physics and Chemistry (if not previously taken as GE 8a and 8b)
SPE 270: Introduction to Special Education

C. Pedagogy Courses: 40 credit hours
LIT 371: Teaching Elementary School Reading and Language Arts I

Methodology Block I: 14 credit hours
EDU 314: Teaching with Computers in Elementary and Middle School
LIT 372: Teaching Elementary School Reading and Language Arts II
EDU 373: Teaching Elementary School Mathematics
EDU 374: Teaching Elementary School Science
EDU 375: Teaching Elementary School Social Studies

Methodology Block II: 10 credit hours
FSA 400: Foundations of Education: The School in American Society
EDU 430: Measurement and Evaluation in Education
EDU 478: Classroom Discipline for Personal and Social Responsibility
EDU 477: Elementary School Practicum

Application and Reflection on Teaching: 13 credit hours
EDU 490: Student Teaching I
EDU 491: Student Teaching II
EDU 492: Seminar in Student Teaching

D. Concentration in an Approved Liberal Arts Area: 30-33 credit hours with a minimum of 18 credit hours at the 300 and 400 level.

Credit hours vary depending on area chosen. Requirements in General Education and content core may reduce the number of credit hours in a concentration. Approved concentration requirements are listed on pages 100-108.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION FROM THE COLLEGE: 128

TOTAL CREDIT HOURS REQUIRED FOR CHILDHOOD EDUCATION WITH CONCENTRATIONS: 130-141

Major in Early Childhood Education (Birth-2) [ECH]

The early childhood education major prepares students to become early childhood educators in preschool settings through grade two. Students learn to create high-quality environments that respect children and their families, are developmentally appropriate, and are child centered.

CAREER POTENTIAL

- Teacher of Preschool through Grade 2 (birth to 8 years old)
- Child-care provider
- Child-care center director
- Resource and referral counselor

A. College-wide and General Education Courses: 44 credit hours
COR 101: The Cortland Experience
CPN 100 or 102: Academic Writing I
CPN 101 or 103: Academic Writing II
MAT 101: Concepts of Elementary School Mathematics I
Foreign Language (six credit hours)

General Education Program
GE 1:
ECO 105: Political Economy and Social Thought *or*
POL 100: Introduction to American Government and Politics

GE 2:
Any GE 2 course
Recommended:
FSA 103: Gender, Race and Class Issues in Education *or*
GRY 221: Social Geography

GE 3:
ANT 102: Introduction to Cultural Anthropology *or*
GRY 120: Cultural Geography *or*
GRY 125: Human Geography and Global Development

GE 4: Any GE 4 course

GE 5: Any GE 5 course
Recommended: HIS 101: The World Since 1500

GE 6:
ENG 200: Introduction to Literature *or*
ENG 202: Introduction to Fiction *or*
ENG 203: Introduction to Poetry *or*
ENG 204: Introduction to Drama

GE 7: Any GE 7 course
Recommended:
SCI 320: Science, Technology and Culture *or*
GRY 370: Will the World Provide?

GE 8:
SCI 141: Integrated Earth Science and Biology *and*
SCI 142: Integrated Physics and Chemistry

B. Content Core: 28 credit hours
MAT 102: Concepts of Elementary School Mathematics II
PSY 101: General Psychology I
PSY 231: Child Psychology
ECO 105: Political Economy and Social Thought or
POL 100: Introduction to American Government and Politics (whichever not taken as GE 1)
HLH 265: Health and the Child
HIS 200: The United States to 1877
HIS 201: The United States Since 1877
ENG 302: Advanced Writing *or*
ENG 306: Advanced Writing Workshop
PED 245: Activities for Children
SCI 141: Integrated Earth Science and Biology *and*
SCI 142: Integrated Physics and Chemistry (if not previously taken as GE 8a and 8b)
SPE 270: Introduction to Special Education

C. Pedagogy Courses: 42 credit hours
ECE 270: Introduction to Early Childhood Education
ECE 330: Observation and Assessment of Young Children
ECE 331: Curriculum Development I
ECE 332: Preschool Practicum
ECE 333: Children, Families, and Their Community
LIT 371: Teaching Elementary School Reading and Language Arts I
ECE 431: Curriculum Development II
ECE 435: Children's Literacy Across the Curriculum
FSA 400: Foundations of Education: The School in American Society
EDU 477: Elementary School Practicum
EDU 478: Classroom Discipline for Personal and Social Responsibility
ECE 490: Student Teaching I
ECE 491: Student Teaching II
ECE 492: Seminar in Student Teaching

D. Concentration in an Approved Liberal Arts Area: 30-33 credit hours with a minimum of 18 credit hours at the 300 and 400 level.

Credit hours vary depending on area chosen. Requirements in General Education and content core may reduce the number of credit hours in a concentration. Approved concentration requirements are listed on pages 100-108.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION FROM THE COLLEGE: 128

TOTAL CREDIT HOURS REQUIRED FOR EARLY CHILDHOOD EDUCATION WITH CONCENTRATIONS: 129-139

Major in Early Childhood Education/Childhood Education (Birth-6) [DEC]

This major prepares students to have dual certification in early childhood education and childhood education for teaching from birth through grade 6.

A. College-wide and General Education Courses: 44 credit hours
COR 101: The Cortland Experience
CPN 100 or 102: Academic Writing I
CPN 101 or 103: Academic Writing II
MAT 101: Concepts of Elementary School Mathematics I
Foreign Language (six credit hours)

General Education Program
GE 1:
ECO 105: Political Economy and Social Thought *or*
POL 100: Introduction to American Government and Politics

GE 2: Any GE 2 course
Recommended:
FSA 103: Gender, Race and Class Issues in Education *or*
GRY 221: Social Geography

GE 3:
ANT 102: Introduction to Cultural Anthropology *or*
GRY 120: Cultural Geography *or*
GRY 125: Human Geography and Global Development

GE 4: Any GE 4 course

GE 5: Any GE 5 course
Recommended: HIS 101: The World Since 1500

GE 6:
ENG 200: Introduction to Literature *or*
ENG 202: Introduction to Fiction *or*
ENG 203: Introduction to Poetry *or*
ENG 204: Introduction to Drama

GE 7: Any GE 7 course
Recommended:
SCI 320: Science, Technology and Culture *or*
GRY 370: Will the World Provide?

GE 8:
SCI 141: Integrated Earth Science and Biology *and*
SCI 142: Integrated Physics and Chemistry

B. Content Core: 31 credit hours
MAT 102: Concepts of Elementary School Mathematics II
PSY 101: General Psychology I
PSY 231: Child Psychology
ECO 105: Political Economy and Social Thought or
POL 100: Introduction to American Government and Politics (whichever is not taken as GE 1)
HLH 265: Health and the Child
HIS 200: The United States to 1877
HIS 201: The United States since 1877
ENG 302: Advanced Writing or
ENG 306: Advanced Writing Workshop
PED 245: Activities for Children
ECE 270: Introduction to Early Childhood Education
SCI 141: Integrated Earth Science and Biology *and*
SCI 142: Integrated Physics and Chemistry (if not previously taken as GE 8a and 8b)
SPE 270: Introduction to Special Education

C. Pedagogy Courses: 50 or more credit hours
ECE 330: Observation and Assessment of Young Children
ECE 331: Curriculum Development I
ECE 332: Preschool Practicum
ECE 333: Children, Families, and Their Community
ECE 435: Children's Literacy Across the Curriculum
EDU 314: Teaching with Computers in Elementary and Middle School
LIT 371: Teaching Elementary School Reading and Language Arts I
LIT 372: Teaching Elementary School Reading and Language Arts II
EDU 373: Teaching Elementary School Mathematics
EDU 374: Teaching Elementary School Science
EDU 375: Teaching Elementary School Social Studies
FSA 400: Foundations of Education: The School in American Society
EDU 477: Elementary School Practicum
EDU 478: Classroom Discipline for Personal and Social Responsibility
ECE 490: Student Teaching I
ECE 491: Student Teaching II
ECE 492: Seminar in Student Teaching

D. Concentration in an Approved Liberal Arts Area: 30-33 credit hours with a minimum of 18 credit hours at the 300 and 400 level.

Credit hours vary depending on area chosen. Requirements in General Education and content core may reduce the number of credit hours in a concentration. Approved concentration requirements are listed on pages 312-315.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION FROM THE COLLEGE: 128

TOTAL CREDIT HOURS REQUIRED FOR CHILDHOOD AND EARLY CHILDHOOD DUAL CERTIFICATION WITH CONCENTRATIONS: 140-150

Approved Concentrations

Biology Concentration [BIO]

Thirty-three credit hours, with a minimum of 18 credit hours at the 300 level or above.

SCI 141: Integrated Earth Science and Biology
SCI 142 : Integrated Physics and Chemistry
BIO 201: Biological Sciences I
BIO 202: Biological Sciences II
BIO 306: Human Genetics
Subtotal: 18 credit hours

Fifteen credit hours selected from the following:
BIO 301: Human Anatomy and Physiology I
BIO 302: Human Anatomy and Physiology II
BIO 303: Microbiology and Human Disease
BIO 305: Histology
BIO 307: Field Natural History
BIO 310: Field Biology
BIO 313: Taxonomy of Vascular Plants
BIO 315: Marine Biology
BIO 323: Field Herpetology
BIO 324: Mammalian Anatomy
BIO 401: Invertebrate Biology
BIO 402: Biology of Vertebrates
BIO 405: Conservation Biology
BIO 408: Biology of Insects
BIO 409: Animal Behavior
BIO 411: Ornithology
BIO 412: General Ecology
BIO 418: Fungi
BIO 421: Plant Anatomy
BIO 422: Biological Evolution
BIO 437: Directed Study
Subtotal: 15 credit hours

Note: A student can take only two of these three courses: BIO 301, 302, 324

TOTAL CREDIT HOURS: 33
Seven credit hours taken in content core

Earth Science Concentration [ERS]

Thirty-four credit hours, with a minimum of 18 credit hours at the 300 level or above
SCI 141 Integrated Earth Science and Biology
SCI 142 Integrated Physics and Chemistry
Subtotal: Seven credit hours

Required earth science courses:
GLY 261: Physical Geology
GLY 262: Historical Geology
GLY 371: Meteorology
GLY 397: Physical Oceanography
GLY 310: Wetlands Analysis
GLY 363: Invertebrate Paleontology
GLY 367: Geomorphology
GLY 410: Hydrogeology
Subtotal: 27 credit hours

TOTAL CREDIT HOURS: 34
Seven credit hours taken in content core

Example of a four-year plan for the B.S. in Childhood Education with a concentration in Biology

First Year

Fall

COR 101
CPN 100
POL 100 (GE 1)
SCI 141 (GE 8a)
GE 4
Foreign language

Total credit hours: 17

Spring

CPN 101
HIS 100 level (World, GE 5)
MAT 101
PSY 101
SCI 142 (GE 8b)
Foreign language

Total credit hours: 18

Second Year

Fall

BIO 201
ENG 200, 202, 203 or 204 (GE 6)
INT 270
MAT 102
PSY 231
GE 2

Total credit hours: 19

Spring

BIO 202
BIO 300/400 level*
BIO 300/400 level*
GRY 120, 125 or ANT 102 (GE 3)
HIS 200
LIT 371

Total credit hours: 20

Third Year

Fall

ECO 105
EDU 314
EDU 373
EDU 374
EDU 375
LIT 372
PED 245

Total credit hours: 18

Spring

EDU 430
EDU 477
EDU 478
FSA 400
HLH 265
GE 7
SPE 270

Total credit hours: 19

Fourth Year

Fall

EDU 490
EDU 491
EDU 492

Total credit hours: 13

Spring

BIO 300/400 level*
BIO 300/400 level*
BIO 306
ENG 306
HIS 201

Total credit hours: 17

** Course requirements for approved concentration in biology*

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN BIOLOGY: 141

Example of a four-year plan for the B.S. in Childhood Education with a concentration in Earth Science

First Year

Fall

COR 101
CPN 100
GRY 120, 125, or ANT 102 (GE 3)
SCI 141 (GE 8a)
INT 270
Foreign language 101

Total credit hours: 17

Spring

CPN 101
ENG 200, 202, 203 or 204 (GE 6)
HIS 100 level (World, GE 5)
MAT 101
SCI 142 (GE 8b)
Foreign language 102

Total credit hours: 18

Second Year

Fall

GLY 261
GLY 300 level*
GLY 300 level*
MAT 102
PSY 101
GE 7

Total credit hours: 19

Spring

GLY 262
GLY 300 level*
GLY 300 level*
HIS 200
PSY 231
ENG 306

Total credit hours: 18

Third Year

Fall

GLY 300 level*
GLY 410
HIS 201
POL 100 (GE 1)
LIT 371
GE 4

Total credit hours: 18

Spring

ECO 105
EDU 314
EDU 373
EDU 374
EDU 375
LIT 372
PED 245

Total credit hours: 18

Fourth Year

Fall

EDU 430
EDU 477
EDU 478
FSA 400
HLH 265
GE 2
SPE 270

Total credit hours: 19

Spring

EDU 490
EDU 491
EDU 492

Total credit hours: 13

** Course requirements for approved concentration in earth science*

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN EARTH SCIENCE: 140

English Language Arts Concentration [ELA]

Thirty credit hours, with a minimum of 18 credit hours at the 300 level or above:

ENG 200: Introduction to Literature *or*
ENG 202: Introduction to Fiction *or*
ENG 203: Introduction to Poetry *or*
ENG 204: Introduction to Drama
ENG 306: Advanced Writing Workshop

Subtotal: Six credit hours

Nine-credit-hour language component:

ENG 201: Introduction to Language Study
ENG 402: Grammar
ENG 407: Study of English Language

Subtotal: Nine credit hours

Six-credit-hour writing component:

PWR 395: Revising and Editing

One elective from:

ENG 301: Creative Writing
PWR 212: Intro to Writing Fiction
PWR 213: Writing Poetry (3 cr. hr.)
PWR 323: Writing Children's Literature
PWR 413: Contemporary Poetics

Subtotal: Six credit hours

Nine-credit-hour literature component:

ENG 373: Literature for Children

One 400-level literature course from the following: (3 cr. hr.)

ENG 411: World Literature
ENG 417: The Romantic Age in American Literature
ENG 418: Realism and Naturalism in American Literature
ENG 419: American Fiction of the Twenties and Thirties
ENG 420: Modern American Poetry
ENG 421: African-American Autobiography
ENG 422: American Women Writers
ENG 423: American Fiction Since 1940
ENG 425: African-American Women Novelists
ENG 433: Shakespeare
ENG 438: Seventeenth-Century Poetry and Prose
ENG 440: The Age of Satire
ENG 441: The Age of Sensibility
ENG 442: Restoration and Eighteenth-Century Drama
ENG 445: The Romantic Age
ENG 446: The Victorian Age
ENG 455: The English Novel to 1900
ENG 457: Modern Irish Fiction
ENG 458: Modern Irish Poetry
ENG 464: Modern Russian Literature 1860-1960
ENG 470: Modern British Poetry
ENG 471: The Modern English Novel
ENG 472: Modern Drama
ENG 475: American Multicultural Literature

One elective from: (3 cr. hr.)

ENG 325: American Literature Before 1900
ENG 326: American Literature Since 1900
ENG 355: Major Figures in British Lit. to 1780
ENG 356: Major Figures in British Lit. 1780-present

Subtotal: Nine credit hours

TOTAL CREDIT HOURS: 30
Six credit hours taken in content core

Example of a four-year plan for the B.S. in Childhood Education with a concentration in English Language Arts

First Year

Fall

COR 101
CPN 100
PSY 101
MAT 101
GE 4
Foreign language 101

Total credit hours: 16

Spring

CPN 101
ECO 105 (GE 1)
HIS 100 level (World, GE 5)
MAT 102
SCI 141 (GE 8a)
Foreign language 102

Total credit hours: 19

Second Year

Fall

ENG 201
ENG 200, 202, 203 or 204 (GE 6)
SCI 142 (GE 8b)
HIS 200
POL 100
INT 270

Total credit hours: 18

Spring

GRY 120, 125, or ANT 102 (GE 3)
ENG (writing elective)
ENG 306
ENG 373
ENG 407
LIT 371
PSY 231

Total credit hours: 21

Third Year

Fall

EDU 314
EDU 373
EDU 374
EDU 375
EDU 430
LIT 372

Total credit hours: 17

Spring

EDU 477
EDU 478
FSA 400
HLH 265
GE 2
PED 245
SPE 270

Total credit hours: 17

Fourth Year

Fall

EDU 490
EDU 491
EDU 492

Total credit hours: 13

Spring

ENG 300 level (literature elective)
ENG 400 level (literature elective)
ENG 402
PWR 395
HIS 201
GE 7

Total credit hours: 18

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN ENGLISH LANGUAGE ARTS: 139

Environmental Studies Concentration [EST]

Thirty-one credit hours, with a minimum of 18 credit hours at the 300 level or above

POL 100: Introduction to American Government and Politics *or*
ECO 105: Political Economy and Social Thought
EST 100: Introduction to Environmental Studies may fulfill GE-7 (3 cr. hr.)
SCI 141: Integrated Earth Science and Biology
SCI 142: Integrated Physics and Chemistry

Subtotal: 13 credit hours

Minimum of six credit hours from natural science:

BIO 307: Field Natural History
BIO 310: Field Biology*
BIO 315: Marine Biology*
BIO 411: Ornithology*
BIO 412: General Ecology*
GLY/ENS 292: Land Use and Planning
GLY 371: Meteorology*
GLY/ENS: 310 Wetlands Analysis*
GLY 397: Physical Oceanography
GRY 327: Computer Mapping*
GRY 328: Geographic Information Systems*
EST/ENS 486: Seminar in Environmental Science/Studies*
SCI 304: Plants and People
SCI 330: Science and the Public*

** course requires additional prerequisite*

Subtotal: Six credit hours

Six credit hours from social science courses

GRY 301: Science, Human Affairs and the Environment
GRY 370: Will the World Provide?
GRY 425: Geography in the Classroom
GRY 481: Geography of New York State
SCI 320: Science, Technology and Culture
ECO 335: Resource and Environmental Economics
POL 242: Environmental Policy
POL 308: Environmental Law
EST/REC 310: Wilderness and American Culture

Subtotal: Six credit hours

Minimum of six credit hours elected from natural science or social science list above.
Subtotal: Six credit hours

TOTAL CREDIT HOURS: 31

Ten credit hours taken in content core, three credit hours taken in GE

Example of a four-year plan for the B.S. in Childhood Education with a concentration in Environmental Studies

First Year

Fall

COR 101
CPN 100
HIS 100 level (World, GE 5)
SCI 141 (GE 8a)
Foreign language 101
PSY 101

Total credit hours: 17

Spring

CPN 101
INT 270
SCI 142 (GE 8b)
Foreign language 102
GE 4

Total credit hours: 15

Second Year

Fall

EST 100
GRY 120, 125, or ANT 102 (GE 3)
GRY 370 (GE 7)
MAT 101
POL 100 (GE 1)
Natural Science 300/400 level*

Total credit hours: 18

Spring

ECO 105
ENG 200, 202, 203 or 204 (GE 6)
HIS 200
Natural Science 300/400 level*
Social Science Elective 300/400 level*
GE 2

Total credit hours: 18

Third Year

Fall

ENG 306
HIS 201
PSY 231
Natural Science 300/400 level*
Social Science Elective 300/400 level*
LIT 371

Total credit hours: 18

Spring

EDU 314
EDU 373
EDU 374
EDU 375
LIT 372
SPE 270

Total credit hours: 17

Fourth Year

Fall

FSA 400
EDU 430
EDU 477
EDU 478
HLH 265
PED 245

Total credit hours: 14

Spring

EDU 490
EDU 491
EDU 492

Total credit hours: 13

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN ENVIRONMENTAL STUDIES: 130

French Concentration [FRE]

Thirty-to-thirty-one credit hours, with a minimum of 18 credit hours at the 300 level or above

FRE 101: Beginning French I
FRE 102: Beginning French II
FRE 201: Intermediate French I
FRE 202: Intermediate French II

Subtotal: 12 credit hours

Required upper-level French courses:
Choose 15 credit hours from the following courses:

FRE 307: French Through the Media
FRE 310: Pratique de la Lecture
FRE 311: Francophone Literatures
FRE 315: Introduction to French Literature I
FRE 316: Introduction to French Literature II
FRE 318: French Civilization

Subtotal: 15 credit hours

Three credit hours from the following:

FRE 407: Commercial French
FRE 413: French Literature of the Seventeenth Century
FRE 415: French Literature of the Eighteenth Century
FRE 417: Literature of the Nineteenth Century
FRE 419: Literature of the Twentieth Century
FRE 423: Themes in Literature

Subtotal: Three credit hours

Elective French courses (0-12 credit hours at or above the 300-level)

A student may begin language study at the 300 level, hence the need to include the elective category. A student entering at the 101 level would not need to take any electives after completing the required sequence.

TOTAL CREDIT HOURS: 30
Seven credit hours taken in General Education

Spanish Concentration [SPA]

Thirty-to-thirty-one credit hours, with a minimum of 18 credit hours at the 300-level or above

SPA 101: Beginning Spanish I
SPA 102: Beginning Spanish II
SPA 201: Intermediate Spanish I
SPA 202: Intermediate Spanish II

Subtotal: 12 credit hours

Required upper-level Spanish courses

SPA 305: Spanish Conversation and Composition
SPA 306: Advanced Spanish Conversation
SPA 307: Advanced Spanish Grammar
SPA 308: Spanish Composition
SPA 318: Peninsular Civilization *or*
SPA 319: Latin American Civilization
One SPA 400-level course

Subtotal: 18 credit hours

Elective Spanish Courses (0-12 credit hours at or above the 300-level)*

TOTAL CREDIT HOURS: 30
Seven credit hours taken in content core

Example of a four-year plan for the B.S. in Childhood Education with a concentration in French or Spanish

First Year

Fall

COR 101
CPN 100
FRE/SPA 101*
INT 270
SCI 141 (GE 8a)
GE 4

Total credit hours: 17

Spring

CPN 101
ECO 105
FRE/SPA 102*
HIS 100 level (World, GE 5)
POL 100 (GE 1)
PSY 101
GE 7

Total credit hours: 21

Second Year

Fall

FRE/SPA 201*
FRE/SPA 300 level
FRE/SPA 300 level
GRY 120, 125, or ANT 102 (GE 3)
HIS 200
MAT 101

Total credit hours: 18

Spring

ENG 200, 202, 203 or 204 (GE 6)
FRE/SPA 202*
FRE/SPA 300 level
FRE/SPA 300 level
HIS 201
MAT 102

Total credit hours: 18

Third Year

Fall

ENG 306
FRE/SPA 300 level
FRE/SPA 400 level
PSY 231
SCI 142 (GE 8b)
LIT 371

Total credit hours: 18

Spring

EDU 314
EDU 373
EDU 374
EDU 375
LIT 372
SPE 270

Total credit hours: 17

Fourth Year

Fall

FSA 400
EDU 430
EDU 477
EDU 478
HLH 265
GE 2
PED 245

Total credit hours: 17

Spring

EDU 490
EDU 491
EDU 492

Total credit hours: 13

** A student may begin language study at the 300 level and will need additional language courses at the 300 and 400 level for a total of 30 hours in the foreign language.*

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN FRENCH OR SPANISH: 139*

Humanities Concentration [HUM]

Thirty credit hours, with a minimum of 18 credit hours at the 300 level or above

Six credit hours in philosophy, at least three credit hours in upper-division courses

- PHI 202: Introduction to Modern Philosophy
- PHI 271: Philosophy of Human Nature
- PHI 320: Environmental Ethics
- PHI 380: Feminist Social Thought
- PHI 135: Philosophical Approaches to Contemporary Moral Problems, fulfills GE-7

Subtotal: Six credit hours

Six credit hours in art history, at least three credit hours in upper-division courses

- ATH 121: Art in the Ancient World, fulfills GE-4 *or*
- ATH 122: Art in the Modern World, fulfills GE-4
- ATH 320: History and Theory of Digital Arts
- ATH 326: Art of Greece and Rome
- ATH 340: The Early Renaissance in Italy
- ATH 355: Rococo Through Impressionism – 18th and 19th Centuries
- ATH 357: Modern Art

Subtotal: Six credit hours

Six credit hours in English literature, at least three credit hours in upper-division courses

- ENG 200: Introduction to Literature *or*
- ENG 202: Introduction to Fiction *or*
- ENG 203: Introduction to Poetry *or*
- ENG 204: Introduction to Drama, fulfills GE-6
- ENG 305: Film Criticism
- ENG 325: American Literature Before 1900
- ENG 326: American Literature Since 1900
- ENG 373: Children's Literature

Subtotal: Six credit hours

Six hours in the performing arts, at least three credit hours in upper-division courses

- MUS 100: Music in Western Society, fulfills GE 4 *or*
- MUS 111: Introduction to Music Theory, fulfills GE 4
- MUS 221: Music History I *or*
- MUS 222: Music History II *or*
- MUS 223: Music History III
- MUS 332: History of Jazz
- MUS 470: Music and the Child
- THT 161: Theater History I *or*
- THT 162: Theater History II
- THT 330: Literature in Performance

Subtotal: Six credit hours

Six additional 300-400-level elective credit hours from one area above

Subtotal: Six credit hours

TOTAL CREDIT HOURS: 30

Nine credit hours taken in content core

Example of a four-year plan for the B.S. in Childhood Education with a concentration in Humanities

First Year

Fall

COR 101
CPN 100
GRY 120, 125, or ANT 102 (GE 3)
POL 100 (GE 1)
SCI 141 (GE 8a)
Foreign language 101

Total credit hours: 17

Spring

CPN 101
HIS 100 level (World, GE 5)
INT 270
MAT 101
PSY 101
Foreign language 102

Total credit hours: 18

Second Year

Fall

ECO 105
ENG 200, 202, 203 or 204 (GE 6)
HIS 200
MAT 102
SCI 142 (GE 8b)
LIT 371

Total credit hours: 18

Spring

ATH 121 *or* 122 (GE 4)
ATH 300/400 level*
HIS 201
PHI 200/300 level*
PSY 231
VAL 335 (GE 7)

Total credit hours: 18

Third Year

Fall

EDU 314
EDU 373
EDU 374
EDU 375
LIT 372
ENG 306

Total credit hours: 17

Spring

FSA 400
EDU 430
EDU 477
EDU 478
HLH 265
SPE 270
PED 245

Total credit hours: 17

Fourth Year

Fall

EDU 490
EDU 491
EDU 492

Total credit hours: 13

Spring

ENG 300 level*
Humanities Elective 300/400 level*
Humanities Elective 300/400 level*
MUS *or* THT 300/400 level*
MUS *or* THT 300/400 level*

Total credit hours: 15

** Course requirements for approved concentration in humanities*

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN HUMANITIES: 133

Mathematics Concentration [MAT]

Thirty credit hours, with a minimum of 18 credit hours at the 300 level or above**

MAT 101: Concepts in Elementary School Mathematics I
MAT 102: Concepts in Elementary School Mathematics II
MAT 121: Calculus A
MAT 122: Calculus B
MAT 201: Statistical Methods
MAT 224: Discrete Mathematics
MAT 272: Linear Algebra
MAT 370: Algebraic Structures I
MAT 375: Geometry I
MAT 480: History of Mathematics

***Note: The Cortland 200-level mathematics courses are sequential in nature and are typically offered at the 300 level at other SUNY institutions.*

TOTAL CREDIT HOURS: 30

Six credit hours taken in content core

Example of a four-year plan for the B.S. in Childhood Education with a concentration in Mathematics

First Year

Fall

COR 101
CPN 100
MAT 101
PSY 101
GE 2
Foreign language 101

Total credit hours: 16

Spring

CPN 101
GRY 120, 125 or ANT 102 (GE 3)
MAT 102
MAT 201
POL 100
Foreign language 102

Total credit hours: 18

Second Year

Fall

INT 270
MAT 121
MAT 224
PSY 231
SCI 141 (GE 8a)
GE 4

Total credit hours: 19

Spring

ENG 200, 202, 203 or 204 (GE 6)
HIS 200
MAT 122
MAT 272
SCI 142 (GE 8b)
GE 7

Total credit hours: 18

Third Year

Fall

ENG 306
HIS 201
MAT 375
MAT 370
MAT 480
LIT 371

Total credit hours: 18

Spring

ECO 105
EDU 314
EDU 373
EDU 374
EDU 375
LIT 372
PED 245

Total credit hours: 18

Fourth Year

Fall

FSA 400
EDU 430
EDU 477
EDU 478
HLH 265
HIS 100 level (World, GE 5)
SPE 270

Total credit hours: 19

Spring

EDU 490
EDU 491
EDU 492

Total credit hours: 13

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN MATHEMATICS: 139

Social Sciences Concentration [SOS]

Thirty credit hours, with a minimum of 18 credit hours at the 300 level or above

ECO 105: Political Economy and Social Thought *or*
POL 100: Introduction to American Government and Politics
HIS 200: United States to 1877
HIS 201: United States since 1877
SOC 150: Introduction to Sociology *or*
ECO 111: Microeconomics

Subtotal: 12 credit hours

Nine credit hours in U.S. studies and nine credit hours in global studies, from the lists below. At least three credit hours in global studies must be non-western.

Subtotal: 18 credit hours

TOTAL CREDIT HOURS: 30

Nine credit hours taken in General Education and content core

United States Studies: Nine credit hours

ANT 301: Native American Archaeology
ANT 302: Native American Ethnology
ANT 305: Archaeology of the Eastern U.S.
ANT/SOC 352: U.S. Ethnic Identity and Conflict
SOC 340: Environmental Sociology
SOC 350: Civil Society
SOC 351: The Community
SOC 385: Sociology of Work
SOC 430: Social Welfare Institutions
SOC 461: Urban Sociology
SOC 465: Political Sociology
SOC 470: Sociology of the Family
ECO 325: Political Economy of Women*
ECO 326: Political Economy of Race and Class
ECO 335: Resource and Environmental Economics*
ECO 340: Government and Business: Regulation and Public Policy*
ECO 383: Labor Economics*
ECO 393: Urban Economics*
**ECO prerequisites required in addition to ECO 105*

GRY 480: United States
GRY 481: Geography of New York State
HIS 300: Colonial America, 1450-1750
HIS 302: Revolutionary America, 1750-1789
HIS 303: The American Republic, 1789-1840
HIS 304: The American Republic: 1840-1877
HIS 306: The United States: 1877-1920
HIS 307: The United States 1920-Present
HIS 309: New York State
HIS 312: African-American History to 1865
HIS 313: African-American History Since 1865
HIS 317: Women in the United States
HIS 401: U.S. Foreign Relations since 1914
HIS 421: U.S. Labor and Working-Class History
HIS 428: The Civil Rights Movement in America
POL 302: Law and Politics
POL 304: Constitutional Law
POL 320: Legislative Process
POL 326: State and Local Government
POL 330: Political Parties
POL 332: Elections in America
POL 338: Media and Politics
POL 341: Current Issues in Public Policy
POL 342: Environmental Policy and Biodiversity
POL 345: Adirondack Park Policies and Issues
POL 347: The Politics of Education Policy
POL 372: American Political Thought
POL 404: Civil Liberties
POL 405: Discrimination Law
POL 420: The American Presidency

Global Studies – Western: 0-6 credit hours

GRY 301: Science, Human Affairs and the Environment
GRY 315: Ecotourism
GRY 370: Will the World Provide?
GRY 425: Geography in the Classroom
GRY 470: Resource Geography
GRY 484: Geography of Europe
HIS 318 : The History of Women in Modern Europe
HIS 333: Russia, 850-1894
HIS 334: Russia Since 1894
HIS 342: Ancient Greece
HIS 343: Roman History
HIS 344: Medieval Europe: 300-1050
HIS 345: Medieval Europe: 1050-1300
HIS 346: Renaissance and Reformation
HIS 347: Modern Europe: The French Revolution to WWI
HIS 348: Europe Since 1914
HIS 361: Jews in the Ancient World
HIS 362: Jews in the Middle Ages
HIS 363: Jews in the Modern World, 1789-1948
HIS 440: Britain to 1688
HIS 441: Britain Since 1688
HIS 442: Tudor-Stuart England, 1485-1714
HIS 443: Ireland since 1660
HIS 444: France, 1715-1799: The Old Regime and French Revolution
HIS 445: France 1800-1945
HIS 447: Germany since 1815
HIS 448: Rise and Fall of Nazi Germany
HIS 452: War and Diplomacy: World War I
HIS 453: War and Diplomacy: World War II
HIS 460: The Holocaust
HIS 465: The Soviet Union, 1917-1953
POL 365: Irish Politics
POL 441: Comparative Public Policy
POL 450: International Law
POL 461: Europe Today: People and Politics
POL 465: Contemporary British Politics and Government

Global Studies – Non-Western: 3-9 credit hours

ANT 304: Peoples of Africa
ANT 306: Folk Societies and Lifestyles
ANT 307: World Prehistory
ANT 310: Peoples of South and Southeast Asia
ANT 312: Peoples of the Middle East
ANT 314: Peoples of Latin America
ANT 315: Development Anthropology
ANT 326: Archaeology of Religion
ANT 404: Applied Anthropology
ANT 406: Contact and Culture Change
ANT 409: Economic Anthropology
ANT/SOC 330: Religions of Asia
SOC 366: Sociology of International Conflict
ECO 304: Comparative Economic Systems*
ECO 311: Economic Development
ECO 312: Economic Development of Latin America
ECO 313: Economic Development of Asia

ECO 441: International Trade*
ECO 443: International Finance*
**ECO - prerequisites required in addition to ECO 105*

GRY 482: Central America and the Caribbean
GRY 485: Africa, South of the Sahara
GRY 486: Monsoon Asia
HIS 321: Africa, Human Origins to 1800
HIS 322: Modern Africa, 1800-Present
HIS 325: Colonial Latin America
HIS 326: Modern Latin America
HIS 383: Chinese Civilization
HIS 384: Modern China
HIS 385: History of Japan
HIS 386: Modern Pacific Asia
HIS 431: South Africa
HIS 435: East Asian-American Relations
HIS 461: Modern Israel and the Arab-Israeli Conflict
POL 350: American Foreign Policy
POL 362: Politics of Development Nation States
POL 376: Asian Political Thought
POL 454: International Politics in Asia
POL 455: International Politics in Latin America
POL 456: International Politics in the Middle East
POL 463: Political Culture and Behavior in Latin America

Example of a four-year plan for the B.S. in Childhood Education with a concentration in Social Sciences

First Year

Fall

COR 101
CPN 100
GRY 120, 125, or ANT 102 (GE 3)
HIS 100 level (World, GE 5)
PSY 101
Foreign language 101

Total credit hours: 16

Spring

CPN 101
HIS 200
MAT 101
POL 100 (GE 1)
GE 4
Foreign language 102

Total credit hours: 18

Second Year

Fall

ECO 105
ENG 200, 202, 203 or 204 (GE 6)
INT 270
MAT 102
PSY 231
SCI 141 (GE 8a)

Total credit hours: 19

Spring

HIS 201
SOC 150 or ECO 111
SCI 142 (GE 8b)
GE 2
U.S. Studies 300/400 level*
U.S. Studies 300/400 level*

Total credit hours: 18

Third Year

Fall

ENG 306
Two Global Studies, Western 300/400 level*
Global Studies, Non-western 300/400 level*
PED 245
U.S. Studies 300/400 level*
LIT 371

Total credit hours: 19

Spring

EDU 314
EDU 373
EDU 374
EDU 375
HLH 265
LIT 372

Total credit hours: 17

Fourth Year

Fall

FSA 400
EDU 430
EDU 477
EDU 478
GE 7
SPE 270

Total credit hours: 16

Spring

EDU 490
EDU 491
EDU 492

Total credit hours: 13

** Course requirements for approved concentration in social sciences*

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION IN CHILDHOOD EDUCATION WITH A CONCENTRATION IN SOCIAL SCIENCES: 136

Childhood/ Early Childhood Education

INTERDISCIPLINARY COURSES

INT 270: Exploring Education
(A) Introduction to education and teaching through the perspectives of a variety of disciplines such as psychology, history, sociology, philosophy, and political science. Open to students in all major fields. (3 cr. hr.) ■

Early Childhood Education Courses

ECE 270: Introduction to Early Childhood Education
(A) This course is an orientation to the issues, challenges and opportunities of early childhood education. It provides an overview of the history and philosophy of early care and education to the current system of early care and education in the United States. Criteria for developing, operating and evaluating early childhood programs will be introduced. Students will be introduced to the early childhood education program's conceptual framework, program plan, technological and other resources, and will observe early childhood programs and classrooms. (3 cr. hr.)

ECE 330: Observation and Assessment of Young Children
(B) This course will acquaint students with the observation and assessment techniques that they will need to understand young children's growth and development in order to meet the individual needs of children while building on their strengths. Students will examine formal and informal assessments of physical, cognitive, language and social/emotional development. Critical issues in early childhood developmental assessment will be addressed. Students will practice the techniques and assessments throughout the semester. Prerequisites: ECE 270 and PSY 231. (3 cr. hr.)

ECE 331: Curriculum Development I
(B) This course focuses on curriculum development for children from birth to grade 3 with an emphasis on the preschool age child. The planning of developmentally appropriate learning experiences, the design of learning environments and the use of play and exploration for the purpose of expanding the young child's social, emotional, cognitive, linguistic, physical, and aesthetic growth and development will be explored. Students will develop methods and materials that address the content areas associated with the domains of early childhood growth and development, and develop awareness of cultural values of different families. Taken concurrently with ECE 332 (field component). Prerequisite: ECE 270. (3 cr. hr.)

ECE 332: Pre-School Practicum
(B) This course provides students with hands-on field experience in an early childhood preschool setting. Each student will work with an experienced early childhood professional as their cooperating teacher for a minimum of 75 hours during the semester. S, U grades are assigned. This course is taken concurrently with ECE 331. (1 cr. hr.)

ECE 333: Children, Families, and Their Community
(B) This course explores the nature of families and communities as dynamic systems. The course focuses on current theories of family interactions, family patterns and communication and problem solving between early childhood programs and families. It is an ecological approach to understanding children, families and their communities for the purpose of supporting the developing child and their family. Community resources for families and models of support programs will be considered. Prerequisite: ECE 270. (3 cr. hr.)

ECE 431: Curriculum Development II
(B) This course will emphasize developing instructional techniques, methods, and materials in primary grade classrooms (kindergarten – grade 3). The focus will be on developing an integrated curriculum that includes all content areas with an emphasis on developing methods for the teaching of mathematics, science and social studies. Prerequisites: ECE 331 and 332. (3 cr. hr.)

ECE 435: Children's Literacy Across the Curriculum
(B) This course builds on knowledge of speech and language patterns and literacy development in young children, constructed in previous classes. Various models for literacy development are examined. Students will examine language environment and the role of language experience, play, integrated arts and literature in fostering all children's literacy, and knowledge of self and the world. Practical skills derived from each model are demonstrated, practiced by students and integrated into an early childhood classroom field experience. Prerequisite: ECE 331 and PSY 231. (3 cr. hr.)

ECE 490: Student Teaching I
(A) First half of student teaching in early childhood classroom; supervised by college faculty. Prerequisites: Consent of department, ECE 270, 330, 331, 332, 333, 431, 435, EDU 371, 477 and 478, or EDU 314, 372, 373, 374 and 375; no outstanding incompletes; an overall grade point average of 2.5; no grade lower than a C- in required education courses. (6 cr. hr.)

ECE 491: Student Teaching II
(A) Second half of student teaching in early childhood classrooms; supervised by college faculty. Prerequisites: Consent of department, ECE 490; no outstanding incompletes; an overall grade point average of 2.5; no grade lower than a C- in education courses. (6 cr. hr.)

ECE 492: Seminar in Student Teaching
(A) Semester-long seminar for discussion and analysis of issues related to pre-service classroom teaching. Taken concurrently with student teaching, ECE 490/491 (withdrawal from ECE 490 or ECE 491 requires withdrawal from ECE 492). (1 cr. hr.)

Education Courses

EDU 129, 229, 329, 429, 559: Special Topics in Education
Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

EDU 314: Teaching With Computers in Elementary and Middle School
(A) Content and methods for teaching with computers and related technologies in the elementary and middle school. (2 cr. hr.)

EDU 373: Teaching Elementary School Mathematics
(A) Content and methods for teaching mathematics in the elementary school program focusing on problem solving, mathematical reasoning and communication in mathematics. Special attention will be given to integrating mathematics with other areas of the curriculum helping students see the connection among mathematics and other areas of study. (3 cr. hr.)

EDU 374: Teaching Elementary School Science
(A) Content and methods for teaching inquiry science in the elementary school. Special attention is given to how children learn science, interpretation of science education research, and integrating science across the curriculum. (3 cr. hr.)

EDU 375: Teaching Elementary School Social Studies
(A) Content and methods of teaching elementary school social studies focusing upon how children learn social studies, problem solving, social issues and social action, recent trends and programs, and the integration of social studies with other areas of the elementary school curriculum. (3 cr. hr.)

EDU 430: Measurement and Evaluation in Education
(A) Nature and use of measurement, assessment, evaluation and testing in educational settings. Construction of teacher-made tests, examination of professionally prepared standardized tests and consideration of alternative forms of assessment, including portfolios. Prerequisite: EDU 371. (3 cr. hr.)

EDU 431: Content and Methods of Teaching English in Middle/ Junior High School
(S) Prerequisite: INT 270. (3 cr. hr.)

EDU 433: Content and Methods of Teaching Science in Middle/ Junior High School
(S) Prerequisite: INT 270. (3 cr. hr.)

EDU 434: Content and Methods of Teaching Social Studies in Middle/Junior High School
(S) Prerequisite: INT 270. (3 cr. hr.)

EDU 435: Content and Methods of Teaching Mathematics in Middle/ Junior High School
(S) Prerequisite: INT 270. (3 cr. hr.)

EDU 446: Individual or Independent Study
(A) Curriculum or other aspects of elementary education. Purpose, design of study determined by instructor-advisor. Weekly conferences. S, U grades are assigned. (1-3 cr. hr.)

EDU 450: Issues and Trends in Special Education
(O) Examination of current issues in field of special education. Emphasis will be placed on practical relevance of this information to students' professional careers. Prerequisite: EDU 490. (2 cr. hr.)

EDU 477: Elementary School Practicum
(A) 75-hour practicum experience in an elementary school, one day or two half-days each week. Reflective analysis and assignments in on-campus seminars. Must be taken in conjunction with EDU 478. S, U grades are assigned. Corequisite: EDU 478. (1 cr. hr.)

EDU 478: Classroom Discipline for Personal and Social Responsibility
(A) Various models for effective classroom management are examined in the light of their effect on the growth of children as persons and as members of a pluralistic, democratic society. Practical skills derived from each model are demonstrated, practiced by students and integrated into overall philosophy. Relevant field experiences concurrent with EDU 477. Prerequisites: EDU 371 and 477 or junior standing. (3 cr. hr)

EDU 490: Student Teaching I
(A) First half of student teaching in elementary schools; supervised by college faculty. Prerequisites: consent of department, INT 270 or EDU 270, and SPE 270, EDU 314, 371, 372, 373, 374, 375, 430, 477 and 478; must be taken concurrently with EDU 492; no outstanding incompletes; an overall grade point average of 2.5; no grade lower than a C- in required education courses. This course may be fulfilled through the London Study Abroad Program. (6 cr. hr.)

EDU 491: Student Teaching II
(A) Second half of student teaching in elementary schools; supervised by college faculty. Prerequisites: consent of department, INT 270 or EDU 270, and EDU 314, 371, 372, 373, 374, 375, 430, 477, 478 and SPE 270; must be taken concurrently with EDU 492; no outstanding incompletes; an overall grade point average of 2.5; no grade lower than a C- in required education courses. This course may be fulfilled through the London Study Abroad Program. (6 cr. hr.)

EDU 492: Seminar in Student Teaching
(A) Semester-long seminar for discussion and analysis of issues related to preservice classroom teaching. Taken concurrently with student teaching, EDU 490 and 491 (withdrawal from EDU 490 or EDU 491 requires withdrawal from EDU 492). Prerequisites: INT 270, SPE 270, EDU 314, 371, 372, 373, 374, 375, 430, 477, 478. (1 cr. hr.)

EDU 510: Inquiry into Teaching, Technology and Research
(B) This course will introduce students to the field of teaching, which will include an exploration of teachers' practices, the structure of schools, student diversity, current initiatives in education in New York State, and other general areas related to education. The course will also examine the uses of technology in the public schools and ethical issues in using technology. Finally, students will learn how to be consumers and creators of research as preparation for the research they will be reading and/or conducting in future semesters. Classroom observations required throughout the semester. Undergraduates restricted. (3 cr. hr.)

EDU 512: Teaching Elementary School Mathematics
(B) The goal of this course is to prepare preservice teachers in the MST Program to teach mathematics to elementary school students in an effective, constructivist, and equitable manner. In class meetings, the instructor will use hands-on mathematics activities to model appropriate strategies for teaching mathematics in a student-centered classroom and to build preservice teachers' understandings of mathematics. Inquiry teaching will be also modeled and expected in students' lesson plans. By completing class readings, course assignments, and observations of children in classrooms, students will develop a multitude of techniques and strategies for providing mathematics instruction to diverse learners. Prerequisite: Admission to the M.S.T. Program. Undergraduates restricted. (3 cr. hr.)

EDU 513: Teaching Elementary School Science
(B) This course will provide hands-on activities that enable students to experience inquiry and learning science in a constructivist manner. Through reflection of these experiences and on structured interactions with children, students will participate in action research as they simultaneously engage in real life applications of the National Science Standards and the New York State Math/ Science Technology Learning Standards. Prerequisite: Admission to the M.S.T. Program. Undergraduates restricted. (3 cr. hr.)

EDU 514: Teaching Elementary School Social Studies
(B) This course investigates innovative and traditional approaches to teaching social studies concepts for children pre-K-6. It emphasizes the objectives (including adaptation for diverse and exceptional children), curriculum content, materials and resources to engage in historical, social and citizenship understanding and activities at the appropriate developmental level. Experiences are provided to develop National Standards and State Learning Frameworks. Prerequisites: EDU 510, 511, 512 and 513. (3 cr. hr.)

EDU 516: Teaching Literacy in the Intermediate Grades
(B) The purpose of this course is to emphasize reading, writing, listening, and speaking at the intermediate school level. Students will learn to assess and instruct an intermediate grade student through class and tutoring sessions. In addition, students will examine their philosophy of reading, related research, special needs, multicultural issues, the use of technology in tutoring, and integrating content areas. Prerequisite: EDU 514. (3 cr. hr.)

EDU 521: Elementary School Language Arts
(B) Guiding children in written, oral communication. Prerequisite: Student teaching. (3 cr. hr.)

EDU 522: Readings, Research and Teaching Innovations in Mathematics and Science Education
(A) This course will examine issues related to the teaching and integration of math, science and technology in elementary school classrooms. Students will examine theory and classroom-based research to construct an understanding of how these subject areas can be made accessible to all learners. (3 cr. hr.)

EDU 523: Elementary School Science
(B) Objectives, content of science programs for children in pre-kindergarten through middle school. Planning pupil activities, utilizing teaching aids, materials. Prerequisite: Student teaching. (3 cr. hr.)

EDU 524: Democracy and Social Education
(A) This course will be conducted through research-based and self-reflective-oriented inquiry. Students will analyze and define democracy and social education in the context of American public schools. Students will confront the antidemocratic forces of greed, individualism, and intolerance in today's society and be challenged to implement the study of social education with the goal of social justice. Students will be exposed to a theoretical and historical analysis of education and society. The course will also provide a practical analysis of classroom pedagogy and school organization. (3 cr. hr.)

EDU 529: Elementary School Reading
(A, M) Developmental reading concepts. Trends, research studies. Prerequisite: Student Teaching. (3 cr. hr.)

EDU 531: Developing Creative Elementary School Experiences
(O) Research, objectives and procedures related to creativity in elementary school programs are examined. Emphasis is given to the development, implementation and evaluation of selected activities which integrate with various curriculum areas, enrich learning experiences and nurture the creative processes. Prerequisite: Consent of department. (3 cr. hr.)

EDU 532: Elementary School Mathematics II
(B) Extension of EDU 522, introduces additional math concepts including informal geometry, metrics, number patterns, probability. (3 cr. hr.)

EDU 533: Introduction to Middle Childhood Education
(A) Content and methods for integration of curricula for language arts, mathematics, social studies, and science in grades 5-8. Development of interdisciplinary models and assessments aligned with New York State Learning Standards for each of the disciplines and implemented through thematic team teaching and collaborative student projects, appropriate for the intermediate level. Prerequisites: EDU 441 or EDU 442 or EDU 443, or SSS 301-302. (3 cr. hr.)

EDU 538: Discipline and Classroom Behavior in the Elementary School
(B) Identifying various behavior problems; alternative strategies for dealing with inappropriate behavior; discipline, classroom management as preventive measure; cognitive and affective approaches for resolving behavior problems. Not open to undergraduates having credit for EDU 478. (3 cr. hr.)

EDU 551: e-Learning and the American Classroom
(A) This course is designed for practicing educators and teachers and will cover emerging educational technologies that are increasingly changing the way teachers perform their tasks. The emphasis of this course will be a hands-on approach to using new digital tools to enhance teaching, learning, and communication, not only within the classroom, but also to the larger contexts of schools, communities, and the world. Previous experience with personal computers is suggested but is not required. (3 cr. hr.)

EDU 552: Gender Issues in Education
(F) Seminar integrating recent scholarship on women and women's ways of knowing into a broader study of gender issues in education including socialization of men and women through education; socialization of women and men teachers and administrators and the costs and benefits of these structures for men and women. The course will focus upon application of these issues to policy and practice in education today. Prerequisite: Junior, senior or graduate level; education methods course. Consent of instructor. Also listed as WST 552. (3 cr. hr.)

EDU 570: Character Education
(B) Character education is defined as helping students understand, care about, and act upon on widely shared ethical values such as respect, responsibility, honesty, fairness, caring, and civic virtue. Emphasis on a comprehensive approach that integrates character development into every phase of school life — including academics and behavior — and develops the classroom and school into caring communities that embody good character. (3 cr. hr.)

Cinema Study

INTERDISCIPLINARY PROGRAM

Dowd Fine Arts Center, Room 49
(607) 753-5458
E-mail: hollenback@cortland.edu

SCHOOL

Arts and Sciences

FACULTY

David A. Hollenback (Coordinator)

MINORS OFFERED

Cinema Study

DESCRIPTION

The "nonproduction" interdisciplinary minor in cinema study is designed for those who are studying film from the point of view of criticism, history and appreciation instead of as a trade to be learned. Courses are taught by members of the Art and Art History, Communication Studies, English, Geography, International Communications and Culture (ICC), History, Performing Arts, Philosophy, Political Science and Psychology Departments. The minor is coordinated through the Communication Studies Department.

SPECIAL FEATURES

- Internships
- Editing
- Independent study, such as filmmaking with video cameras

Minor in Cinema Study [CIN]

At least 18 hours in cinema study courses including CIN 101 and CIN 102.

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 18

Cinema Study

COURSE DESCRIPTIONS

CIN 101: History of the Cinema I: The Silent Era
(F-C) Evolution of the motion picture from early beginnings to the 1930s. Film concepts, film appreciation. Study of representative films from the U.S. and abroad. (3 cr. hr.) ■

CIN 102: History of the Cinema II: The Sound Era
(S-C) History of film from early 1940s to present. Filmmaker as artist, humanist. Emphasis on great international directors. (3 cr. hr.) ■

CIN 129, 229, 329, 429: Special Topics in Cinema Studies
Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

CIN 210: Racial and Gender Role Stereotypes
(A) Focus on racial and gender role awareness and attitudes in individuals. Prejudice and discrimination against ethnic minorities and women are examined, from both historical and contemporary perspectives. The causes and consequences of prejudice and discrimination are discussed. Also listed as AAS 210, PSY 210. (3 cr. hr.)

CIN 225: Aesthetics and Film
(O) Theoretical issues surrounding film, including: the nature of film and judgments about film; comparison of film theories and theories of film criticism; genres. Prerequisite: Three hours of philosophy. Also listed as PHI 235. (3 cr. hr.) ■

CIN 251: History and Film
(B) Use of films as historical sources and/or statements of historical work. May be repeated with different subtitle: Twentieth Century England, Twentieth Century France, Twentieth Century Germany, The U.S. in the Thirties, The Medieval World Reconstructed, Russian History and Film. Also listed as HIS 351. (3 cr. hr.) ■

CIN 260: Geography and Film
(O) Select problems in cultural geography as exhibited through film. May be repeated with different subtitle: Social Geography of England, Comparative Cultural Geographies — India and Brazil, Race Issues in Southern Africa. Also listed as AAS 260, GRY 260. (3 cr. hr.)

CIN 270: The Sports Film
(O) Film and sport in a symbiotic relationship: film will be taught in light of sport and sport in light of film. Films used will be instructional, documentary and feature. (3 cr. hr.) ■

CIN 278: Introduction to Film and Short Fiction
(O) Introduction to analysis, interpretation of films and short fiction through study of selected short stories, novelettes, film scripts, films. Prerequisite: CPN 101 or 103. Also listed as ENG 278. (3 cr. hr.) ■

CIN 304: Introduction to Play and Script Writing
(O) Practical and theoretical instruction in basics of play and script writing. Prerequisite: Any English literature course at the 200 level. Also listed as ENG 304. (3 cr. hr.)

CIN 305: Film Criticism
(O) Close study of a number of selected films, domestic and foreign, from aesthetic, technical perspectives. Extensive writing of reviews, critiques aimed at different media. High level of writing proficiency expected. Prerequisite: Any English literature course at the 200 level. Also listed as ENG 305. (3 cr. hr.) ■

CIN 335: Music and the Film
(O) Style, historical significance, contributions of selected film composers through a study of their musical techniques and viewing of representative films. Relationship of music to dramatic and psychological elements of film. Prerequisite: MUS 100 or 221 or 222. Also listed as MUS 335. (3 cr. hr.) ■

CIN 374: Politics and the Arts Film
(O) Interpretations, analysis of political life rendered by major films and directors; relation between politics and culture. (3 cr. hr.) ■

CIN 400: Tutorial in Cinema Study
(A) Advanced study in selected areas. Prerequisites: CIN 101, 102; consent of coordinator. (3 cr. hr.)

CIN 432: African Americans in Television and Film
(F) Historical and critical examination of the evolution of African American images in screen and TV from the early 1900s to the present. Prerequisite: CPN 101 or 103. Also listed as AAS 432 and COM 432. (3 cr. hr.) ■

CIN 493: Foreign Films in Translation
(O) Analysis of translated texts of 12 films. Critical works on these films, subsequent viewing of films. Subtitles vary. Also listed as FLT 493. (3 cr. hr.) ■

Course codes: A = every semester, B = at least once per year, C = at least once every two years, F = fall, M = summer, O = occasionally, S = spring, W = winter, ■ = LAS

Communication Studies

DEPARTMENT

Dowd Fine Arts Center, Room 224
(607) 753-4201
E-mail: commstudies@cortland.edu
newmedia@cortland.edu
http://web.cortland.edu/communication

SCHOOL

Arts and Sciences

FACULTY

Paul R. van der Veur (Chair), John C. Hartsock, Catherine Hischak, David A. Hollenback, Caroline K. Kaltefleiter, Samuel L. Kelley, Kathleen A. Lawrence, Thomas O. Mwanika, Syed H. Pasha

ADJUNCT FACULTY

For a listing of adjunct faculty see pages 312-315.

PROGRAMS OFFERED

Bachelor of Arts in Communication Studies
Bachelor of Arts in New Communication Media

MAJORS OFFERED

Communication Studies
New Communication Media

CONCENTRATIONS OFFERED

For Communication Studies majors only:
Journalism
Media Production
Public Relations and Advertising

MINORS OFFERED

Communication Studies

DESCRIPTION

The Communication Studies Department offers degrees in both communication studies and new communication media. These majors are designed to allow students to tailor their program of study to meet personal learning and employment objectives. The communication studies major is focused on scholarly analysis and application of human communication in all its complexity. It prepares students for careers as communication specialists in the public or private sector and in mass media. Communication studies majors receive a bachelor of arts degree in a program that balances theory, analysis, writing and applied skills development.

The new communication media major allows students to acquire the skills necessary for careers in the development of digital content for a variety of media and broadcast-related industries. Students also choose courses in related content areas including art, communication studies and computer applications. Course offerings in both majors are supplemented through work with the student-run campus media, an extensive internship program and a highly developed study abroad program.

SPECIAL FEATURES

- Internships
- Study abroad
- WSUC-FM
- CSTV-60
- *Dragon Chronicle*
- Cortland County Chamber of Commerce Speech Contest
- Society of Professional Journalists (SPJ) Sigma Delta Chi

Requirements

1. Degree Requirements listed on pages 38-48 of this catalog apply to the following majors.
2. Liberal Arts Requirements: 90 credit hours

Major in Communication Studies [COM]

The communication studies major emphasizes critical thinking and creative problem-solving skills. Core courses provide students with a strong foundation in all aspects of human communication. Elective courses within the major allow students to design a program of study that meets their personal learning objectives and career goals.

CAREER POTENTIAL

- Television/radio/journalism
- Government/business
- Public relations/advertising
- Electronic communication

The major's 36 credit hours must be taken from the following:

A. Required Core Courses: 24 credit hours
COM 100: Human Communication
COM 200: Communication History
COM 203: Introduction to Media Writing
COM 210: Fundamentals of Public Speaking
COM 301: Mass Media and Society
COM 302: Intercultural Communication *or*
COM 303: International Communication
COM 304: Communication Research
COM 400: Communication Law and Ethics

B. Choose either 12 additional credit hours of communication studies courses with at least six credit hours at the 300 level or above or one of the following concentrations in communication studies.

Concentrations: journalism, media production, public relations and advertising

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Major in Communication Studies with a concentration in Public Relations and Advertising [PRAD]

Provides students for careers in public relations and advertising in both corporate settings and nonprofit organizations. This concentration provides students grounding in theory, method and application in the areas of public relations and advertising. Job opportunities in the private and public sector include public relations manager, campaign manager, advertising executive, marketing director and promotions manager.

A. Required Courses
COM 421: Mass Media Advertising
COM 422: Public Relations

B. Choose at least one course from each group
Group A
COM 310: Feature and Opinion Writing
COM 323: Intermediate News Writing and Reporting

Group B
COM 311: Interviewing Principles and Practices
COM 312: Radio and Television Performance
COM 324: Communication Campaigns

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Major in Communication Studies with a concentration in Journalism [JOUR]

Prepares students for careers in journalism and related fields, as well as how to critically examine journalism practice. Job opportunities include writing, scripting, editing and producing for newspapers, magazines, radio, television, online journals and newsletters.

A. Required Courses
COM 323: Intermediate News Writing and Reporting
COM 332: Readings in Journalism

B. Choose at least one course from each group
Group A
COM 310: Feature and Opinion Writing
COM 345: News Editing and Design

Group B
COM 331: Issues in News
COM 433: Literary Journalism

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Major in Communication Studies with a concentration in Media Production [MEPD]

Prepares students for careers in sound and video digital production. Job opportunities include positions in broadcast radio and television, filmmaking, broadcast journalism, cable networks and corporate video production.

A. Required Courses
COM 322: Intermediate Writing for Radio and Television
COM 430: Media Criticism

B. Choose at least one course from each group
Group A
COM 243: Studio Television Production
COM 342: Field Television Production

Group B
COM 242: Audio Production
COM 312: Radio and Television Performance
COM 343: Broadcast Journalism
COM 349: Multimedia Production

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

Minor in Communication Studies [COM]

Students in any major other than communication studies may declare a minor in communication studies. A total of 21 credit hours of course work is required for the minor distributed as follows:

A. COM 100: Human Communication

B. Any three remaining core courses

C. Two courses from those required in any single concentration

D. One three-hour COM elective

Note: No more than 10 transfer credit hours in communication studies may count toward the minor in communication studies.

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 21

Major in New Communication Media [NCM]

This focused program is designed to provide students with the knowledge of prevailing communication theory, an understanding of the social implications of digital media and the skills to create digital content. Graduates will have materials development and critical thinking skills needed in expanding sectors of contemporary broadcast, gaming and related industries.

CAREER POTENTIAL

- Digital video production
- Digital audio production
- Digital post-production
- Interactive media authoring
- Special effects production
- 3D animation
- Internet site development

The major's 36 credit hours must be taken from the following:

A. Required Courses: 24 credit hours
COM 100: Human Communication
COM 110: Introduction to New Media
COM 203: Introduction to Media Writing
COM 335: Issues in Digital Culture
COM 342: Field Television Production
COM 349: Multimedia Production
COM 350: New Communication Media
COM 400: Communication Law and Ethics

B. Elective Courses in Media Production: Six credit hours
COM 242: Audio Production
COM 243: Studio Television Production
COM 251: 3D Animation
COM 345: News Editing and Design
COM 353: Video Postproduction

C. Elective Course in a Related Content Area: Six credit hours
ATS 212: Computers in the Visual Arts
CAP 240: Intermediate Computer Applications
CAP 351: Advanced Web Page Design
GRY 327: Computer Mapping
PWR 209: Writing in Cyberspace I

Example of the B.A. in Communication Studies with a concentration in Journalism over four years

The sample program listed is a model and does not reflect the expectations for all of our programs. Students should consult an advisor to obtain up-to-date program requirements and to formulate a degree plan.

First Year

Fall

COM 100
COM 210
Foreign language 101
CPN 100 or 102
GE course
COR 101

Total credit hours: 16-17

Spring

COM 200
Foreign language 102
GE course
CPN 101 or 103
GE course

Total credit hours: 15-16

Second Year

Fall

COM 203
COM 301
Foreign language 201
GE course
Quantitative Skills
Participation course

Total credit hours: 16

Spring

COM 323
Foreign language 202
GE course
GE course
GE course
Participation course

Total credit hours: 16

Third Year

Fall

COM 302/303
COM 304
COM 332
GE course
Elective

Total credit hours: 15

Spring

COM 400
COM 310
GE course
LAS elective
LAS elective
Participation course

Total credit hours: 16

Fourth Year

Fall

COM 433
Elective
Elective
Elective
Elective
Participation course

Total credit hours: 16

Spring

Internship or
Study abroad or
Learning Community
involvement or elective

Total credit hours: 16

Example of the B.A. in New Communication Media over four years

The sample program listed is a model and does not reflect the expectations for all of our programs. Students should consult an advisor to obtain up-to-date program requirements and to formulate a degree plan.

First Year

Fall

CAP 100
COM 110
Foreign language 101
CPN 100 or 102
GE course
COR 101

Total credit hours: 16-17

Spring

COM 335
Foreign language 102
CAP 240
CPN 101 or 103
GE course
Participation course

Total credit hours: 16

Second Year

Fall

COM 203
COM 342
Foreign language 201
PWR 209
Quantitative Skills
Participation course

Total credit hours: 16

Spring

COM 251
Foreign language 202
GE course
GE course
GE course
Participation course

Total credit hours: 16

Third Year

Fall

COM 351
COM 353
GE course
GE course
LAS elective
Participation course

Total credit hours: 16

Spring

COM 349
COM 350
GE course
LAS elective
LAS elective
Participation course

Total credit hours: 16

Fourth Year

Fall

COM 400
LAS elective
LAS elective
LAS elective
LAS elective
Participation course

Total credit hours: 16

Spring

Internship or
Study abroad or
Learning Community
involvement or elective

Total credit hours: 16

Communication Studies

COURSE DESCRIPTIONS

COM 100: Human Communication
(A) An introduction to basic communication concepts, principles and practices; consideration of theories and models, language, perception, audiences, messages, technologies, mass media, persuasion and intercultural communication with practical application in various contexts. (3 cr. hr.) ■

COM 110: Introduction to New Media
(B) Introduction to the rapidly changing scope of new media and an examination of the technical and commercial implications of this epic change in our everyday lives. Exploration of new media from sociological, economic and historical perspectives. (3 cr. hr.) ■

COM 129, 229, 329, 429, 529: Special Topics in Communication Studies
Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

COM 200: Communication History
(A) Survey of the mass media from an historical perspective, with an emphasis on the social, political and economic environments in which those media developed. (3 cr. hr.) ■

COM 201: Writing for Radio and Television
(O) Theories, message-design principles of electronic media writing; preparation of commercials, public service announcements, news stories, features, public relations copy. Prerequisite: CPN 101 or 103. (3 cr. hr.)

COM 202: News Writing and Reporting
(O) Basic course covering techniques for print and broadcast news writing. Focus on basic writing skills, news values and principles, basic research and reporting, basic editing skills and news analysis. Prerequisite: CPN 101 or 103. (3 cr. hr.) ■

COM 203: Introduction to Media Writing
(A) Introduction to theories, techniques, and formats used in writing for communication contexts. Basic skills exercises in writing news (for print and broadcast) features, entertainment, public relations, media and research. Prerequisites: CPN 101 or 103. (3 cr. hr.)

COM 210: Fundamentals of Public Speaking
(A) Oral communication: selection, organization, presentation of ideas. Study of principles, application through oral practice. (3 cr. hr.) ■

COM 211: Introduction to Language Study
(B) Concepts, scope, methodology of science of language. Principles of descriptive and historical linguistics. Geographical, historical, social dialects of English. Prerequisite: CPN 101 or 103. Also listed as ENG 201 and ANT 251. (3 cr. hr.) ■

COM 212: General Semantics
(O) Problems in use of words in communication and interpreting meaning. Analysis of semantic breakdowns which lead to misunderstanding and conflict. Prerequisites: COM 100. (3 cr. hr.) ■

COM 230: Statistical Methods
(B) Basic concepts of probability, descriptive and inferential statistics including central tendency, variability, correlation, regression, parametric tests. Mathematics majors may take course only as a free elective. Also listed as MAT/PSY 201, ECO 221. (3 cr. hr.) ■

COM 240: Parliamentary Procedure
(O) Theory, practice of handling all categories of motions in conducting meetings. (3 cr. hr.)

COM 241: Argumentation and Debate
(O) Techniques of evidence and reasoning; application through use in various forms of debate. Not open to students having credit for PHI 110. (3 cr. hr.)

COM 242: Audio Production
(C) Fundamentals in studio operations and procedures; development, production of radio commercials, public service announcements, drama, interviews, news reporting and actualities. One lecture, one three-hour laboratory. Prerequisites: COM 100, consent of department. (3 cr. hr.) ■

COM 243: Studio Television Production
(B) Basic techniques in studio operations and procedures; development, production of television programs. One lecture, one three-hour laboratory. Prerequisite: Consent of department. (3 cr. hr.) ■

COM 251: Introduction to Digital 3-D Modeling and Animation
(C) Theories and principles of 3-D computer modeling. Students apply concepts of computer geometry through modeling, animation, lighting, texture mapping and rendering of objects. Two lectures, one three-hour lab. (3 cr. hr.)

COM 300: Interpersonal Communication
(B) Application of communication principles and concepts to two-person and small group situations; discussion of processes in relational development and disintegration; skills for improving interpersonal relationships, self-awareness, assertiveness, listening, and value clarification are included. Prerequisite: COM 100. (3 cr. hr.) ■

COM 301: Mass Media and Society
(A) Mass communication in United States; organization, role, content, effects; emphasis on radio, television. Prerequisite: COM 100. (3 cr. hr.) ■

COM 302: Intercultural Communication
(B) Analysis of relationship between culture and communication and its relative influence on perception, information processing and behavior. Emphasis is on systems of signification and their relative social issues, and considerations for practical applications in international business, politics, negotiations, missionary work, small group activities and planned social change. Prerequisite: COM 100. (3 cr. hr.) ■

COM 303: International Communication
(B) Designed to provide an analysis and understanding of communication and related issues in today's complex world both within and across national and cultural boundaries. Prerequisite: COM 100. (3 cr. hr.) ■

COM 304: Communication Research
(B) Introduction to behavioral science research methods in communication study. Topics include problem formulation; measurement; hypothesis testing; design; sampling; questionnaire construction and interviewing; data collection, analysis and presentation. (3 cr. hr.) ■

COM 310: Feature and Opinion Writing
(B) Traditional, nontraditional features, feature interviews, background features, editorials, columns, reviews. Prerequisite: CPN 101 or 103. (3 cr. hr.) ■

COM 311: Interviewing Principles and Practices
(O) Analysis of principles, techniques of interviewing in various contexts including selection, appraisal and persuasive

Course codes: A = every semester, B = at least once per year, C = at least once every two years, F = fall, M = summer, O = occasionally, S = spring, W = winter, ■ = LAS

interviews. Emphasis is on communication between two people. Includes assessment of interviewing preparation, questioning techniques, post interview evaluation, and bases of interpersonal communication of special significance within this context. Prerequisite: COM 100. (3 cr. hr.) ■

COM 312: Radio and Television Performance
(C) A practical introduction to the various modes of media performance. Students work on voice, articulation and style through an array of exercises. (3 cr. hr.)

COM 320: Organizational Communication
(O) Study and application of fundamental concepts and principles of communication in formal organizations. Provides opportunities for developing essential skills in methods for understanding and analyzing communication problems in organizations and devising appropriate corrective actions. Emphasis is on making communication more efficient and effective for organization growth and development. Prerequisite: COM 100. (3 cr. hr.) ■

COM 322: Intermediate Writing for Radio and Television
(A) An intermediate-level course designed to build on the content of COM 203 and offer students extended experience in preparing longer format scripts for radio and television as well as in-depth research reports for documentaries and advertising campaigns. Students will gain practical knowledge of script preparation and useful information about the business of writing for the media. Prerequisite: COM 201 or 203. (3 cr. hr.)

COM 323: Intermediate News Writing and Reporting
(A) Intermediate level course reinforcing techniques utilized in print news reporting. Focus on polishing writing skills, and honing application of news values and principles, research and reporting, editing skills, and news analysis. Prerequisite: COM 202 or 203. (3 cr. hr.)

COM 324: Communication Campaigns
(C) Theory and practice of communication campaigns in areas such as public relations, advertising and politics. Prerequisite: COM 100. (3 cr. hr.)

COM 330: Semiotics and Structuralism in Communication
(O) Application of linguistic concepts and principles to analysis of meanings and messages which underlie various systems of signs and symbols. Consideration of communicative nature of those systems and type of relationships which they define. Prerequisite: COM 100. (3 cr. hr.) ■

COM 331: Issues in News
(C) Critical view of television news and procedures. Systems and policies at network and local station level. Prerequisite: COM 100. (3 cr. hr.) ■

COM 332: Readings in Journalism
(C) Students will critically read contemporary journalism to examine professional methodologies and cultural contexts that help to shape such texts. Prerequisite: CPN 101 or 103. (3 cr. hr.)

COM 333: Critical and Cultural Analysis in Communication Studies
(C) Examine critical positions that have emerged in recent years to redefine communication studies. Emphasizes rigorous thinking in challenging cultural and critical assumptions in the field. Prerequisites: CPN 101 or 103 and COM 301. (3 cr. hr.)

COM 335: Issues in Digital Culture
(C) Ongoing developments of digital culture and its effects on society. Critical and cultural theories applied to a wide variety of practical, societal, legal, and ethical issues. Emphasis on critical thinking, research, writing, and computer skills. (3 cr. hr.) ■

COM 338: Media and Politics
(O) Focus on political interactions of electronic and print media with political system in America and elsewhere. How medium affects the message, via sender and receiver. Also listed as POL 338. (3 cr. hr.) ■

COM 339: Political Communication
(O) Use of communication theory and research to investigate the role of interpersonal and mass communication in the political process. Prerequisites: COM 100, POL 100. (3 cr. hr.)

COM 340: Small Group Communication
(O) Study and application of communication theory, concepts, and principles in small group contexts including committees, classroom, families, formal organizations and public forums. Analysis of messages, communication barriers and breakdowns, interpersonal communication processes and influences, communication networks and group development, composition, standards and goals. Emphasis is on making communication more efficient and effective in small group activities. (3 cr. hr.) ■

COM 341: Nonverbal Communication
(O) Analysis of theories and empirical research on nonverbal communication with implications for application. Topics include paralinguistics, proxemics, kinesics, chronemics, and semantics and their use in various interpersonal and intercultural contexts. (3 cr. hr.) ■

COM 342: Field Television Production
(B) Advanced techniques in television production emphasizing field operations, directing, writing, and producing news and public affairs programs. One lecture, one three-hour laboratory. (3 cr. hr.) ■

COM 343: Broadcast Journalism
(C) Theories, principles of television journalism; practical experience in writing, producing news programs for television. Two lectures, one three-hour studio. (3 cr. hr.)

COM 344: Photojournalism
(O) Techniques of journalistic photography; camera work, composition, lighting, use of photographic materials. Critical examination of work of contemporary photographers; production and critique of student work. Two lectures, two-hour studio. Prerequisite: Consent of department. (3 cr. hr.) ■

COM 345: News Editing and Design
(C) Basic skills in professional news package preparation combining expertise in writing and editing with an understanding of computer-assisted graphic design. (3 cr. hr.) ■

COM 346: Advanced News Reporting
(O) Techniques, principles of news reporting with emphasis on varieties of news reporting, writing, editing. Covers investigative, background, interpretive news writing for various print media. Some coverage of broadcast writing principles. Prerequisite: COM 202. (3 cr. hr.) ■

COM 349: Multimedia Production
(C) Use of multimedia production computer technology to converge multiple modes of mediated communication to teach, persuade, distribute, entertain, research, archive, or otherwise store information. Interactive software is used to guide the access and articulation of sounds, images, motions, and text used to communicate to the user. Effective preparation and practical exercises in the production of multimedia projects, making use of a wide variety of mediated communication modes, purposes, and authoring systems. (3 cr. hr.) ■

Course codes: A = every semester, B = at least once per year, C = at least once every two years, F = fall, M = summer, O = occasionally, S = spring, W = winter, ■ = LAS

COM 350: New Communication Media
(C) Survey of emerging electronic communication media such as satellites, wireless communication, cable television and presentation programs, and their applications in business, education, and research. A review and analysis of historical development, and effects on professions, society, other cultures, and traditional communication media such as television, radio, newspaper and magazines. Study of new communication principles and practices. Prerequisites: CPN 101 or 103. (3 cr. hr.) ■

COM 353: Video Postproduction
(C) Techniques in audio-video postproduction emphasizing content acquisition, image and character generation, color connection, compositing and editing. Two lectures, one three-hour lab. (3 cr. hr.)

COM 360: Sports Broadcasting
(O) Introduction to the history, techniques, and practice of sports broadcasting. Program analysis and field exercises in both radio and television coverage. Prerequisite: COM 100. (3 cr. hr.)

COM 390: Participation in Student Newspaper
(A) Participation in management board of student weekly newspaper, *The Dragon Chronicle*. Elective credit only. S, U grading only. (1 cr. hr.)

COM 391: Participation in Yearbook
(A) Participation in yearly production of the student yearbook, *Didascaleion*. Open only to editor(s) and section editors. For elective credit only. S, U grading only. (1 cr. hr.)

COM 392: Participation in Literary Magazine
(A) Participation in production of *Transition*, the student literary magazine. Open only to editor(s). For elective credit only. S, U grading only. (1 cr. hr.)

COM 393: Participation in Television
(A) Participation in the College television station, CSTV. For elective credit only. S, U grading. (1 cr. hr.)

COM 394: Participation in Radio
(A) Participation in the College radio station, WSUC-FM. For elective credit only. S, U grading only. (1 cr. hr.)

COM 395: Participation in Debate
(O) Participation in intercollegiate debate. For elective credit only. S, U grading only. (2 cr. hr.)

COM 396: Participation in Individual Forensic Events
(O) Participation in intercollegiate oratory, extemporaneous events, after-dinner speaking, other events. For elective credit only. S, U grading only. (1 cr. hr.)

COM 398: Independent Study in Communication
(O) Faculty-supervised individual study of a specific topic in any communication area. Designed for students wishing to acquire specific knowledge and/or technical skills not offered in other courses in communication studies. May be taken more than once for a maximum of six hours. S, U grading available. Prerequisites: COM 100, junior standing, consent of department. (1-6 cr. hr.)

COM 399: Internship in Communication Studies
(A) Supervised on-the-job training experiences combined with appropriate readings, writing, and seminar sessions. A portfolio in the area of major concentration is expected. Prerequisites: COM 100, junior standing, consent of department. S, U grading. (1-3 cr. hr.)

COM 400: Communication Law and Ethics
(A) Case approach to libel, privacy, news gathering, freedom of information and other legal topics; treatment of ethical concerns for current media. Prerequisite: COM 301. (3 cr. hr.) ■

COM 410: Communication in Social Change
(O) Application of communication principles and analysis of research traditions underlying diffusion of ideas, information, and parameters in acceptance of innovations and change. Emphasis is on strategies for introduction of change through the use of communication in rural, urban, and formal organizational settings. (3 cr. hr.) ■

COM 412: Computer-Assisted Reporting
(O) Application of specialized journalism skills in professional preparation of news and feature stories utilizing electronic sources. Prerequisite: COM 202 or 203. (3 cr. hr.)

COM 420: Broadcast Programming and Management
(O) Survey of organizational structure of broadcasting stations, including responsibilities of various departments. Analysis of management decision-making process with emphasis on program policies, sales, personnel administration, government regulations. Prerequisite: COM 100. (3 cr. hr.) ■

COM 421: Mass Media Advertising
(B) Survey of advertising in broadcasting and print media with attention to history and government regulations. Analysis of advertising theories, issues, problems, effects. Prerequisite: COM 301. (3 cr. hr.) ■

COM 422: Public Relations
(B) Survey of principles and practices of public relations with an emphasis on applied research and practical application. Analysis of theories, issues, problems, and effects. Prerequisite: COM 100. (3 cr. hr.) ■

COM 430: Media Criticism
(C) Critical examination of a variety of media forms. Application of current theories and deep analysis of issues, problems and effects. Prerequisites: CPN 101 or 103 and COM 301. (3 cr. hr.) ■

COM 431: Communication and Prejudice
(B) Examination of roles played by intrapersonal, interpersonal, group, organizational, political, and mass or mediated communication in relation to prejudice. Analysis of theories, issues, problems, and practices. Prerequisite: COM 100. Also listed as AAS 431. (3 cr. hr.) ■

COM 432: African Americans in Television and Film
(C) Historical and critical examination of the evolution of African American images in screen and TV from the early 1900s to the present. Prerequisite: CPN 101 or 103. Also listed as AAS 432 and CIN 432. (3 cr. hr.) ■

COM 433: Literary Journalism
(C) Students study the richness of narrative journalistic accounts that speak compellingly to the human condition and its society. Students explore linguistic and social strategies literary journalists employ for interpreting our social world. (3 cr. hr.) ■

COM 434: Gender Communication
(C) Explores the effects of gender and culture on communication. Students examine the characteristics, dynamics, patterns and presumptions that combine to create what is known as "gender speak." Prerequisite: COM 100. (3 cr. hr.) ■

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COM 436: Films of Spike Lee
(C) Analysis and critique of films of Spike Lee emphasizing directing style, structure, and production design on selected films. A thematic analysis of major works and an examination of critical reaction from feminists, black nationalists, film critics and theoreticians. Prerequisite: CPN 101 or 103. Also listed as AAS 436. (3 cr. hr.) ■

COM 441: Persuasion
(O) Theory, application of changing attitudes, opinions, beliefs in all forms of oral communication. Prerequisite: COM 100. (3 cr. hr.) ■

COM 442: Rhetorical Criticism
(O) Principles, practice in writing reviews of books, plays, concerts, films, art exhibition. Prerequisite: CPN 101 or 103. (3 cr. hr.)

COM 443: Rhetorical Theory
(O) Principles of speech: Historical overview, with emphasis on such rhetoricians as Aristotle, Cicero, Quintilian, Campbell, Whately. Prerequisite: CPN 101 or 103. (3 cr. hr.)

COM 444: Advanced Interpersonal Communication
(O) Readings and experiences in selected areas of interpersonal relations; emphasis on practical application of theory. Prerequisite: COM 300. (3 cr. hr.) ■

COM 450: Health Communication
(O) Study and application of communication principles and strategies in formal health delivery systems; analysis of information and messages between health professionals, patient and family. Emphasis is on efficient and effective communication in health delivery. Prerequisite: COM 100. (3 cr. hr.) ■

COM 451: Environmental Communication
(O) Study and application of communication concepts and principles to awareness and management of the environment. A survey and analysis of the nature and sources of environmental issues and related educational programs. Topics include risk, cost-benefit analysis, experts-lay conflict, and global concerns. Emphasis is on how communication media and pressure groups set the agenda for environmental issues, influence public perception, and government policy. Prerequisites: COM 100 and EST 100. (3 cr. hr.)

COM 452: Risk Communication
(O) Study and application of communication concepts and principles in risk perception and management. A survey and analysis of the nature and sources of risk hazards to personal health and safety, and to the environment. Topics in risk, cost-benefit analysis, expert-lay conflict, and risk consequences. Emphasis is on risk perception, language, and management. Prerequisite: COM 100. (3 cr. hr.)

COM 498: Senior Seminar
(O) Variable topic seminar dealing with current issues in communication studies. Course may be repeated as topic changes. Prerequisites: Junior standing, consent of department. (3 cr. hr.)

COM 499: Senior Thesis
(O) Research for the advanced student on a research question of interest. A senior thesis paper is expected. Prerequisite: Consent of department. (3-6 cr. hr.) ■

COM 590: Advanced Independent Study in Communication Studies
(O) Faculty-supervised individual study of a specific topic in any communication studies area. May be taken more than once for a maximum of six hours. (1-6 cr. hr.)

Computer Applications

INTERDISCIPLINARY MINOR

Memorial Library, Room B-117
(607) 753-4029
E-mail: douglasg@cortland.edu
www.cortland.edu/cap/

SCHOOL

Arts and Sciences

FACULTY

Gretchen Douglas, (Coordinator), Ronald F. Conklin, Mark Connell

MINOR OFFERED

Computer Applications

DESCRIPTION

The interdisciplinary minor in computer applications is designed to complement any academic major and focuses on the development of applications within various academic disciplines. Students completing the minor will have been exposed to the skills and knowledge needed to use a variety of computers and packaged software as tools to solve problems in their respective disciplines.

SUNY Cortland offers interdisciplinary courses in computer applications so that all students in liberal arts or professional studies programs will have the opportunity to become familiar with the use of computers. Applications courses are described in this section.

Computer Applications Minor [CAP]

Courses in five categories totaling 18 credit hours are required for the minor in computer applications. Requirements include:

1. Introduction to Computers (three credit hours)
   - CAP 100: Introduction to Computer Applications or equivalent *and*
   - CAP 104: Computers and Society

   Total credit hours required: Six

2. Computer Programming (three credit hours)
   - CAP 201: C Programming
   - CAP 204: Visual Basic
   - CAP 205: Object Oriented Programming
   - CAP 206: Introduction to Programming with Pascal
   - CAP 216: Introduction to Data Structures
   - MCS 186: Introductory Programming
   - PHY 186: Introductory Programming

   Total credit hours required: Three

3. Beginning Software Applications (1-3 credit hour)
   - CAP 230: Introduction to SPSS
   - CAP 231: Introduction to Data Base Management
   - CAP 233: Computerized Information Retrieval
   - CAP 235: Presentation Software
   - CAP 236: Desktop Publishing

Course codes: A = every semester, B = at least once per year, C = at least once every two years, F = fall, M = summer, O = occasionally, S = spring, W = winter, ■ = LAS

CAP 238: Web Page Design
CAP 240: Intermediate Computer Applications
Total credit hours required: Three

4. Applied Data Analysis with Computers (1-4 credit hours)
CAP 328: Geographic Information Systems
Also listed as GRY 328
MGT 423: Computer Applications in Economics and Management
GRY 400: Geographic Analysis
CHE 470: Advanced Lab
PED 434: Statistics and Assessment in Physical Education
POL 312: Methods of Political Analysis
PSY 201: Statistical Methods
MAT 201: Statistical Methods
ECO 221: Economic Statistics
COM 230: Statistical Methods
GLY 281: Data Analysis in Natural Science
EDU 430: Measurement and Evaluation in Education
Total credit hours required: Three

5. Advanced Computer Applications (3-4 credit hours)
CAP 350: Database Management
ATS 207: Printmaking II
CAP 220: Introduction to Networking
CAP 327: Computer Mapping, also listed as GRY 327
COM 345: News Editing and Design
CAP 351: Advanced Web Page Design
CAP 330: Advanced GIS Techniques, also listed as GRY 330
ECO 421: Econometrics
SPM 335: Information Technology in Sport
SPM 435: Applied Information Technology in Sport
Total credit hours required: Three

TOTAL CREDIT HOURS REQUIRED FOR MINOR: 18

Computer Applications

COURSE DESCRIPTIONS

CAP 100: Introduction to Computer Applications
(A) Computing applications in various academic disciplines; topics include operating systems, word processing, spreadsheets, graphics, database, communications, the Internet, current topics, and a brief introduction to computers and their impact on society. Not open to students with credit for CAP 110 or 111. Lecture and laboratory required. (3 cr. hr.) ■

CAP 104: Computers and Society
(B) Examination of the social, political, ethical, and economic implications of living in a computer-dominated world. Emphasis on assessing the impact of technology and developing an understanding of its future role. Topics include computer crime, computer and information ethics, computers and the Constitution, privacy and Artificial Intelligence. (3 cr. hr.)

CAP 129, 229, 329, 429, 529: Special Topics in Computer Applications
Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

CAP 201: C Programming
(O) Programming in C using programming examples encountered in the physical and social sciences. Three lecture hours. Prerequisite: CAP 100. (3 cr. hr.)

CAP 204: Visual Basic
(C) Introduction to computer programming using the Visual Basic computer language and its integrated development environment. Topics to be studied include event-driven programming, user interface design, data validation and error handling, modular programming using the control structures of the Visual Basic language, an introduction to data structures, and file operations. Prerequisite: CAP 100. (3 cr. hr.)

CAP 205: Object Oriented Programming
(C) Introduction to object oriented programming and the Java programming language. Topics include object-oriented analysis and design strategies; abstract data typing, inheritance, and polymorphism; program portability and the Java virtual machine; the Java class hierarchy and Java language control structures; graphical user interface programming in Java; Internet programming and applets. Prerequisite: CAP 100. (3 cr. hr.)

CAP 206: Introduction to Programming with Pascal
(B) Fundamentals of computer programming using Pascal. Topics include Constants and Variables, Selection and Control Statements, Recursion, Arrays, Pointers, Records, Procedural and Data Abstraction. (3 cr. hr.)

CAP 216: Introduction to Data Structures
(B) An introduction to data structures with a procedural programming language such as C or Pascal. Topics may include sets, records, arrays, abstract data types, lists, stacks, queues and binary trees. Prerequisire: CAP 201 or CAP 206, or permission of the Computer Applications Department. (3 cr. hr.)

CAP 220: Introduction to Networking
(B) An introduction to computer networks. Topics may include networking standards and the OSI model, transmission basics, network protocols, hardware, topologies and access methods, implementation and management of networks, and networking operating systems. Prerequisite: CAP 100 or permission of the Computer Applications Department. (3 cr. hr.)

CAP 230: Introduction to SPSS
(O) Introduces statistical procedures available to computer users in Statistical Package for the Social Sciences (SPSS). Weekly laboratory. Prerequisite: CAP 100. (1 cr. hr.)

CAP 231: Introduction to Data Base Management
(O) Familiarization with form, function and use of data base management programs common to microcomputer. Course is designed to enable student to apply commonly available data base management packages to simplify tasks involving information storage, retrieval and manipulation. Prerequisite: CAP 100. (1 cr. hr.)

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CAP 233: Computerized Information Retrieval
(B) Introduction to retrieving information from commercial, computerized data bases containing bibliographic, numeric and full text documents. Students will learn how data bases are organized and documented; how information is retrieved using command languages and communications software. Prerequisite: CAP 100. (1 cr. hr.)

CAP 235: Presentation Software
(O) Using the computer to create graphic representations of information and enhance print and non-print communication. Prerequisite: CAP 100 or consent of instructor. (1 cr. hr.)

CAP 236: Desktop Publishing
(B) Using the computer to create desktop publishing layouts of newspapers, newsletters, and resumes. Prerequisite: CAP 100 or consent of instructor. (1 cr. hr.)

CAP 238: Web Page Design
(A) Skills to design and create Web pages consisting of text and graphics. Prerequisite: CAP 100. (1 cr. hr.)

CAP 240: Intermediate Computer Applications
(A) An introduction to desktop publishing and Web site development with a concentration in the use of multimedia files to enhance documents. Students will learn how to manipulate graphics, generate sound and video files, and create publications by learning fundamentals of modern presentation, desktop publishing, and Web page editing software. Prerequisite: CAP 100. (3 cr. hr.)

CAP 250: Computer Practicum
(A) For students who are resource assistants in computer applications courses. Prerequisites: CAP 100 or equivalent and consent of instructor. (1-2 cr. hr.)

CAP 327: Computer Mapping
(O) Introduction to desktop computer mapping. Practical experience in using computer mapping techniques to create thematic maps that graphically display data. Database organization, manipulation and analysis for efficient production of publication quality maps for communicating spatial information. Three lectures and/or demonstrations, one two-hour laboratory. Also listed as GRY 327. Prerequisite: CAP 100. (4 cr. hr.)

CAP 328: Geographic Information Systems
(S) Desktop computer-based Geographic Information System (GIS) Applications. Practical experience using GIS software to learn geographic data management, thematic mapping, basic map and database querying, as well as map creation and report writing. Three lectures and/or demonstrations, one two-hour lab. Also listed as GRY 328. Prerequisite: CAP 100. (4 cr. hr.)

CAP 330: Advanced GIS Techniques
(S-C) Planning, execution, and delivery of a GIS- and CAP-based project, which demonstrates mastery of tools of GIS in a substantive application tailored to a field of interest. Also listed as GRY 330. Prerequisite: GRY/CAP 327 or GRY/CAP 328. (4 cr. hr.)

CAP 350: Data Base Management Systems
(O) Developing data base applications using integrated data base management tools. Survey of data base structures and methodologies. Generation of custom reports and graphics displays. Selected advanced data base features such as screen design, macros and procedures introduced. Prerequisite: CAP 100. (3 cr. hr.)

CAP 351: Advanced Web Page Design
(B) Advanced Web page design features such as tables, frames, and forms as well as interactive applications such as animation and Javascript. Prerequisite: CAP 238 or CAP 240. (3 cr. hr.)

Economics

DEPARTMENT

Old Main, Room 136
(607) 753-4109
E-mail: tphillips@cortland.edu
www.cortland.edu/economics/

SCHOOL

Arts and Sciences

FACULTY

Tim Phillips (Chair), Howard Botwinick, Kathleen Burke, Joshua Frank, Katherine Graham, Alan D. Haight, Lisi Krall, Susanne Polley, Judy Sears, Deborah Spencer, German A. Zarate

ADJUNCT FACULTY

For a listing of adjunct faculty see pages 312-315.

PROGRAMS OFFERED

Bachelor of Arts in Economics
Bachelor of Arts in Business Economics
Bachelor of Science in Business Economics
Bachelor of Arts in Adolescence Education: Social Studies and Economics (7-12)

MAJORS OFFERED

Economics
Business Economics
Adolescence Education: Social Studies and Economics (7-12)

CONCENTRATIONS OFFERED

Environmental Management
Financial Management
Human Resource Management
International Business
International Political Economy and Public Policy

MINORS OFFERED

Economics, Management, Political Economy and Public Policy

DESCRIPTION

The Economics Department offers both an economics major and a business economics major. Students may select courses from a wide variety of areas, including international trade and finance, economic development, fiscal economics, money and banking, labor economics, the political economy of race and class, the political economy of women, environmental economics and sports economics.