

# ANTHROPOLOGY

(0733)

## Anthropology Department Bachelor of Arts (HEGIS 2202)

Classroom Building B107 (716) 878-6110

Anthropology is the exploration of what it means to be human. Although anthropology is often associated with faraway places and remote excavations, anthropologists are increasingly involved in research on such topics as education, health, food, migration, sports, tourism, and cultural identity. The study of anthropology provides a broad-based approach to the understanding of human culture (past and present) and human biology. The anthropological perspective is global, holistic, and involves considerable time-depth. The major exposes students to the primary subdivisions within the field: archaeology, cultural anthropology, folklore, linguistics, and physical anthropology. The B.A. in anthropology prepares students for further academic training at the graduate level, but can also lead directly to careers in nonacademic (applied) areas, such as forensics, contract archaeology, cultural resource management, museum work, social services, education, government, and market research. Internships, archaeological field schools, and a departmental honors program are available to students in this major.

**Intellectual Foundations Requirements** .....39–66 cr

**Total Required Credit Hours in Anthropology** .....33

### A. Required Courses (12 cr)

ANT 100	Human Origins
ANT 101	Understanding Culture
ANT 315W	Research Methods
ANT 405W	History of Anthropological Thought

### B. Electives (15 cr)

Select one course from each of the following areas:

#### Archaeology (3 cr)

ANT 308	Archaeological Method
ANT 312	Archaeology of North America
ANT 329	World Prehistory
ANT 377	Ancient Civilization
ANT 415	Seminar in Archaeology

#### Physical Anthropology (3 cr)

ANT 203	Human Variation
ANT 320	Human Growth in Anthropological Perspective
ANT 321	Primate Behavior
ANT 324	The Human Skeleton
ANT 325	Forensic Anthropology
ANT 326	The Human Fossil Record

#### Regional Courses (3 cr)

ANT 301	Indigenous Peoples of Eastern North America
ANT 303	The Anthropology of Europe
ANT 305	Peoples of Africa
ANT 330	Pacific Islanders

#### Topical Courses (3 cr)

ANT 102	Introduction to Ethnological Analysis
ANT 144W	Introduction to Folklore and Folklife
ANT 307	Urban Anthropology
ANT 327/HEW 327	Medical Anthropology
ANT 340	Women in Anthropological Perspective
ANT 360	Folklore of Women
ANT 362	Urban Folklore
ANT 365	Practicing Anthropology
ANT 367	Cultural Ecology
ANT 370	The Anthropology of Contemporary Issues
ANT 375	Humanistic Anthropology
ANT 380	Language and Culture
ANT 381	Religion, Magic, and Culture
ANT 382	Culture and Personality
ANT 384	Culture, Social Control, and Law
ANT 411	African Family
ANT 412	Seminar in Anthropology

### Experiential Courses (3 cr)

ANT 308	Archaeological Method
ANT 488	Internship
ANT 495	Project
ANT 498	Honors Research
ANT 499	Independent Study

Consult department for additional options.

### C. Two Other Courses, From Any Area, Selected by Advisement (6 cr)

**All College Electives** .....21–48 cr

**Total Required Credit Hours** .....120 cr

*Note: ANT 389 may be used to fill one or more of the elective requirements according to content in any given semester. Please contact your adviser to determine the appropriate designation.*

# APPLIED SOCIOLOGY

See Sociology—Applied.

# ART

(0105)

## Fine Arts Department Bachelor of Arts (HEGIS 1002)

National Association of Schools of Art and Design (NASAD) Accredited  
Upton Hall 502 (716) 878-6014

The art program provides students with the opportunity to study a wide variety of visual arts media. Together with basic instruction in drawing, design, and art history, students, under advisement, select 24 credit hours in electives in fine arts and/or design.

The Fine Arts Department reserves the right to retain artwork for official purposes, such as exhibits, catalogs, or teaching aids.

Students are expected to assume the costs of materials they use in their courses. All studio courses may have an additional instructional charge for materials used in class.

**Intellectual Foundations Requirements** .....39–66 cr

**Total Required Credit Hours in Art** .....42 cr

### A. Required Courses (18 cr)

DES 101	Introductory Design 2D I
DES 103	Introductory Design 3D I
FAR 101	Drawing I
FAR 102	Drawing II
FAR 250	Art History I
FAR 251	Art History II

### B. Electives in Fine Arts and/or Design (24 cr)

**All College Electives** ..... 12–39 cr

**Total Required Credit Hours** .....120 cr

# ART EDUCATION (K–12)

(0100)

## Art Education Department Bachelor of Science (HEGIS 0831)

National Association of Schools of Art and Design (NASAD) Accredited  
National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 103 (716) 878-4106

The art education program prepares students for initial certification to teach pre kindergarten through grade 12 art in New York State schools. The program develops art education professionals who are knowledgeable about the subject of art; who think

# ART EDUCATION (K-12; POSTBACCALAUREATE)

(7010)

## Art Education Department Postbaccalaureate Teacher Certification Program (HEGIS 0831)

National Association of Schools of Art and Design (NASAD) Accredited  
National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 103 (716) 878-4106

The art education postbaccalaureate certification-only program offers a course sequence meeting the educational requirements for certification. Students are expected to complete the entire sequence, and are responsible for any additional certification requirements established by the New York State Education Department, Teacher Certification Division, including the NYS Teacher Certification Examinations, and mandated seminars. In order to be eligible for the program, applicants must have and maintain a minimum 2.5 overall GPA and a 3.0 GPA in the program, which includes fine arts, design, and art education coursework.

Except for the student teaching semester, postbaccalaureate certification-only students may elect to attend part time or full time. Courses are offered each semester (not summer) during daytime hours.

Art teacher certification is a function of the Bureau of Teacher Certification, NYS Education Department, Albany. In order to respond to local information requests, the bureau has a field representative in the Western New York area.

<b>First Semester</b> .....	<b>12 cr</b>
AED 200	Fundamentals of Art Inquiry
AED 398	Computer Applications for Art Educators
AED 300W	Foundations in Art Education
AED 301W	Theoretical Constructs in Art Education
<b>Second Semester</b> .....	<b>9 cr</b>
AED 302W	Functions and Practice in Art Education
AED 315	Arts in Living
ATS 325	Arts and Special Needs
<b>Third Semester</b> .....	<b>15 cr</b>
AED 303	Elementary Student Teaching in Art (6)
AED 304	Secondary Student Teaching in Art (6)
AED 400	Student Teaching Seminar
<b>Total Required Credit Hours</b> .....	<b>36 cr</b>

# ART HISTORY

(0130)

## Fine Arts Department Bachelor of Arts (HEGIS 1003)

National Association of Schools of Art and Design (NASAD) Accredited  
Upton Hall 502 (716) 878-6014

The B.A. degree program in art history introduces students to the nature and history of artistic development in the Western world. This program is conceived as one of the disciplines of the liberal arts and is envisioned as a preparation for graduate study in art history, as well as for careers in art librarianship, museum work, slide curatorship, historic preservation, and art conservation.

<b>Intellectual Foundations Requirements</b> .....	<b>39-66 cr</b>
<b>Total Required Credit Hours in Art History</b> .....	<b>42 cr</b>

systematically about the act of teaching; who are committed to teaching students about art in meaningful and critical ways; who consider teaching to be a dynamic and continuing process of development and growth; who recognize and respect individual differences in their students and adapt their teaching strategies to fit individual student needs; who are sensitive to issues related to diversity in class, ethnicity, and gender in contemporary society; who are active in the professional, cultural, and art communities; who understand and are prepared to utilize current technology and media in the public school art programs; who understand and promote the value of art in contemporary cultures; and who are prepared to address the unique learning needs of kindergarten through grade 12 students in an urban environment.

**Requirements of major:** For students to enroll and remain in the art education program, they must maintain a minimum cumulative GPA of 2.5 and a minimum GPA of 3.0 in their primary major. A portfolio review is required for admission to the department. Students are expected to assume the costs of materials they use in art education courses, and there may be an additional instructional charge for materials used in class.

**Student teaching:** Eligibility for student teaching is determined by the Art Education Department; placement is arranged by the art education coordinator of student teaching. Student teaching experiences are provided in cooperating elementary and secondary schools. In some cases, students may be required to reside in the community where their student teaching assignments take place; transportation to/from the student teaching assignment is the student's responsibility. Students enrolled in the student teaching semester devote full time to their practicum assignment.

Prior written approval must be obtained from the chair of the Art Education Department for a student to enroll for any other college credit work during a student teaching assignment except for AED 400. All students anticipating a student teaching assignment must show proof of having a test for tuberculosis within three months of the assignment. Results of the test must be filed at the health center.

**Transfer Students:** Students transferring to the art education major as juniors, and who wish to complete their programs in four semesters, should plan their schedules of coursework in art education with great care, and with an academic adviser. It is important to note that AED 300W, AED 301W, and AED 302W are intended as a sequence and may not be taken concurrently except for students in postbaccalaureate certification-only programs.

**Postbaccalaureate (Certification-Only) Program (see below):** This program is for students who have already earned a B.A./B.F.A. degree in a studio area and are interested in earning art teacher certification.

**Intellectual Foundations Requirements** .....39-66 cr

**Total Required Credit Hours in Art Education** .....36 cr

### A. Required Courses (24 cr)

AED 200	Fundamentals of Art Inquiry
AED 300W	Foundations in Art Education
AED 301W	Theoretical Constructs in Art Education
AED 302W	Functions and Practice in Art Education
AED 315	Arts in Living
AED 398	Computer Applications for Art Educators
AED 400	Student Teaching Seminar
ATS 325	Arts and Special Needs

### B. Required Field Experience (12 cr)

AED 303	Elementary Student Teaching in Art (6)
AED 304	Secondary Student Teaching in Art (6)

**Total Required Credit Hours in Fine Arts and Design** .....36 cr

### A. Required Fine Arts Courses (12 cr)

FAR 101	Drawing I
FAR 102	Drawing II
FAR 250	Art History I
FAR 251	Art History II

### B. Required Design Courses (12 cr)

DES 101	Introductory Design 2D I
DES 103	Introductory Design 3D I
Two electives selected by advisement.	

### C. Studio Electives Selected by Advisement (12 cr)

**All College Electives** .....0-6 cr

**Total Required Credit Hours** .....120 cr

# BIOLOGY

(0725)

## Biology Department Bachelor of Arts (HEGIS 0401)

Science Building 314 (716) 878-5203

The B.A. degree program in the biological sciences prepares students for several options, including various employment opportunities at the bachelor's degree level, and entrance to graduate or professional schools.

A departmental honors program is also available. Students should contact the department for additional information.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Biology .....35–36 cr**

### A. Required Courses (12 cr)

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

### B. Concentration Courses

*Students are required to complete one of the following concentrations:*

#### Integrative Biology Concentration (24 cr)

BIO 303	Genetics (4)
BIO 405	Organic Evolution
Elective biology courses (300–400 level, except BIO 308–BIO 309, BIO 322 or BIO 324) selected by advisement (16 cr)	

#### Aquatic Biology Concentration (23 cr)

BIO 300	Biostatistics (4)
BIO 325	Ichthyology (4)
BIO 418	Limnology (4)
BIO 429	Fisheries Biology (4)
BIO 430	Stream Ecology (4)
BIO 488	Internship in Aquatic Biology

#### Biotechnology Concentration (23–24 cr)

BIO 303	Genetics (4)
BIO 314	Advanced Cell Biology (4)
BIO 316	Microbiology (4)
BIO 450	Recombinant DNA Technology (4)

*Select one course from the following (3–4 cr):*

BIO 305	Molecular Biology (4)
CHE 470	Biochemistry
Elective biology course (300–400 level, except BIO 308–BIO 309, BIO 322, or BIO 324) selected by advisement (4 cr)	

**Total Required Credit Hours in Other Fields .....8–18 cr**

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
CHE 201, CHE 203	Organic Chemistry I with Laboratory (3,1)
CHE 202	Organic Chemistry II
CHE 305	Physical Chemistry I

*Note: CHE 111 and CHE 112 are required of all Biology B.A. students. CHE 201 and CHE 203 are required of students completing the biotechnology concentration; CHE 202 and CHE 305 are required of biotechnology students who choose to take CHE 470.*

### Recommended Courses in Related Fields

CHE 202, CHE 203, CHE 204, PHY 111, PHY 112, MAT 126
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**All College Electives .....0–38 cr**

**Total Required Credit Hours .....120 cr**

### A. Required Courses (24 cr)

FAR 101	Drawing I
FAR 250	Art History I
FAR 251	Art History II
FAR 354	Art and Culture of Greece
FAR 359	High Renaissance and Mannerism
FAR 362	Nineteenth-Century Art

OR  
FAR 363 Twentieth-Century Art  
*One course in medieval art from list below*  
*One course in non-Western art from list below*

### B. Electives in Art History (18 cr)

*Select three courses from the following:*

FAR 325	History of Photography
FAR 351	Art of the Ancient World
FAR 352	Art and Culture of Islam
FAR 353	Art and Culture of Egypt and the Near East
FAR 355	Art and Culture of Rome
FAR 356	Early Medieval Art
FAR 357	Late Medieval Art
FAR 358	Early Renaissance Art in Italy
FAR 361	Italian Baroque Art
FAR 364	Art After 1940
FAR 365	American Art
FAR 367	Baroque of Northern Europe
FAR 369	Art in the Middle Ages
FAR 371	Art Theory and Criticism
FAR 372	Masterworks of Architecture
FAR 375	Introduction to Asian Art
FAR 376	Indian Art
FAR 377	Art of China and Japan
FAR 389	Topics in Art History
FAR 469	Art and Architecture in Siena
FAR 488	Internship in Art History
FAR 499	Independent Study in Art History

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# THE ARTS

(0110)

## Theater Department Bachelor of Arts (HEGIS 1001)

Rockwell Hall 203 (716) 878-6416

The arts program is an individually designed series of major courses that emphasize the performing arts and prepare students for graduate study. Students with interests, career goals, and talents that embrace an inter-arts approach work closely with a faculty mentor. Such fields as dance, choreography, pop music and culture, arts criticism, arts management, arts therapy, technical theater, and music theater demand a multidisciplinary approach.

The honors option is highly recommended for interdisciplinary studies. Students should contact the department for information. Nineteen- to 21-credit minor programs in dance, music, and theater enhance other major programs.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in the Arts .....36 cr**

### A. Required Courses (15 cr)

*Three credit hours in each of the following areas:*

Dance
Design
Fine Arts
Music
Theater

### B. Elective Courses Selected by Advisement (21 cr)

At least 6 credit hours each from three of the above areas.

**All College Electives .....18–45 cr**

**Total Required Credit Hours .....120 cr**

# BIOLOGY EDUCATION (7–12)

(0631)

## Biology Department Bachelor of Science (HEGIS 0401.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 314 (716) 878-5203

The biology B.S. degree program in secondary education leads to a New York State Initial Certificate for teaching both biology and general science in grades 7–12. Students seeking admission to the biology B.S. education program should initially enroll in the biology B.A. program. After successfully completing at least two required biology courses at Buffalo State with a GPA in these courses of 2.75 or higher, students apply for admission to the biology B.S. education program during the semester they complete SED 200. A minimum GPA of 2.75 in biology courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Biology .....30 cr**

### A. Required Courses (27 cr)

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)
BIO 303	Genetics (4)
BIO 315	Ecology (4)
BIO 405	Organic Evolution

*Select one of the following:*

BIO 308, BIO 309	Human Anatomy and Physiology (with lab) (3, 1)
BIO 402	Comparative Animal Physiology (4)

### B. Elective Course (3 cr)

Any upper-division course in biology (except BIO 322 or BIO 324).

**Total Required Credit Hours in Professional Education .....24 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....30 cr**

### A. One Year (or Equivalent) of a Foreign Language (6 cr)

### B. Cognate Sciences\* (23 cr)

CHE 111 and	
CHE 112	Fundamentals of Chemistry I, II (4, 4)
GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111 and	
PHY 112	University Physics I, II (4, 4)

*Select one of the following:*

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

### C. Mathematics\* (7 cr)

BIO 300	Biostatistics (or equivalent) (4)
MAT 126	Calculus (or equivalent)

*\*In most cases, two courses can fulfill Intellectual Foundations requirements.*

**Total Required Credit Hours .....138–156 cr**

# BIOLOGY EDUCATION (7–12; 5–6 EXTENSION)

(0630)

## Biology Department Bachelor of Science (HEGIS 0401.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 314 (716) 878-5203

The biology B.S. degree program in secondary education leads to a New York State Initial Certificate for teaching both biology and general science in grades 512. Students seeking admission to the biology B.S. education program should initially enroll in the biology B.A. program. After successfully completing at least two required biology courses at Buffalo State with a GPA in these courses of 2.75 or higher, students apply for admission to the biology B.S. education program during the semester they complete SED 200. A minimum GPA of 2.75 in biology courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Biology .....30 cr**

### A. Required Courses (27 cr)

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)
BIO 303	Genetics (4)
BIO 315	Ecology (4)
BIO 405	Organic Evolution

*Select one of the following:*

BIO 308, BIO 309	Human Anatomy and Physiology (with lab) (3, 1)
BIO 402	Comparative Animal Physiology (4)

### B. Elective Course (3 cr)

Any upper-division course in biology (except BIO 322 or BIO 324).

**Total Required Credit Hours in Professional Education .....30 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SCI 323	Science as Inquiry
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in a Middle School
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....30 cr**

### A. One Year (or Equivalent) of a Foreign Language (6 cr)

### B. Cognate Sciences\* (23 cr)

CHE 111 and	
CHE 112	Fundamentals of Chemistry I, II (4, 4)
GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111 and	
PHY 112	University Physics I, II (4, 4)

*Select one of the following:*

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

### C. Mathematics\* (7 cr)

BIO 300	Biostatistics (or equivalent) (4)
MAT 126	Calculus (or equivalent)

*\*In most cases, two courses can fulfill Intellectual Foundations requirements.*

**Total Required Credit Hours .....137–165 cr**

# BIOLOGY EDUCATION (7–12; POSTBACCALAUREATE)

(7013)

## Biology Department Postbaccalaureate Teacher Certification Program (HEGIS 0401.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 314 (716) 878-5203

The biology education (7–12) postbaccalaureate certification-only program leads to a New York State Initial Certificate for teaching both biology and general science in grades 7–12. The program is intended for persons with existing undergraduate degrees in biology or a related field who are interested in obtaining certification to teach biology in secondary schools or general science in middle schools. A minimum GPA of 2.75 in biology courses is required for admission to SED 405, SED 407, and SED 408.

**Total Required Credit Hours in Biology .....30 cr**

**A. Required Courses (or Equivalent Courses) (27 cr)**

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)
BIO 303	Genetics (4)
BIO 315	Ecology (4)
BIO 405	Organic Evolution

*Select one of the following:*

BIO 308 and	
BIO 309	Human Anatomy and Physiology (with lab) (3, 1)
BIO 402	Comparative Animal Physiology (4)

**B. Elective Course (3 cr)**

Any upper-division course in biology (except BIO 322 or BIO 324).

**Total Required Credit Hours in Professional Education .....24 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....36 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences (23 cr)**

CHE 111 and	
CHE 112	Fundamentals of Chemistry I, II (4, 4)
GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111 and	
PHY 112	University Physics I, II (4, 4)

*Select one of the following:*

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

**C. Mathematics (7 cr)**

BIO 300	Biostatistics (or equivalent) (4)
MAT 126	Calculus (or equivalent)

**Total Required Credit Hours .....102 cr**

# BIOLOGY EDUCATION (7–12; 5–6 EXTENSION; POSTBACCALAUREATE)

(7016)

## Biology Department Postbaccalaureate Teacher Certification Program (HEGIS 0401.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 314 (716) 878-5203

The biology education (7–12) postbaccalaureate certification-only program with 5–6 extension leads to a New York State Initial Certificate for teaching both biology and general science in grades 5–12. The program is intended for persons with existing undergraduate degrees in biology or a related field who are interested in obtaining certification to teach biology in secondary schools or general science in middle schools. A minimum GPA of 2.75 in biology courses is required for admission to SED 405, SED 407, and SED 408.

**Total Required Credit Hours in Biology .....30 cr**

**A. Required Courses (or Equivalent) (27 cr)**

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)
BIO 303	Genetics (4)
BIO 315	Ecology (4)
BIO 405	Organic Evolution

*Select one of the following:*

BIO 308 and	
BIO 309	Human Anatomy and Physiology (with lab) (3, 1)
BIO 402	Comparative Animal Physiology (4)

**B. Elective Course (3 cr)**

Any upper-division course in biology (except BIO 322 or BIO 324).

**Total Required Credit Hours in Professional Education ..... 30 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SCI 323	Science as Inquiry
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in a Middle School
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....36 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences (23 cr)**

CHE 111 and	
CHE 112	Fundamentals of Chemistry I, II (4, 4)
GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111 and	
PHY 112	University Physics I, II (4, 4)

*Select one of the following:*

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

**C. Mathematics (7 cr)**

BIO 300	Biostatistics (or equivalent) (4)
MAT 126	Calculus (or equivalent)

**Total Required Credit Hours .....108 cr**

# BROADCASTING

See Media Production

# BUSINESS ADMINISTRATION

(0425)

## Business Department Bachelor of Science (HEGIS 0506)

Chase Hall 302 (716) 878-4239

The bachelor of science degree in business administration prepares students for leadership roles in management and marketing in both domestic and international business, and public and nonprofit organizations. During the first two years of the program, students acquire a foundation in accounting, economics, and computers, as well as in the arts, humanities, and social and natural sciences. The last two years are devoted to upper-division courses in management, marketing, human resources, law, finance, production and operations management, and a capstone course in business strategy. Upon acceptance into the program, students will be required to choose and complete a 15-hour concentration in one of the following areas: management, marketing, or international business.

**Admission Requirements:** Transfer students are accepted into the program on a competitive basis. No freshmen are accepted directly into the program. Students interested in business as a major may be admitted as a pre-business major (0424) until completion of entrance requirements. Prior to acceptance into the program, students will be required to attain competency in mathematics and English composition, as well as successful completion of BUS 312, CIS 101, and ECO 201 or ECO 202, and have a minimum cumulative GPA of 2.5. Successful completion is defined as achieving a minimum grade of C. Admission requirements for first-year and transfer students are under review and may change. Please contact the business department for current information on admission requirements.

Transfer students must meet the residency requirement of 21 credit hours of upper-level coursework from the department.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Business .....60 cr**

### A. Business Core (39 cr)

CIS 101	Computer Fundamentals
ECO 201	Principles of Macroeconomics
ECO 202	Principles of Microeconomics
BUS 312	Financial Accounting
BUS 313	Managerial Accounting
BUS 320	Principles of Marketing
BUS 325	Human Resource Management
BUS 334	Business Law I
BUS 360	Principles of Management
FIN 314	Corporate Finance
ECO 305	Statistics for Economics
OR	
MAT 311	Introductory Probability and Statistics
BUS 460	Production and Operations Management
BUS 430	Strategic Management

### B. Concentration (15 cr)

#### Marketing

BUS 321	Marketing on the Internet
BUS 323	Sales Methods and Techniques
BUS 327	Advertising Concepts and Practices
BUS 328	Advertising Campaign Management
BUS 329	Sales Management
BUS 330	Marketing Management
BUS 347	Retail Management
BUS 348	Electronic Commerce
BUS 403	Consumer Behavior
BUS 404	Marketing Research
BUS 420	International Marketing Management

### Management

BUS 300	International Business
BUS 324	Business Communication
BUS 329	Sales Management
BUS 335	Business Law II
BUS 347	Retail Management
BUS 350	Current Practices in Technology
BUS 365	Entrepreneurship
BUS 367	Strategic Management of Innovation and Technology
BUS 368	Sports Management and Marketing
BUS 369	Organizational Change and Development
BUS 424	International Business Communication
BUS 473	International Management

### International Business

BUS 300	International Business
BUS 363	Business in the Western Hemisphere
BUS 417	International Accounting
BUS 420	International Marketing
BUS 424	International Business Communication
BUS 425	International and Cross-Cultural Training
BUS 473	International Management
ECO 401	International Economics
FIN 400	International Finance

### C. Recommended Business Electives (6 cr)

Any upper-level Business Department course that is not required or included in your concentration may be taken as an elective. Students may participate in the internship program by enrolling in BUS 378: Business Professional Practice. Foreign language competency recommended.

**All College Electives .....0–21 cr**

**Total Required Credit Hours .....120–126 cr**

# BUSINESS AND MARKETING EDUCATION

(0406)

## Educational Foundations Department Bachelor of Science (HEGIS 0838.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bacon Hall 306 (716) 878-4717

The B.S. degree program in business and marketing education leads to initial certification to teach business and marketing subjects in New York State.

In this teaching field, applicants for a teaching certificate must also have an equivalent of one year of occupation-related work experience, which they may obtain through the field experience courses as part of the business electives.

**Admission Requirements:** No freshmen are accepted directly into the major. Students seeking admittance into the business and marketing education major must provide evidence of successfully completing BUS 312, BUS 324W, and BUS 301W, and have a minimum cumulative GPA of 2.5. Successful completion is defined as achieving a minimum grade of C.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Business .....36 cr**

BUS 300	International Business
BUS 312	Financial Accounting
BUS 313	Managerial Accounting
BUS 320	Principles of Marketing
BUS 324W	Business Communications
BUS 325	Human Resource Management
BUS 334	Business Law I
BUS 350	Current Practices in Business Computing
BUS 360W	Principles of Management
BUS 430	Strategic Management
Two 300-level or higher BUS electives selected by advisement.	

**Total Required Credit Hours in Professional Education ..... 33 cr**

BME301W/CTE 301	Principles of Business/Marketing and Technology Education
BME302/CTE 302	Curriculum and Evaluation in Business/Marketing and Technology Education
BME 303	Instructional Strategies in Business/Marketing Education
BME 411	Applied Teaching Methods in Business/Marketing Education
BME 415	Student Teaching (6)
BME 416	Student Teaching (6)
EDF 303	Educational Psychology
EDU 416	Teaching Reading in Secondary Schools
EXE 100	Nature and Needs of Individuals with Special Needs

**All College Electives .....0–12 cr**

**Total Required Credit Hours .....120–135 cr**

## BUSINESS AND MARKETING EDUCATION (POSTBACCALAUREATE)

(7019)

### Educational Foundations Department Postbaccalaureate Teacher Certification Program HEGIS (0838.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bacon Hall 306 (716) 878-4717

This program is for students currently holding a bachelor's degree and/or master's degree and would like to pursue teaching business and marketing education in a secondary school environment in New York State. To be eligible for admission,\* the following requirements must be satisfied: (1) Completion of a bachelor's or master's degree from an accredited college or university with a concentration of at least 36 credit hours in business and business-related courses, such as computer science and economics, with a minimum 2.5 GPA. The department will accept up to 6 credits in either CIS and/or economics. All other courses should match the required courses in the business/marketing education major. (2) Provide a résumé. (3) Provide a statement of qualification (essay format).

*\*Note: This program is considered a postbaccalaureate program. Interested students should apply through the Graduate School.*

**Business Core .....36 cr**  
Accepted courses per review of Business and Marketing Education Program.

**Professional Core .....33 cr**

BME 301W/CTE 301	Principles of Business/Marketing and Technology Education
BME 302/CTE 302	Curriculum and Evaluation in Business/Marketing and Technology Education
BME 303	Instructional Strategies in Business and Marketing Education
BME 411	Applied Teaching Methods in Business Education
BME415	Student Teaching (6)
BME 416	Student Teaching (6)
EDF 303	Educational Psychology
EDU 416	Teaching Reading in Secondary Schools
EXE 100	Nature and Needs of Individuals with Special Needs

**Total Required Credit Hours .....69 cr**

## CAREER AND TECHNICAL EDUCATION\*

(0800)

### Educational Foundations Department Bachelor of Science (HEGIS 0839.03)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bacon Hall 306 (716) 878- 4717

This program prepares career and technical teachers for teaching positions in city high schools, area vocational schools (BOCES), technical institutes, correctional facilities, and community college technical programs. It provides theoretical and practical preparation in planning, instructing, and managing the learning environment for students who have or will have extensive work experience in agricultural education, business and marketing education, family and consumer sciences subject education, health careers education, technical education, or trade education. Students in career and technical education complete coursework in career and technical education to be recommended for initial certification (grades 712) in New York State in one of over 83 certification titles. A complete listing of Certification Titles and Codes for Career and Technical Subjects can be found on the New York State Education Department Web site: [www.highered.nysed.gov/cert/certificate/careertech\\_certcodes.htm](http://www.highered.nysed.gov/cert/certificate/careertech_certcodes.htm).

*Admission Requirements:*

1. Verified full-time trade experience: four years with high school diploma, or two years with an A.A.S. degree in the occupational area, or one year with a B.S. degree and 36 credit hours of coursework in the occupational area, or a work-study arrangement (see EPOT, below).
2. High school diploma or equivalent: High school students interested in entering the program prior to completing the required work experience may apply for the EPOT program (Early Preparation of Occupational Teachers). Applicants must be able to locate a position in their trade. They will take courses in the evening, leading to a B.S. degree and teacher certification, while learning their trade in a paid position. The program takes about five years to complete.
3. Admission review.
4. Trade proficiency verified by a practical and theoretical examination.
5. Students entering the program must take Buffalo State College's math and English competency exams prior to the completion of 9 hours of college credit.

*\*Evening study available.*

**Intellectual Foundations Requirements .....39–60 cr**

**Total Required Credit Hours in Career and Technical Education .....66 cr**

**A. Major Field (30 cr)**

CTE 100	Comprehensive Theoretical Trade or Technical Skills (15)
CTE 200	Comprehensive Theoretical Trade or Performance Skills (15)

**B. Professional Requirements (36 cr)**

CTE 301/BME 301	Principles of Business/Marketing and Technology Education
CTE 302/BME 302	Curriculum and Evaluation in Business/Marketing and Technology Education
CTE 306	Laboratory Management
CTE 311	Career Mentoring Internship
CTE 350	School and Community Relationship Field Experience
ENG 370	Foundations of Language
CTE 402	Assessment Techniques in Career and Technical Subjects
CTE 404	Methods of Teaching Vocational Technical Subjects
CTE 413	Practice Teaching and Observation
CTE 415	Professional Development Seminar
CTE 421	Occupational Education for Individuals with Special Needs
CTE 435	Curricular Problems of Career and Technical Schools

**C. Required Courses in Behavioral Studies (6 cr)**

EDF 303	Educational Psychology
EDF 353	Human Development During Early Adolescence and Adolescence

**All College Electives .....0–15 cr**

**Total Required Credit Hours .....120–132 cr**

# CAREER AND TECHNICAL EDUCATION\* (POSTBACCALAUREATE)

(7022)

## Educational Foundations Department Postbaccalaureate Teacher Certification Program (HEGIS 0839.03)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bacon Hall 306 (716) 878-4717

For information about this program, contact the Educational Foundations Department.

\*Evening study available.

# CHEMISTRY

(0726)

## Chemistry Department Bachelor of Arts (HEGIS 1905)

Science Building 313 (716) 878-5204

The chemistry B.A. degree program offers students a strong background in chemistry while providing students with two concentration options. The chemistry concentration has been approved by the American Chemical Society. Graduates of this program are fully prepared to assume entry-level positions as chemists with industrial or governmental laboratories, or to begin more specialized programs of study at the graduate level. The biochemistry concentration prepares students for both professional programs in health-related professions and advanced studies in biochemistry.

**Admission Requirements:** None at the freshman level. Transfer students from two-year colleges should have earned credit for course equivalent to CHE 111, CHE 112, CHE 201, CHE 202, CHE 203, CHE 204, CHE 301, MAT 161, MAT 162, MAT 263, PHY 111, PHY 112, and BIO 211 (biochemistry concentration only) to avoid possible delays in the completion of the degree program. Transfer students must complete a minimum of 10 credits in chemistry at Buffalo State. Chemistry courses taken elsewhere may be substituted for similar courses at Buffalo State only if they have the same or equivalent prerequisites. Chemistry courses not meeting this criteria may be transferred as elective credit.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Chemistry .....42–44 cr**

### A. Required Courses (28 cr)

CHE 111, CHE 112 Fundamentals of Chemistry I, II (4, 4)  
CHE 201, CHE 202 Organic Chemistry I, II (3, 3)  
CHE 203, CHE 204 Organic Chemistry Laboratories I, II (1, 1)  
CHE 301 Analytical Chemistry (4)  
CHE 305, CHE 306 Physical Chemistry I, II (3, 3)  
CHE 307, CHE 308 Physical Chemistry Laboratories I, II (1, 1)

### B. Concentration Courses

Students are required to complete one of the following concentrations:

#### Chemistry Concentration<sup>1</sup> (14 cr)

CHE 310 Literature of Chemistry (1)  
CHE 403 Instrumental Analysis (4)  
CHE 460 Inorganic Chemistry  
CHE 461 Inorganic Chemistry Lab (2)  
CHE 470 Biochemistry I  
CHE 471 Biochemical Techniques (1)

<sup>1</sup>In addition to the above courses, any student who wishes to meet American Chemical Society minimum certification requirements must take CHE 430 or complete at least 3 credit hours in a laboratory-based CHE 495 (research project).

#### Biochemistry Concentration (15–16 cr)

CHE 310 Literature of Chemistry (1)  
CHE 470 Biochemistry I  
CHE 471 Biochemical Techniques (1)  
CHE 472 Biochemistry II

Select two courses from the following:

BIO 303 Genetics (4)  
BIO 305 Molecular Biology (4)  
BIO 314 Advanced Cell Biology (4)  
BIO 316 Microbiology (4)  
BIO 450 Recombinant DNA (4)  
Research-based course (CHE 495 or BIO 495)

**Total Required Credit Hours in Other Fields .....20–24 cr**

BIO 211 Introduction to Cell Genetics (4)  
MAT 161 Calculus I  
MAT 162 Calculus II  
MAT 163 Using Technology to Explore Calculus I (1)  
MAT 164 Using Technology to Explore Calculus II (1)  
MAT 263 Calculus III  
MAT 264 Using Technology to Explore Calculus III (1)  
PHY 111 University Physics I (4)  
PHY 112 University Physics II (4)

Note: BIO 211 is required for biochemistry concentration

**All College Electives .....0–19 cr**

**Total Required Credit Hours .....120–128 cr**

# CHEMISTRY EDUCATION (7–12)

(0632)

## Chemistry Department Bachelor of Science (HEGIS 1905.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 313 (716) 878-5204

The chemistry B.S. secondary education program leads to a New York State Initial Certificate for teaching both chemistry and general science in grades 7–12. Students seeking admission to the B.S. chemistry program should initially enroll in the B.A. chemistry program. After successfully completing at least two required chemistry courses at Buffalo State with a GPA in these courses of 2.75 or higher, students apply for admission to the B.S. chemistry program during the semester they complete SED 200. A minimum GPA of 2.75 in chemistry courses is required for admission to SED 405, SED 407, and SED 408.

**Transfer Admission Requirements:** Transfer students from two-year colleges should have earned credit for courses equivalent to CHE 111, CHE 112, CHE 201, CHE 202, CHE 203, CHE 204, CHE 301, MAT 161, MAT 162, MAT 263, PHY 111, and PHY 112 to avoid possible delays in completing the degree program. Transfer students must complete a minimum of 10 credit hours in chemistry at Buffalo State. Chemistry courses taken elsewhere may be substituted for similar courses at Buffalo State only if they have the same or equivalent prerequisites. Chemistry courses not meeting this criterion may be transferred as elective credit.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Chemistry .....42 cr**

CHE 111, CHE 112 Fundamentals of Chemistry I, II (4, 4)  
CHE 201, CHE 202 Organic Chemistry I, II (3, 3)  
CHE 203, CHE 204 Organic Chemistry Laboratories I, II (1, 1)  
CHE 301 Analytical Chemistry (4)  
CHE 305, CHE 306 Physical Chemistry I, II (3, 3)  
CHE 307, CHE 308 Physical Chemistry Laboratories I, II (1, 1)  
CHE 310 Literature of Chemistry (1)  
CHE 403 Instrumental Analysis (4)  
CHE 460 Inorganic Chemistry  
CHE 461 Inorganic Chemistry Laboratory (2)  
CHE 470 Biochemistry I  
CHE 471 Biochemical Techniques (1)

**Total Required Credit Hours in Professional Education .....24 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....41 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences\* (23 cr)**

GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111, PHY 112	University Physics I, II (4, 4)

Select two courses from the following:

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

Select one course from the following:

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

**C. Mathematics\* (12 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)

\*Some of these courses may be counted in the Intellectual Foundations requirements (above) or as electives.

**Total Required Credit Hours .....152–167 cr**

# CHEMISTRY EDUCATION (7–12; 5–6 EXTENSION)

(0637)

## Chemistry Department Bachelor of Science (HEGIS 1905.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 313 (716) 878-5204

The chemistry B.S. secondary education program leads to a New York State Initial Certificate for teaching both chemistry and general science in grades 5–12. Students seeking admission to the B.S. chemistry program should initially enroll in the B.A. chemistry program. After successfully completing at least two required chemistry courses at Buffalo State with a GPA in these courses of 2.75 or higher, students apply for admission to the B.S. chemistry program during the semester they complete SED 200. A minimum GPA of 2.75 in chemistry courses is required for admission to SED 405, SED 407, and SED 408.

**Transfer Admission Requirements:** Transfer students from two-year colleges should have earned credit for courses equivalent to CHE 111, CHE 112, CHE 201, CHE 202, CHE 203, CHE 204, CHE 301, MAT 161, MAT 162, MAT 263, PHY 111, and PHY 112 to avoid possible delays in completing the degree program. Transfer students must complete a minimum of 10 credit hours in chemistry at Buffalo State. Chemistry courses taken elsewhere may be substituted for similar courses at Buffalo State only if they have the same or equivalent prerequisites. Chemistry courses not meeting this criterion may be transferred as elective credit.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Chemistry .....42 cr**

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
CHE 201, CHE 202	Organic Chemistry I, II (3, 3)
CHE 203, CHE 204	Organic Chemistry Laboratories I, II (1, 1)
CHE 301	Analytical Chemistry (4)
CHE 305, CHE 306	Physical Chemistry I, II (3, 3)
CHE 307, CHE 308	Physical Chemistry Laboratories I, II (1, 1)
CHE 310	Literature of Chemistry (1)
CHE 403	Instrumental Analysis (4)
CHE 460	Inorganic Chemistry
CHE 461	Inorganic Chemistry Laboratory (2)
CHE 470	Biochemistry I
CHE 471	Biochemical Techniques (1)

**Total Required Credit Hours in Professional Education .....30 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SCI 323	Science as Inquiry
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in the Middle School
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....40 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences\* (23 cr)**

GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111, PHY 112	University Physics I, II (4, 4)

Select two courses from the following:

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

Select one course from the following:

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

**C. Mathematics\* (12 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)

\*Some of these courses may be counted in the Intellectual Foundations requirements (above) or as electives.

**Total Required Credit Hours .....155–173 cr**

# CHEMISTRY EDUCATION (7–12; POSTBACCALAUREATE)

(7025)

## Chemistry Department Postbaccalaureate Teacher Certification Program (HEGIS 1905.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 313 (716) 878-5204

The chemistry education (7–12) postbaccalaureate certification-only program leads to a New York State Initial Certificate for teaching both chemistry and general science in grades 7–12. The program is intended for persons with existing undergraduate bachelor's degrees in chemistry or a related field who are interested in obtaining certification to teach chemistry in secondary schools or general science in middle schools. A minimum GPA of 2.75 in chemistry courses is required for admission to SED 405, SED 407, and SED 408.

### Total Required Credit Hours in Chemistry .....42 cr

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
CHE 201, CHE 202	Organic Chemistry I, II (3, 3)
CHE 203, CHE 204	Organic Chemistry Laboratory I, II (1, 1)
CHE 301	Analytical Chemistry (4)
CHE 305, CHE 306	Physical Chemistry I, II (3, 3)
CHE 307, CHE 308	Physical Chemistry Laboratory I, II (1, 1)
CHE 310	Literature of Chemistry (1)
CHE 403	Instrumental Analysis (4)
CHE 460	Inorganic Chemistry
CHE 461	Inorganic Chemistry Laboratory (2)
CHE 470	Biochemistry I
CHE 471	Biochemical Techniques (1)

### Total Required Credit Hours in Professional Education .....24 cr

EDF 303	Educational Psychology
EXE 372	Foundations of Teaching Adolescents with Disabilities
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

### Total Required Credit Hours in Student Teaching .....12 cr

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

### Total Required Credit Hours in Other Fields for Certification .....35 cr

#### A. One Year (or Equivalent) of a Foreign Language (6 cr)

#### B. Cognate Sciences (23 cr)

GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111, PHY 112	University Physics I, II (4,4)
<i>Select two courses from the following:</i>	
BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

*Select one course from the following:*

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

#### C. Mathematics (6 cr)

MAT 161	Calculus I
MAT 162	Calculus II

### Total Required Credit Hours .....113 cr

# CHEMISTRY EDUCATION (7–12; 5–6 EXTENSION; POSTBACCALAUREATE)

(7028)

## Chemistry Department Postbaccalaureate Teacher Certification Program (HEGIS 1905.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 313 (716) 878-5204

The chemistry education (7–12) postbaccalaureate certification-only program with 5–6 extension leads to a New York State Initial Certificate for teaching both chemistry and general science in grades 5–12. The program is intended for persons with existing undergraduate bachelor's degrees in chemistry or a related field who are interested in obtaining certification to teach chemistry in secondary schools or general science in middle schools. A minimum GPA of 2.75 in chemistry courses is required for admission to SED 405, SED 407, and SED 408.

### Total Required Credit Hours in Chemistry .....42 cr

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
CHE 201, CHE 202	Organic Chemistry I, II (3, 3)
CHE 203, CHE 204	Organic Chemistry Laboratory I-II (1, 1)
CHE 301	Analytical Chemistry (4)
CHE 305, CHE 306	Physical Chemistry I, II (3, 3)
CHE 307, CHE 308	Physical Chemistry Laboratory I, II (1, 1)
CHE 310	Literature of Chemistry (1)
CHE 403	Instrumental Analysis (4)
CHE 460	Inorganic Chemistry
CHE 461	Inorganic Chemistry Laboratory (2)
CHE 470	Biochemistry I
CHE 471	Biochemical Techniques (1)

### Total Required Credit Hours in Professional Education .....30 cr

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SCI 323	Science as Inquiry
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in the Middle School
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

### Total Required Credit Hours in Student Teaching .....12 cr

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

### Total Required Credit Hours in Other Fields for Certification .....35 cr

#### A. One Year (or Equivalent) of a Foreign Language (6 cr)

#### B. Cognate Sciences (23 cr)

GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)
PHY 111, PHY 112	University Physics I, II (4, 4)
<i>Select two courses from the following:</i>	
BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

*Select one course from the following:*

GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology

#### C. Mathematics (6 cr)

MAT 161	Calculus I
MAT 162	Calculus II

### Total Required Credit Hours .....119 cr

## CHILDHOOD EDUCATION (GRADES 1–6)

## EARLY CHILDHOOD EDUCATION (BIRTH–GRADE 2)

## EARLY CHILDHOOD AND CHILDHOOD EDUCATION (BIRTH–GRADE 6; COMBINED PROGRAM)

(0520, 0521, 0522)

### Elementary Education and Reading Department Bachelor of Science (HEGIS 0802)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bacon Hall 302 (716) 878-5916

**Admission Requirements:** Formal admission to the childhood education and/or early childhood education program is a two-step process. Initial admission as a preliminary major (0201) is required following acceptance to the college. To be considered for formal admission to the childhood education, early childhood education, or a combined major, students must have successfully completed at least 45 credit hours, which must include ENG 101, ENG 102, and the mathematics basic skills competency requirement. They must also have passed two Intellectual Foundations courses with a minimum grade of C and the foundation courses for the selected major (EDF 201/EDU 201, EDF 202 and/or EDF 203, EDF 302, and EDU 211 or their equivalents) with a 2.5 average in those courses. Applicants to the full majors must earn a minimum cumulative GPA of 2.5, as well as a minimum 2.5 in these selected EDF/EDU courses.

An acceptable application to the department includes evidence that the above requirements have been met, a description of relevant experiences, and the score or proof of registration from the Liberal Arts and Sciences Test (LAST) of the New York State Teacher's Exam. Acceptance into the department enables students to proceed through the curricular courses of their selected major.

Childhood and early childhood education majors must complete one year of college-level study of one language other than English. Typically, two years of high school study of one language is equivalent to one year of college-level work. Childhood, early childhood and combined program education majors must also complete a distribution requirement of at least 6 credit hours in each of the following areas: mathematics, science, social studies, and English (not including ENG 101 and ENG 102).

Majors also complete a 30-credit-hour concentration chosen from: American studies, English, foreign language, mathematics, science, or social studies.

**Student Teaching:** The culminating courses for either the childhood, early childhood and combined education majors include two supervised student teaching experiences with children at different age levels in different types of schools. Eligibility and placement for each student teaching experience is determined by the department office in cooperation with public schools in the greater Buffalo area. It is expected that students in these majors will have at least one urban teaching experience. Prior written approval must be obtained from the chair of the department for students to enroll for any other college credit work during a student teaching assignment except for EXE 362 and/or EDU 375/EXE 375.

Graduates will be recommended for New York State Initial Certification to teach children from birth through grade 2 (early childhood) or children in grades 1-6 (childhood education) or birth through grade 6 (combined).

**Academic Concentrations:** Childhood, early childhood and combined education majors are required to complete an academic concentration in addition to the professional program requirements; the concentration seeks to broaden students' academic backgrounds. Descriptions of the approved concentrations can be found in the Elementary Education Department Handbook for Majors, available on the department Web site, [www.buffalostate.edu/elementaryeducation](http://www.buffalostate.edu/elementaryeducation), or from the department office.

**Transfer Students:** Most courses taken at an accredited institution and relevant to a Buffalo State degree program will be accepted, but the majority of courses applied to either the childhood or the early childhood education major must be courses completed at Buffalo State. Grades for transfer courses are generally used in computing the required GPA for admission to the premajor. Jointly registered program students are admitted directly into the childhood major (0520) only. Students planning to transfer as juniors into the childhood or early childhood programs and wishing to complete their programs in four semesters must seek advisement at the institution in which they initially enrolled to assure that the prerequisite course equivalencies are met.

**Extended Certification (HEGIS 0802):** Students can earn degrees and extended certification to teach junior high school grades (7-9) in the areas of English, social studies, mathematics, French, Spanish, and Italian. To do so, they will take additional methods and subject-matter courses pertaining to their specific area and complete student teaching in the selected academic subject in the early secondary grades. Students' advisers will be from the Elementary Education and Reading Department. However, students should consult with the coordinator of secondary education for their academic area of the extension and for their student teaching placement in the early secondary grades.

### Childhood Education Major (0520)

<b>Intellectual Foundations Requirements</b> .....	<b>39–66 cr</b>
<b>Credit Hours for Concentration</b> .....	<b>30 cr</b>
<b>Distribution Courses</b> .....	<b>24 cr</b>
<b>Total Required Credit Hours in Education</b> .....	<b>54 cr</b>

EDF 201/EDU 201	Introduction to Elementary Education
EDF 202	Child Development and Education
EDF 203	School and Society
EDF 302	Educational Psychology: Elementary Education
EDU 211	Introduction to Literacy
EDU 310W	Teaching Social Studies in the Elementary School
EDU 311W	The Teaching of Reading and other Language Arts in the Elementary School (6)
EDU 312	The Teaching of Mathematics and Science in the Elementary School (6)
EDU 375	Computer Applications in Education
EDU 400	Practicum in Teaching (Primary) (6)
EDU 401	Practicum in Teaching (Intermediate)(6)
EXE 362	Behavior and Classroom Management
EXE 371	Foundations of Teaching Children with Disabilities OR
EXE 100	Nature and Needs of Individuals with Special Needs
EDU 402	Seminar in Education

<b>Total Required Credit Hours</b> .....	<b>137–164 cr</b>
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*The total number of required hours will vary with course selection. Students should refer to the Childhood Education Handbook and an academic adviser for more detailed information.*

### Early Childhood Education Major (0521)

<b>Intellectual Foundations Requirements</b> .....	<b>39–66 cr</b>
<b>Credit Hours for Concentration</b> .....	<b>30 cr</b>
<b>Distribution Courses</b> .....	<b>24 cr</b>
<b>Total Required Credit Hours in Education</b> .....	<b>51–57 cr</b>

EDF 201/EDU 201	Introduction to Elementary Education
EDF 202	Child Development and Education
EDF 302	Educational Psychology: Elementary Education
EDU 211	Introduction to Literacy
OR	
EDU 426	Emergent Literacy
EDU 220	Programs for Infants and Toddlers
EDU 311W	The Teaching of Reading and other Language Arts in the Elementary School (6)
EDU 329	Integrated Thematic Instruction for Young Children (6)
EDU 375	Computer Applications in Education
EDU 400	Practicum in Teaching (Primary) (6)

EDU 402	Seminar in Education
EDU 410	Practicum in Teaching Early Childhood (6)
EDU 411/EXE 411	Parents, Schools, and Community
ENG 260	Children's Literature
EXE 362	(optional) Behavior and Classroom Management
EXE 371	Foundations of Teaching Children with Disabilities
OR	
EXE 100	Nature and Needs of Individuals with Special Needs

**Total Required Credit Hours** .....120–153 cr

*The total number of required hours will vary with course selection. Students should refer to the Childhood Education Handbook and an academic adviser for more detailed information.*

## Combined Childhood with Early Childhood Education Major (0522)

**Intellectual Foundations Requirements** .....39–66 cr

**Credit Hours for Concentration** .....30 cr

**Distribution Courses** .....24 cr

**Total Required Credit Hours in Education** .....69 cr

EDU 201/EDF 201	Introduction to Elementary Education
EDF 202	Child Development and Education
EDF 203	School and Society
EDF 302	Educational Psychology: Elementary Education
EDU 211	Introduction to Literacy
EDU 220	Programs for Infants and Toddlers
EDU 310W	Teaching and Social Studies in the Elementary School
EDU 311W	The Teaching of Reading and other Language Arts in the Elementary School (6)
EDU 312	The Teaching of Mathematics and Science in the Elementary School (6)
EDU 329	Integrated Thematic Instruction for Young Children (6)
EDU 375	Computer Applications in Education
EDU 411	Parents, Schools, and Community (taken with student teaching)
EDU 400	Practicum in Teaching (6)
EDU 402	Seminar to Accompany Student Teaching
EDU 410	Practicum in Teaching Early Childhood (6)
ENG 260	Children's Literature
EXE 362	Behavior and Classroom Management
EXE 371	Foundations of Teaching Children with Disabilities OR
EXE 100	Nature and Needs of Individuals with Special Needs

**Total Required Credit Hours** .....149–176 cr

*The total number of required hours will vary with course selection. Students should refer to the Childhood Education Handbook and an academic adviser for more detailed information.*

## COACHING AND PHYSICAL EDUCATION

(1008)

### Coaching and Physical Education Coaching Minor Program

Houston Gym 130A (716) 878-4519

The coaching minor educates and prepares non-physical education major students to coach interscholastic teams. Students may focus their interests in training in one or more sport specialties. Students who successfully complete the coaching minor also fulfill the New York State Coaching Certification requirements.

**Total Required Credit Hours in Coaching**.....18 cr

#### A. Required Courses (6 cr)

HPR 300	Athletics in Education
HPR 335	Care and Prevention of Athletic Injuries

#### B. Electives in Coaching (6 cr)

*Select two classes from the following:*

HPR 201	Techniques and Theories of Coaching Specialty Sports
HPR 202	Techniques and Theories of Coaching Soccer
HPR 203	Techniques and Theories of Coaching Football
HPR 205	Techniques and Theories of Coaching Track and Field
HPR 207	Techniques and Theories of Coaching Baseball/Softball
HPR 208	Techniques and Theories of Coaching Swimming
HPR 209	Techniques and Theories of Coaching Basketball
HPR 488	Internship in Coaching Interscholastic Sports

#### C. Electives Selected by Advisement (6 cr)

*Select two classes from the following:*

BUS 368	Sports Management and Marketing
ECO 220	Economics of Sport
HEW 320	Psychoactive Drugs and Health
HEW 425	Alcohol Problems
HPR 301	Kinesiology
HPR 319	Sociology of Sport
PSY 325	Social Behavior

## COMMUNICATION

### See Individual Majors

- Communication Studies
- Journalism
- Media Production
- Public Communication

## COMMUNICATION STUDIES

(0706)

### Communication Department Bachelor of Arts (HEGIS 0601)

Bishop Hall 210 (716) 878-6008

This major allows students much flexibility to tailor a program of theory-based and applied courses. It meets the needs of students preferring a generalist approach to communication, as well as for students seeking a more academic, less applied approach. Compare this major with journalism, media production, and public communication.

*Career Opportunities:* Students in communication studies prepare for careers in organizational communication, research, media analysis, public relations, lobbying, speechwriting, fundraising, and other fields that require a liberal arts education enhanced with communication expertise. The major also provides a base for graduate education in communication, law, management, and other professional areas.

The profile of a successful communication studies graduate is a person with strong writing and speaking proficiency, keen ethical insight, competence in analyzing and thinking critically, and skill in working effectively both independently and in teams.

*Admission Requirements:* Incoming freshman and transfer students can declare the major. A 2.6 in the major is required to register for certain upper-division courses (300- and 400-level).

See [www.buffalostate.edu/communication](http://www.buffalostate.edu/communication) for application forms and additional information, including a list of equivalent core courses at community colleges. Transfer students from two-year schools may apply only core courses toward this major for a maximum of 12 credits. Students generally require four semesters of study after completing communication core courses.

*Academic Standards:* Only grades of C or higher may be applied toward requirements for any communication degree; courses with lower grades must be repeated. Consistent with standards of the Accrediting Council for Education in Journalism and Mass Communication, the number of communication courses that students may take is capped, encouraging a broad-based liberal arts education. The department encourages students to take minors or second majors, and requires evidence of an academic concentration or area of expertise outside the Communication Department.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Communication.....42 cr**

**A. Communication Core (12 cr)**

- COM 100 Media Literacy
- OR
- SPC 103 Introduction to Human Communication
- SPC 205 Introduction to Oral Communication
- COM 210 Introduction to Writing for the Media
- COM 215 Introduction to Visual Communication

*Note: Students must have a minimum GPA of 2.6 in the major to register for certain upper-division courses (330- and 400-level).*

**B. Upper-Level Oral Communication Course (3 cr)**

- Select one course from the following:
- COM 306 Advanced Public Speaking
  - COM 307 Group Communication

**C. Upper-Level Written Communication Course (3 cr)**

- Select one course from the following:
- COM 303 Print News I: Reporting
  - COM 304 Writing and Producing
  - COM 308 Public Relations Writing
  - COM 325 Feature Writing
  - COM 390 Specialized Writing

**D. Upper-Level Visual Communication Course (3 cr)**

- Select one course from the following:
- COM 322 Communication Graphics
  - COM 329 Video Production
  - COM 336 Web Communication

**E. Communication Theory and Criticism (6 cr)**

- Select two courses from the following:
- COM 310 International Communication
  - COM 327 Great Writing and Reporting
  - COM 400 Communication Law
  - COM 401 Applied Communication Research
  - COM 407 Organizational Communication
  - COM 410 Communication History
  - SPC 309 Persuasion and Propaganda
  - SPC 311 Intercultural Communication
  - SPC 321 Rhetorical Criticism
  - SPC 333 Minorities and the Media
  - SPC 422 Media Criticism
  - SPC 424 Special Topics in Media Criticism

**F. Senior Seminar (3 cr)**

- COM 450 Communication and Society

**G. Communication Electives (12 cr)**

**H. 300- and 400-level courses in the department (selected by advisement)**

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

## COMPUTER INFORMATION SYSTEMS\*

(0825)

### Computer Information Systems Department Bachelor of Science (HEGIS 0702)

Chase Hall 202 (716) 878-5528

The computer information systems program prepares students for entry-level positions such as programmer, systems analyst, or network support in the computer field, and provides them with the technical knowledge and managerial skills necessary for a wide range of subsequent career paths. There is a growing demand in all sectors for individuals with this combination of capabilities. This program was developed with the cooperation of employers and information systems professionals and, unlike a computer science program, its emphasis is on commercial applications of computers rather than theory.

*Admission Requirements:* Transfer students from parallel A.S. or A.A.S. programs in computer information systems or computer science, and students from nonparallel programs who have completed a programming course equivalent to CIS 151, are accepted directly into the CIS major on a competitive basis providing they have a minimum cumulative GPA of 2.5 and a minimum GPA of 2.0 in major courses from the transfer institution. Freshmen and transfer students who do not meet these requirements for admission to the CIS major are accepted into the CIS premajor (0824) with no special requirements. Premajors are expected to take CIS 151 within three semesters of entering the premajor. Freshmen who have 6 credits of AP computer science can be accepted directly into the CIS major (0825). CIS premajors, undeclared students, and students in other majors at Buffalo State can be admitted to the CIS major when they have (a) completed CIS 151 (or an equivalent transfer course) with a minimum grade of C or achieved a minimum GPA of 2.0 in CIS major courses taken at Buffalo State, and (b) achieved a minimum cumulative GPA of 2.5 at Buffalo State.

*\*Evening study available.*

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Computer Information Systems .....42 cr**

**A. Required Courses (24 cr)**

- CIS 151 Computer-Based Information Processing I
- CIS 251 Computer-Based Information Processing II
- OR
- CIS 361 Fundamental Concepts in Object-Oriented Programming<sup>1</sup>
- CIS 315 Computer Organization
- CIS 370 Systems Analysis and Design
- CIS 380 Microcomputer Applications
- CIS 400 Visual Basic Programming for the Windows Environment
- CIS 410 Computer Operating Systems
- CIS 411 Database Systems

**B. Electives (18 cr)**

- CIS 311 Computer Models for Decision Making
- CIS 351 Structured Programming
- CIS 375 Programming for the Internet Environment
- CIS 391 Information Systems Project Management
- CIS 405 Comprehensive COBOL Programming
- CIS 413 Multimedia Web Programming
- CIS 420 Database Management Systems
- CIS 425 Object-Oriented Development
- CIS 435 Computer Seminar
- CIS 442 Advanced Systems Applications
- CIS 470 Data Communications
- CIS 471 Networking Laboratory I
- CIS 473 Enterprise Systems Design and Administration
- CIS 475 Programming for the Internet Environment II
- CIS 488 Internship
- CIS 495 Project
- CIS 499 Independent Study

In addition to the above courses, one non-CIS course may be taken as an elective with the department chair's permission.

**C. Additional Requirements**

A minimum of 21 credit hours must be completed in the CIS department. No more than 3 credit hours of CIS 488 may be used to fulfill the CIS elective requirement.

No more than 3 credit hours of CIS elective requirement can be satisfied by credit hours from CIS 495 and CIS 499.

<sup>1</sup> Required only for transfer students who have not taken a course in C programming.

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# CRIMINAL JUSTICE

(0771)

## Criminal Justice Department Bachelor of Science (HEGIS 2105)

Classroom Building C114 (716) 878-4517

Criminal Justice is a multidisciplinary academic program that examines the characteristics and operations of the criminal justice system and relationships between crime and crime control within the context of a democratic society. The program explores social, cultural, political, and organizational influences on criminal justice policies and operations from both theoretical and real-world perspectives.

**Admission Requirements:** Students are not accepted to the criminal justice major during their first semester at Buffalo State. However, students can be admitted as pre-majors to receive the benefit of departmental information and advisement. A minimum of 12 credit hours of coursework must be completed with a minimum cumulative GPA of 2.5. A student is then eligible to apply for admittance as a criminal justice major. Transfer students from community colleges are accepted based upon their academic average and according to their date of application.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Criminal Justice .....42 cr**

1. No transfer students may take lower division courses in the major without permission of the department chair.
2. ECO 305, PSY 306, MAT 311, SOC 301, or an approved statistics course is a prerequisite for CRJ 315.
3. No more than one CRJ 499 and/or CRJ 495 course may be used in the major and none may be used in the major if taken prior to successful completion of CRJ 315 without written consent of the department.
4. CRJ 495 and CRJ 499 require senior class standing and a minimum cumulative GPA of 3.0 at Buffalo State.

### A. Core Courses (12 cr)

CRJ 101	Introduction to Criminal Justice
CRJ 303	Crime, Ideology, and the Administration of Justice
CRJ 315	Research Methods in Criminal Justice
CRJ 470	Advanced Seminar in Criminal Justice

### B. Supporting Courses (12 cr)

Select four courses from the following:

CRJ 201	Criminal Law and Procedures
CRJ 202	The Police Process
CRJ 204	The Correctional Process
CRJ 301	Police Organization and Management
CRJ 302	Criminal Justice and the Community
CRJ 305	The Juvenile Justice System
CRJ 306	Probation, Parole, and Community Corrections
CRJ 307	Comparative Criminal Justice Systems
CRJ 308	Crime Prevention
CRJ 317	Constitutional Issues in Criminal Justice
CRJ 320	Criminal Courts

### C. Criminal Justice Electives (9 cr)

Select three courses from the following:

CRJ 402	Advanced Administration in Criminal Justice
CRJ 404	White-Collar and Corporate Crime
CRJ 406	Correctional Institutions and Programs
CRJ 408	Proseminar in Criminal Justice
CRJ 409	Advanced Issues in Law Enforcement
CRJ 410	Organized Crime
CRJ 420	Advanced Issues in Punishment and Corrections
CRJ 425	Race, Ethnicity, and the Administration of Justice <sup>1</sup>
CRJ 430	Gender and the Administration of Justice <sup>1</sup>
CRJ 488	Internship
CRJ 495	Special Project
CRJ 499	Independent Study

### D. Professional, Behavioral, and Social Science Electives<sup>2</sup> (9 cr)

Select three courses from the following:

ANT 307	Urban Anthropology
ANT 325	Skeletal Investigations: Forensic Anthropology
BIO 322	Human Heredity
BUS 312	Financial Accounting
BUS 313	Managerial Accounting
BUS 334	Business Law
BUS 360	Principles of Management

BUS 410	Accounting Analysis
CHE 312	Chemistry and Criminalistics
COM 306	Public Speaking
CRS 302	Creative Approaches to Problem Solving
ECO 305	Statistics for Economics
ECO 312	Urban Economics
ECO 350	Public Finance
ECO 360	Introduction to the Economic Analysis of Law
EDF 311/SOC 311	Family Violence
ENG 300	Writing for the Professions
GEG 425	Fundamentals of GIS
HIS 341	African Americans and Civil Rights
HIS 342	English Legal History
HIS 343	Introduction to American Legal History
LIB 300	Advanced Library Research Methods
MAT 311	Introductory Probability and Statistics
PHI 304	Philosophy of Law
PHI 323	Moral Issues
PSC 315	State and Local Government Politics
PSC 316	Urban Ethnic Politics
PSC 320	U.S. Constitution/Civil Liberties
PSC 350	Introduction to Legal Thought
PSC 360	Public Administration
PSC 364	American Public Policy
PSY 306	Statistics in Psychological Research
PSY 325	Social Behavior
PSY 367	Organizational Behavior
PSY 386	Psychology, Stress, Coping, and Health
PSY 411	Abnormal Psychology
SOC 301	Social Statistics
SOC 351	Sociology of Race and Ethnicity
SOC 353	Environment and Society
SOC 380	Sociology of Crime
SOC 382	Sociology of Law
SOC 390	Juvenile Delinquency
SPA 201	Intermediate Spanish I
SPA 202	Intermediate Spanish II
SWK 319	Dynamics of Poverty
SWK 320	Social Services Organizations
SWK 346	Child Abuse and Neglect

<sup>1</sup> One of these courses must be included as an elective.

<sup>2</sup> No more than 6 credit hours from one course area (i.e., two PSC courses, two PSY courses, or two SOC courses) allowed.

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# DESIGN (B.F.A.)

(0180)

## Design Department Bachelor of Fine Arts (HEGIS 1009)

National Association of Schools of Art and Design (NASAD) Accredited

Upton Hall 212 (716) 878-6032

The B.F.A. degree in design is a studio-intensive program of study. This degree offers students a specialized studio-oriented education in preparation for advanced or graduate studies or for beginning careers as professional designers or craft artists.

Students begin with foundation courses in two-dimensional design, three-dimensional design, color, art history, and design history. The major is completed with courses in one of the following concentrations: ceramic design, fiber design, furniture design, jewelry design, and communication design. Internship opportunities are available for all concentrations.

The remaining credit hours are completed in required Intellectual Foundations courses and in other chosen studio courses.

All students entering the ceramic, fiber, wood/furniture, or metal/jewelry design concentration enter as bachelor of science (0175) until a portfolio review for admission into the upper division. At that time, the student either applies for continuation in the B.S. degree program or applies for admission into the bachelor of fine arts program (0180). Students entering the communication design concentration enter as bachelor of fine arts (0180) until a portfolio review for admission into the upper division.

Commit-to-major portfolio reviews are conducted by faculty and generally take place during the sophomore year after the completion of selected foundations courses, as well as the first course in the intended concentration. To continue in the B.S. degree program, the student must maintain a 2.5 GPA in the major, and to continue in the B.F.A. degree program, a 3.0 GPA must be maintained in the major.

Transfer students are urged to submit their portfolios the semester before transfer in order to facilitate placement in departmental courses and/or for possible commit-to-major portfolio review. Please call the Design Department for additional information.

The Design Department reserves the right to retain students' work for official purposes, such as exhibitions, catalogs, teaching aids, or permanent collections. Students are expected to assume the costs of materials used in courses. Some studio courses may have an additional instructional charge for materials used in class.

The Design Department is in the process of curricular revision. Please refer to college Web listing or the department for updated information. For current information about the interior design program, contact the Interior Design Department.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Design ..... 67–78 cr**

**A. Foundation Courses**

**Ceramic Design, Fiber Design, Furniture Design, Jewelry Design Concentrations (37 cr)**

DES 101	Introduction to Design 2D I
DES 102	Introduction to Design 2D II
DES 103	Introduction to Design 3D I
DES 104	Introduction to Design 3D II
DES 105	Mechanical Perspective Drawing (Ceramic Design, Fiber Design, Furniture Design only)
DES 215	Introduction to Design History
DES 307	Color Theory
DES 312W	History of Craft: Industrial Revolution to the Present
DES 414	Senior Seminar/Exhibition (4)
DES 262	AutoCAD I (Furniture Design only)
FAR 101	Drawing I
FAR 250	Art History I (Ceramic Design, Fiber Design, Jewelry Design only)
FAR 251	Art History II
TEC 100	Rapid Visualization (Jewelry Design only)

**Communication Design Concentration (37 cr)**

DES 101	Introduction to Design 2D I
DES 102	Introduction to Design 2D II
DES 103	Introduction to Design 3D I
DES 215	Introduction to Design History
DES 277	Computer Graphics I
DES 307	Color Theory
DES 314W	History of Graphic Design: Industrial Revolution to the Present
DES 377	Computer Graphics II
DES 414	Senior Seminar/Exhibition (4)
FAR 101	Drawing I
FAR 250	Art History I
FAR 251	Art History II

**Interior Design Concentration (21 cr)**

DES 101	Introduction to Design 2DI
DES 215	Introduction to Design History
DES 312W	History of Craft: Industrial Revolution to the Present
FAR 101	Drawing I
FAR 250	Art History I
FAR 251	Art History II
IDE 151	Mechanical and Perspective Drawing

**B. Major Concentrations**

**Ceramic Design Concentration (30 cr)**

DES 220	Ceramics I
DES 320	Ceramics II
DES 321	Ceramics: Junior Studio (3,6)
DES 421	Ceramics: Senior Studio (6,6)
FAR 240	Introduction to Sculpture

**Communication Design Concentration (33 cr)**

DES 270	Visual Communication I
DES 271	Lettering and Typography I
DES 370	Visual Communication II
DES 374	Advertising Design
DES 380	Illustration
DES 473	Graphic Design
DES 475	Graphic Design Practicum (6)
DES 479	Multimedia Computer Design
DES 480	Illustration II
FAR 220	Introduction to Photography

**Fiber Design Concentration (30 cr)**

DES 242	Fibers I
DES 342	Fibers II
DES 344	Fibers: Junior Studio (3,6)
DES 444	Fibers: Senior Studio (3,6)
FTT 304	Print Rendering for Industry
FTT 412	CAD: Apparel and Textile Design for Industry
OR	
FTT 413	CAD: Weave Design for Industry

**Furniture Design Concentration (30 cr)**

DES 250	Wood Design I
DES 309	Architectural Drafting and Perspective Drawing
DES 350	Wood Design II
DES 351	Wood Design: Junior Studio (3,3)
OR	
ARC 490	Furniture Design (taken at the University at Buffalo)
DES 363	Furniture Theory and Application
DES 451	Wood Design: Senior Studio (3,3)
DES 488	Internship (6)

**Jewelry Design Concentration (30 cr)**

DES 230	Introduction to Jewelry Making
DES 330	Applied Jewelry Techniques
DES 336	Metalsmithing
DES 337	Metalsmithing: Junior Studio
OR	
DES 331	Jewelry: Junior Studio
DES 431	Jewelry: Senior Studio (3,6)

**Interior Design Concentration (54 cr)**

The B.F.A. in interior design program is currently under review. Please contact the department for most up-to-date information.

IDE 101	Introduction to Interior Design
IDE 102	Materials and Colors
IDE 152	Introduction to Color Rendering
IDE 153	Spatial Explorations and Model Building
IDE 201	Interior Design I
IDE 202	Construction Fundamentals I
IDE 251	Interior Design II
IDE 252	Construction Fundamentals II
IDE 253	Furniture Theory and Application
IDE 301	Interior Design III
IDE 303	Interior Detailing
IDE 351	Interior Design IV
IDE 352	AUTOCAD for Interior Designers
IDE 353	Interior Design Professional Practice and Specifications
IDE 401	Interior Design V
IDE 402	Lighting Design
IDE 488	Internship
FTT 206	Introduction to Textiles

**C. Studio Electives Selected by Advisement (0–12 cr)**

DES 220	Ceramics I
DES 230	Introduction to Jewelry Making
DES 235	Design in Metal
DES 242	Fibers I
DES 250	Wood Design I
DES 320	Ceramics II
DES 330	Applied Jewelry Techniques
DES 336	Metalsmithing
DES 342	Fibers II

Courses required for a specific major concentration cannot be used for these credits.

**All College Electives .....0–14 cr**

**Total Required Credit Hours .....120–144 cr**

# DESIGN (B.S.)

(0175)

## Design Department Bachelor of Science (HEGIS 1009)

National Association of Schools of Art and Design (NASAD) Accredited  
Upton Hall 212 (716) 878-6032

The B.S. degree is a studio degree with a strong academic component. This degree offers students a broadly grounded educational experience as a basis for beginning careers as professional designers or craft artists.

Students begin with foundation courses in two-dimensional design, three-dimensional design, and design history. The major is completed with courses in one of the following concentrations: ceramic design, fiber design, furniture design, jewelry design, theater design, and computer textile design for industry. Internship opportunities are available.

The remaining credit hours are completed in required Intellectual Foundations courses and in other academic subjects of the student's choosing. The academic component offers opportunities to gain a broader base of knowledge, as well as knowledge in other disciplines related to the major field of study.

All students entering the ceramic, fiber, wood/furniture, or metal/jewelry design concentration enter as bachelor of science (0175) until a portfolio review for admission into the upper division. At that time, the student either applies for continuation in the B.S. degree program or applies for admission into the bachelor of fine arts program (0180). Students entering the communication design concentration enter as bachelor of fine arts (0180) until a portfolio review for admission into the upper division. Commit-to-major portfolio reviews are conducted by faculty and generally take place during the sophomore year after the completion of selected foundations courses, as well as the first course in the intended concentration. To continue in the B.S. degree program, the student must maintain a 2.5 GPA in the major, and to continue in the B.F.A. degree program, must maintain a 3.0 GPA in the major.

Transfer students are urged to submit their portfolios the semester before they transfer to facilitate placement in departmental courses and/or for possible commit-to-major portfolio review. Please call the Design Department for additional information.

The Design Department reserves the right to retain students' work for official purposes, such as exhibitions, catalogs, teaching aids, or permanent collections for up to one year. Students are expected to assume the costs of materials used in courses. Some studio courses may have an additional charge for materials used in class.

The Design Department is in the process of curricular revision. Please refer to college Web listings or the department for updated information.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Design .....42 cr**

**A. Foundation Courses**

**Ceramic Design, Fiber Design, Furniture Design, Jewelry Design Concentrations (21 cr)**

- DES 101 Introduction to Design 2D I
- DES 102 Introduction to Design 2D II
- DES 103 Introduction to Design 3D I
- DES 104 Introduction to Design 3D II
- DES 105 Mechanical and Perspective Drawing (Furniture Design only)
- DES 307 Color Theory (Ceramic Design or Jewelry Design only)
- DES 105 OR DES 307 (Fiber Design only)
- DES 215 Introduction to Design History
- DES 312W History of Craft: Industrial Revolution to the Present

**Theater Design Concentration (21 cr)**

- DES 101 Introduction to Design 2D I
- DES 102 Introduction to Design 2D II
- DES 103 Introduction to Design 3D I
- DES 104 Introduction to Design 3D II
- DES 105 Mechanical Perspective Drawing
- THA 317 History of Theater: Ancient to Renaissance
- THA 318 History of Theater: Renaissance to Modern

**Computer Textile Design for Industry Concentration (21 cr)**

- DES 101 Introduction to Design 2D I
- DES 102 Introduction to Design 2D II
- DES 103 Introduction to Design 3D I
- DES 215 Introduction to Design History
- DES 242 Fibers I
- DES 307 Color Theory
- FTT 449 History of Textiles

**B. Major Concentrations**

**Ceramic Design Concentration (21 cr)**

- DES 220 Ceramics I
- DES 320 Ceramics II
- DES 321 Ceramics: Junior Studio (3,3)
- DES 421 Ceramics: Senior Studio (3,3)
- FAR 240 Introductory Sculpture

**Computer Textile Design for Industry Concentration**

- DES 242 Fibers I
- FTT 206 Introduction to Textiles
- OR
- FTT 303 Fashion Illustration
- FTT 304 Print Rendering for Industry
- FTT 412 CAD: Apparel and Textile Design for Industry
- FTT 413 CAD: Weave Design for Industry
- FTT 450 Issues in Apparel and Textile Industry
- FTT 495 Special Project
- OR
- FTT 488 Internship

**Fiber Design Concentration (21 cr)**

- DES 242 Fibers I
- DES 342 Fibers II
- DES 344 Fibers: Junior Studio (3,3)
- May replace 3 credits Junior studio with:
- FTT 412 CAD: Apparel and Textile Design for Industry
- OR
- FTT 413 CAD: Weave Design for Industry
- DES 444 Fibers: Senior Studio (3,3)

**Furniture Design Concentration (21 cr)**

- FTT 304 Print Rendering for Industry
- DES 250 Wood Design I
- DES 350 Wood Design II
- DES 351 Wood Design: Junior Studio (3,3)
- DES 363 Furniture Theory and Application
- DES 451 Wood Design: Senior Studio (3,3)

**Jewelry Design Concentration (21 cr)**

- DES 230 Introduction to Jewelry Making
- DES 330 Applied Jewelry Techniques
- DES 331 Jewelry: Junior Studio (3,3)
- DES 336 Metalsmithing
- DES 431 Jewelry: Senior Studio (3,3)

**Theater Design Concentration (21 cr)**

- DES 307 Color Theory
- DES 318/THA 337 Set Design I
- THA 234 Technical Theater
- THA 332 Period Styles for the Theater
- THA 335 Costume Design for the Theater
- THA 336 Lighting Techniques
- OR
- THA 333 Scene Painting
- THA 437 Set Design II
- OR
- THA 435 Advanced Costume Design for the Theater

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

**DIETETICS: COORDINATED PROGRAM**

(0410)

**Dietetics and Nutrition Department  
Bachelor of Science (HEGIS 1306)**

American Dietetic Association (ADA) Accredited  
Caudell Hall 207 (716) 878-5913

The coordinated program in dietetics (CPD) is currently granted continuing accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, (312) 899-5400.

The program began in 1971 and is the only such program in the SUNY system. The program combines theoretical learning with supervised practice; therefore, the program provides students with the academic and supervised practice requirements established by CADE for entry-level dietitians. Graduates of the program receive a verification statement signed by the CPD program director. Graduates are then eligible to apply to take the registration examination administered by the Commission on Dietetic Registration.

Passing the registration examination earns the credentials of registered dietitian (RD).

**Admission Requirements:** All students with sophomore, junior, or senior status meeting the eligibility requirements must apply for admission to the program during the designated period. Eligibility requirements are a minimum cumulative GPA of 2.75 and completion of the following prerequisite courses prior to beginning the program in the fall: BIO 308, BIO 309, CHE 111, CHE 112, CHE 321, CHE 322, NFS 100, NFS 102, NFS 110, NFS 200, NFS 230, NFS 302, NFS 315, PSY 101, and SOC 100. Selection is based on GPA, completion of prerequisite courses, biographical sketch, personal interviews, faculty/employer recommendations, and various other activities. Up to 16 students are accepted into this program each year.

Individuals interested in applying to the coordinated program must contact the department for application details. These are available by December 1 of each year; completed forms must be returned by the end of the first week of classes of the spring semester.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Nutrition and Food Science .....59 cr**

*A minimum of 12 credit hours in the major must be completed in the department.*

**A. Required Courses (32 cr)**

NFS 101	Introduction to Food Composition and Preparation
NFS 301	Food Science (4)
NFS 337	Human Nutrition
NFS 338	Nutrition and the Life Cycle
NFS 361W	Principles of Management in Food Service
NFS 440	Applied Nutrition, Part I (4)
NFS 442	Applied Nutrition, Part II (4)
NFS 443	Applied Nutrition, Part III (4)
NFS 462	Management of Food Service Operations (4)

**B. Courses for ADA Requirements (27 cr)**

To satisfy the clinical requirements of the ADA, students are required to take the following courses, which may be substituted for electives.

NFS 445	Nutritional Care A
NFS 446	Nutritional Care B
NFS 447	Nutritional Care C
NFS 448	Nutritional Care D
NFS 449	Nutritional Care E (Nutritional Care of Long-Term Patients)
NFS 450	Senior Practicum in Dietetics
NFS 451	Specialty Practice
NFS 471	Experiences in Health-Care Food Service Systems

**Required Courses Outside the Major**

The ADA requires completion of subjects outside nutrition to satisfy academic requirements. Courses meeting these requirements are identified below; they may be taken as electives or used in fulfilling the Intellectual Foundations requirements.

BIO 100	Principles of Biology
BIO 210	Bacteriology
BIO 308	Human Anatomy and Physiology
BIO 309	Laboratory in Human Anatomy and Physiology (1)
CHE 111	Fundamentals of Chemistry I (4)
CHE 112	Fundamentals of Chemistry II (4)
CHE 321	Principles of Organic Chemistry (4)
CHE 322	Biological Chemistry (4)
CIS 101	Computer Fundamentals
ECO 305	Statistics for Economics (or equivalent)
LIB 100	Introduction to Library Research Methods
PSY 101	Introduction to Psychology
SOC 100	Introduction to Sociology

**All College Electives ..... 0–22 cr**

**Total Required Credit Hours .....120–125 cr**

# DIETETICS: DIDACTIC PROGRAM

(0410-4482)

## Dietetics and Nutrition Department Bachelor of Science (HEGIS 1306)

American Dietetic Association (ADA) Initial Accreditation

Caudell Hall 207 (716) 878-5913

The didactic program in dietetics (DPD) is currently granted initial accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, (312) 899-5400.

The program provides students with the academic requirements established by the Commission on Accreditation for Dietetics Education (CADE) for entry-level dietitians. Graduates of the program receive a verification statement signed by the DPD program director. Graduates are then eligible to apply for a CADE-accredited supervised practice program via dietetic internships or pre-professional practice programs that are available throughout the country. After completing the supervised practice requirements, individuals may take the registration examination administered by the Commission on Dietetic Registration. Passing the registration examination earns the credentials of registered dietitian (RD). Career opportunities are available to dietitians in health facilities, food service organizations, government agencies, and consulting work. Some individuals use this program to prepare for graduate study in nutrition-related areas.

**Admission Requirements:** Students are admitted as freshmen or transfers. Transfer or undeclared students desiring a major in this program must have a minimum GPA of 2.75 in previous college credit. Undeclared students or those changing majors to dietetics must fill out a Change of Major form.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Nutrition and Food Science .....37 cr**

NFS 100	Introduction to Food Preparation
NFS 102	Introduction to Nutrition
NFS 110	Applied Principles of Management in Dietetics/Food Service
NFS 200	Applied Food Chemistry
NFS 210	Food Systems Management in Health Care
NFS 230	Introduction to Dietetics Profession (1)
NFS 300	Food Processing I (2)
NFS 302	Advanced Nutrition
NFS 310	Personnel Management in Dietetics/Food Services
NFS 315	Life Cycle/Community I
NFS 316	Life Cycle/Community II (2)
NFS 330	Seminar: Complementary and Alternative Nutrition (1)
NFS 401	Medical Nutrition Therapy I
NFS 402	Medical Nutrition Therapy II
NFS 403	Medical Nutrition Therapy III
NFS 405	Principles of Nutrition Education (2)
NFS 419	Introduction to Clinical Practice (2)
NFS 430	Introduction to Nutrition Research (2)
NFS 420	Dietetics Field Experience (2)
NFS 495	Senior Project (2)

**Total Required Credit Hours Outside the Department\* .....39 cr**

BIO 100	Principles of Biology
BIO 210	Bacteriology
BIO 308	Human Anatomy and Physiology
BIO 309	Human Anatomy and Physiology Lab (1)
CHE 111	Fundamentals of Chemistry I (4)
CHE 112	Fundamentals of Chemistry II (4)
CHE 321	Principles of Organic Chemistry (4)
CHE 322	Biological Chemistry (4)
CIS 101	Computer Fundamentals
ECO 305	Statistics for Economics
OR	
MAT 311	Introductory Probability and Statistics
LIB 100	Introduction to Library Research Methods (1)
PSY 101	Introduction to Psychology
SOC 100	Introduction to Sociology

*\*Some of these courses meet the Intellectual Foundations requirements.*

**All College Electives .....0–5 cr**

**Total Required Credit Hours .....120–142 cr**

## EARLY CHILDHOOD EDUCATION

See Childhood Education.

## EARTH SCIENCE EDUCATION (7–12)

(0633)

### Earth Sciences and Science Education Department Bachelor of Science (HEGIS 1917.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 271 (716) 878-6731

The earth science secondary education program leads to a New York State Initial Certificate for teaching both earth sciences and general sciences in grades 712. Students seeking admission to the B.S. earth science education program should initially enroll in the B.S. earth sciences program. After successfully completing at least two required geology (GES) courses at Buffalo State with a GPA in these courses of 3.0 or higher, students apply for admission to the B.S. earth science education program during the semester they complete SED 200. A minimum GPA of 3.0 in earth science courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements<sup>1</sup>.....39–66 cr**

**Total Required Credit Hours in Earth Sciences<sup>1</sup> .....40 cr**

GES 101	Introductory Geology
GES 102	Historical Geology
GES 103	Introductory Geology Laboratory (1)
GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology
GES 302	Invertebrate Paleontology (4)
GES 303	Mineralogy and Petrology (4)
GES 307	Geomorphology
GES 308	Structural Geology (4)
GES 405	Geology of North America
One astronomy elective.	
One upper-division earth science elective.	

**Total Required Credit Hours in Professional Education.....24 cr**

EDF 303	Educational Psychology
EXE 372	Foundations of Teaching Adolescents with Disabilities
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....28–30 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences (22–24 cr)**

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
PHY 111, PHY 112	University Physics I, II (4, 4)
OR	
PHY 107, PHY 108	General Physics I, II (3, 3)

Select two courses from the following:

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

**Total Required Credit Hours .....140–157 cr**

<sup>1</sup> May be applied to geology B.A. program or earth sciences B.S. program.

## EARTH SCIENCE EDUCATION (7–12; 5–6 EXTENSION)

(0633)

### Earth Sciences and Science Education Department Bachelor of Science (HEGIS 1917.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 271 (716) 878-6731

The secondary education earth science program leads to a New York State Initial Certificate for teaching both earth sciences and general sciences in grades 5–12. Students seeking admission to the B.S. earth science education program should initially enroll in the B.S. earth sciences program. After successfully completing at least two required geology (GES) courses at Buffalo State with a GPA in these courses of 3.0 or higher, students apply for admission to the B.S. earth science education program during the semester they complete SED 200. A minimum GPA of 3.0 in earth science courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements<sup>1</sup>.....39–66 cr**

**Total Required Credit Hours in Earth Sciences<sup>1</sup> .....40 cr**

GES 101	Introductory Geology
GES 102	Historical Geology
GES 103	Introductory Geology Laboratory (1)
GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology
GES 302	Invertebrate Paleontology (4)
GES 303	Mineralogy and Petrology (4)
GES 307	Geomorphology
GES 308	Structural Geology (4)
GES 405	Geology of North America
One astronomy elective.	
One upper-division earth science elective.	

**Total Required Credit Hours in Professional Education.....30 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in the Middle School
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education
SCI 323	Science as Inquiry

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....28–30 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences (22–24 cr)**

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
PHY 111, PHY 112	University Physics I, II (4, 4)
OR	
PHY 107, PHY 108	General Physics I, II (3, 3)
Select two courses from the following:	
BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

**Total Required Credit Hours .....146–163 cr**

<sup>1</sup> May be applied to geology B.A. program or earth sciences B.S. program.

# EARTH SCIENCE EDUCATION (7–12; POSTBACCALAUREATE)

(7037)

## Earth Sciences and Science Education Department Postbaccalaureate Teacher Certification Program (HEGIS 1917.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 271 (716) 878-6731

The secondary education earth science postbaccalaureate certification-only program leads to a New York State Initial Certificate for teaching both earth sciences and general sciences in grades 7–12. The program is intended for persons with existing undergraduate degrees in earth sciences or a related field who are interested in obtaining certification to teach earth sciences in secondary schools or general science in middle schools. A minimum GPA of 3.0 in earth science courses is required for admission to SED 405, SED 407, and SED 408.

### Total Required Credit Hours in Earth Sciences .....40 cr

GES 101	Introductory Geology
GES 102	Historical Geology
GES 103	Introductory Geology Laboratory (1)
GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology
GES 302	Invertebrate Paleontology (4)
GES 303	Mineralogy and Petrology (4)
GES 307	Geomorphology
GES 308	Structural Geology
GES 405	Geology of North America

One astronomy elective.  
One upper-division earth science elective.

### Total Required Credit Hours in Professional Education .....24 cr

EDF 303	Educational Psychology
EXE 372	Foundations of Teaching Adolescents with Disabilities
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

### Total Required Credit Hours in Student Teaching .....12 cr

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

### Total Required Credit Hours in Other Fields for Certification .....28–30cr

#### A. One Year (or Equivalent) of a Foreign Language (6 cr)

#### B. Cognate Sciences (22–24 cr)

CHE 111, CHE 112 Fundamentals of Chemistry I, II (4, 4)

PHY 111, PHY 112 University Physics I, II (4, 4)

OR

PHY 107, PHY 108 General Physics I, II (3, 3)

Select two courses from the following:

BIO 211 Introduction to Cell Biology and Genetics (4)

BIO 212 Introduction to Organismal Biology and Diversity (4)

BIO 213 Introduction to Ecology, Evolution, and Behavior (4)

### Total Required Credit Hours .....104–106 cr

# EARTH SCIENCE EDUCATION (7–12; 5–6 EXTENSION; POSTBACCALAUREATE)

(7040)

## Earth Sciences and Science Education Department Postbaccalaureate Teacher Certification Program (HEGIS 1917.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 271 (716) 878-6731

The secondary education earth science postbaccalaureate certification-only program leads to a New York State Initial Certificate for teaching both earth sciences and general sciences in grades 5–12. The program is intended for persons with existing undergraduate degrees in earth sciences or a related field who are interested in obtaining certification to teach earth sciences in secondary schools or general science in middle schools. A minimum GPA of 3.0 in earth science courses is required for admission to SED 405, SED 407, and SED 408.

### Total Required Credit Hours in Earth Sciences .....40 cr

GES 101	Introductory Geology
GES 102	Historical Geology
GES 103	Introductory Geology Laboratory (1)
GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 241	Meteorology
GES 302	Invertebrate Paleontology (4)
GES 303	Mineralogy and Petrology (4)
GES 307	Geomorphology
GES 308	Structural Geology (4)
GES 405	Geology of North America

One astronomy elective.  
One upper-division earth science elective.

### Total Required Credit Hours in Professional Education .....30 cr

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy (or equivalent)
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in the Middle School
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education
SCI 323	Science as Inquiry

### Total Required Credit Hours in Student Teaching .....12 cr

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

### Total Required Credit Hours in Other Fields for Certification .....28–30 cr

#### A. One Year (or Equivalent) of a Foreign Language (6 cr)

#### B. Cognate Sciences (22–24 cr)

CHE 111, CHE 112 Fundamentals of Chemistry I, II (4, 4)

PHY 111, PHY 112 University Physics I, II (4, 4)

OR

PHY 107, PHY 108 General Physics I, II (3, 3)

Select two courses from the following:

BIO 211 Introduction to Cell Biology and Genetics (4)

BIO 212 Introduction to Organismal Biology and Diversity (4)

BIO 213 Introduction to Ecology, Evolution, and Behavior (4)

### Total Required Credit Hours .....110–112 cr

# EARTH SCIENCES

(0737)

## Earth Sciences and Science Education Department Bachelor of Science (HEGIS 1917)

Science Building 271 (716) 878-6731

The earth sciences program offers students the opportunity to develop a broad understanding of the earth as a dynamic, interacting system of land, sea, atmosphere, and solar system. The student, in consultation with a faculty adviser, will select one of the three available concentrations upon the completion of 9 credit hours in the major. The concentrations, leading in somewhat different career directions, are environmental earth sciences, earth sciences (advised for secondary education earth science candidates), and geology (earth sciences majors may not minor in astronomy).

Coursework in chemistry, calculus, and physics is strongly recommended, particularly for students contemplating graduate study or secondary earth science teacher certification. The recommended courses, or higher, are CHE 111, CHE 112, MAT 126, MAT 127, PHY 111, and PHY 112. Each student should choose the appropriate courses by advisement, beginning with entry into the major.

Student majors are strongly encouraged to pursue independent research under faculty supervision or an internship experience. Students may find additional information about undergraduate research possibilities from faculty and by visiting the Undergraduate Research Office ([www.buffalostate.edu/undergraduate\\_research](http://www.buffalostate.edu/undergraduate_research)).

A departmental honors program also is available. Students should contact the department for additional information.

**Intellectual Foundations Requirements** .....39–66 cr

**Total Required Credit Hours in Earth Sciences** .....39–42 cr

### A. Required Courses (24 cr)

GES 101	Introductory Geology
GES 102	Historical Geology
GES 103	Introductory Geology Laboratory (1)
GES 111	General Oceanography
GES 131	Introductory Astronomy
GES 303	Mineralogy and Petrology (4)
GES 307	Geomorphology
GES 308	Structural Geology (4)

### B. Concentrations (18 cr)

#### Environmental Earth Sciences Concentration (18 cr)

GES 300	Sedimentology
GES 301	Stratigraphy
GES 452	Hydrogeology
GES 460	Applied Environmental Methods

Select two courses from the following:

GES 350	Environmental Geochemistry
GEG 365	Soil Science and Management
GES 404	Field Geology
GES 409	Fluvial Geomorphology
GES 444	Global Systems Geomorphology

Students should consider completing the environmental sciences minor.  
CHE 111 and CHE 112 are strongly advised.

#### Earth Science Concentration (16 cr)

GES 241	Meteorology
GES 302	Invertebrate Paleontology (4)
GES 405	Geology of North America

One astronomy elective.  
One upper-division GES elective.

Students who wish to obtain earth science and general science certifications (7–12) for junior/senior high school teaching must also complete other professional requirements. See the earth science education (7–12) program in this catalog.

#### Geology Concentration (16 cr)

GES 300	Sedimentology
GES 301	Stratigraphy
GES 302	Invertebrate Paleontology (4)
GES 404	Field Geology

Select one course from the following:

GES 403	Glacial Geology
GES 405	Geology of North America

Students contemplating graduate study are advised that CHE 111, CHE 112, MAT 126, MAT 127, PHY 111, and PHY 112 are essential to a modern geology (or related) program. These sequences should begin before the graduate school decision is made; failure to take these limits students' future options.

**All College Electives** .....12–39 cr

**Total Required Credit Hours** .....120 cr

# ECONOMICS (B.A.)

(0704)

## Economics and Finance Department Bachelor of Arts (HEGIS 2204)

Classroom Building B207 (716) 878-4606

The B.A. degree program in economics provides a solid foundation in the skills and analytical techniques required to understand changes in the economic environment and to be able to formulate decisions as consumers, resource owners, and managerial personnel in business, government, and nonprofit organizations. This program is also designed to prepare students to participate, as career professionals, citizens and as scholars, in the global economy by providing a strong focus on the international aspects of economics. Students who choose this program are encouraged to complement the international focus of the program by taking additional appropriate courses in history, political science, and geography. In addition to providing preparation for a variety of entry-level management positions in business and government, the program also offers excellent preparation for graduate work in international business, economics, and law.

**Admission Requirements:** Transfer or uncommitted students must have a minimum GPA of 2.0 in all previous college credits.

**Transfer Students:** Most courses taken at an accredited institution and relevant to the B.A. degree program will be accepted, but the majority of courses applied to the major must be courses completed at Buffalo State. In most cases, grades for transfer courses will be used in computing the required minimum GPA for admission into the program.

**Honors Option for the B.A. Program:** An honors designation is available for students who have established high standards of achievement and demonstrated a capacity for independent work. Students should contact the department for information on admission and requirements.

**Intellectual Foundations Requirements** .....39–66 cr

**Total Required Credit Hours in Economics** .....36 cr

### A. Required Courses (24 cr)

ECO 201	Principles of Macroeconomics
ECO 202	Principles of Microeconomics
ECO 305	Statistics for Economics
ECO 307	Intermediate Microeconomics
ECO 308	Intermediate Macroeconomics
ECO 405	History of Economic Thought
ECO 490	Senior Seminar

### B. Select at Least One Course from the Following:

ECO 401	International Economics
ECO 403	Comparative Economic Systems
ECO 404	Economic Development
FIN 400	International Finance

### C. Economics Electives Selected by Advisement (12 cr)

(Only 3 credit hours of ECO 488, ECO 495, or ECO 499 may be included.)

**All College Electives** .....18–45 cr

It is strongly recommended that students who plan to pursue a Ph.D. in economics also complete, as a minimum, MAT 161, MAT 162, and MAT 202.

**Total Required Credit Hours** .....120 cr

# ECONOMICS (B.S.)

(0702)

## Economics and Finance Department Bachelor of Science (HEGIS 2204)

Classroom Building B207 (716) 878-4606

The B.S. degree program in economics provides a solid foundation in the basic skills and analytical techniques that are necessary to understand changes in the broad economic environment and be able to formulate decisions as consumers, resource owners, and managerial personnel in business, government, and nonprofit organizations. Students choose a concentration in either applied economics or financial economics and complete additional required courses and specialized electives. Both concentrations prepare students for entry-level management positions in business, government, and nonprofit organizations, and provide excellent preparation for graduate work in business administration, economics, and law.

**Admission Requirements:** Transfer or uncommitted students must have a minimum GPA of 2.0 in previous college credits.

**Transfer Students:** Most courses taken at an accredited institution and relevant to the B.S. degree program will be accepted, but the majority of courses applied to the major must be courses completed at Buffalo State. In most cases, grades for transfer courses will be used in computing the required GPA for admission into the program.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Economics .....39–45 cr**

### A. Required Courses (27 cr)

ECO 201	Principles of Macroeconomics
ECO 202	Principles of Microeconomics
ECO 305	Statistics for Economics
ECO 307	Intermediate Microeconomics
ECO 308	Intermediate Macroeconomics
ECO 424	Econometrics
ECO 490	Senior Seminar
BUS 312	Financial Accounting
MAT 126	Calculus
OR	
MAT 161	Calculus I

In addition, students are required to select one of two concentrations.

### B. Concentrations

Only 3 credit hours of ECO 488, ECO 495, or ECO 499 may be included.

#### Applied Economics Concentration (12 cr)

Required Courses (6 cr)

ECO 320	Managerial Economics
OR	
ECO 325	Industrial Organization
ECO 405	History of Economic Thought

*At least 6 credit hours must be selected from the following:*

ECO 300	Labor Economics
ECO 301	Economics of Labor Relations
ECO 302	Women in the Economy
ECO 304	Money and Banking
ECO 312	Urban Economics
ECO 350	Public Finance
ECO 355	The Economics of Energy and the Environment
ECO 360	Introduction to the Economic Analysis of Law
ECO 401	International Economics
ECO 403	Comparative Economic Systems
ECO 404	Economic Development
ECO 411	Regional Economic Analysis
ECO 488	Internship
ECO 495	Project
ECO 499	Independent Study
FIN 400	International Finance

#### Financial Economics Concentration (18 cr)

Required Courses (9 cr)

BUS 313	Managerial Accounting
ECO 304	Money and Banking
FIN 314	Corporation Finance

*At least 9 credit hours must be selected from the following:*

ECO 488	Internship
ECO 495	Project
ECO 499	Independent Study
FIN 345	Estate Planning
FIN 370	Technical Analysis of Financial Markets
FIN 400	International Finance
FIN 414	Investment Management
FIN 415	Cases in Corporate Finance
FIN 416	Advanced Corporation Finance
FIN 417	Derivative Securities
FIN 418	Bond Markets

It is strongly recommended that students who plan to pursue a Ph.D. in economics also complete, as a minimum, MAT 161, MAT 162, and MAT 202.

**All College Electives ..... 9–42 cr**

**Total Required Credit Hours .....120 cr**

# ELECTRICAL ENGINEERING TECHNOLOGY (ELECTRONICS)\*

(0831)

## Technology Department Bachelor of Science (HEGIS 0925)

Technology Accreditation Commission/  
Accreditation Board for Engineering and Technology  
(TAC/ABET) Accredited\*\*  
Upton Hall 315 (716) 878-6017

Electrical engineering technologists who specialize in electronics are employed in the design, testing, fabrication, and application of solid-state circuits and systems (both digital and analog), communication systems, and control systems. This includes consumer products, as well as industrial electronics and computer equipment.

*\*Evening study available.*

**Intellectual Foundations Requirements<sup>1</sup> .....39–66 cr**

**Major Requirements .....48 cr**

ENT 300	Analytical Methods for Technologists
ENT 301	Mechanics I
ENT 302	Mechanics II
ENT 331	Electrical Circuits and Devices I
ENT 341	Electronics
ENT 342	Networks
ENT 351	Analog Electronics
ENT 352	Digital Electronics
ENT 371	Electric Machines
ENT 431	Digital Systems I
ENT 432	Microprocessors
ENT 441	Communication Transmission Technology
ENT 442	RF and Microwave Communications
ENT 461	Control Systems I
ENT 462	Control Systems II
ENT 465	Electrical Design

**Electives<sup>1</sup> .....16–28 cr**

<sup>1</sup>The following accreditation requirements can be included in the Intellectual Foundations requirements and electives:

CHE 101 or CHE 111
CHE 102 or CHE 112
CIS 151
MAT 110 or MAT 124
MAT 126 or MAT 161
MAT 127 or MAT 162
PHY 107 or PHY 111
PHY 108 or PHY 112
SPC 205

**Total Required Credit Hours .....124 cr**

\*\*Technology Accreditation Commission/Accreditation Board for Engineering and Technology Inc. (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202, (410) 347-7700

# ELECTRICAL ENGINEERING TECHNOLOGY (POWER AND MACHINES)\*

(0830)

## Technology Department Bachelor of Science (HEGIS 0925)

Technology Accreditation Commission/Accreditation Board for Engineering and Technology (TAC/ABET) Accredited\*\*  
Upton Hall 315 (716) 878-6017

Electrical engineering technologists who specialize in power and machines are employed in the design, testing, manufacture and application of electrical machinery, electrical power systems, and control systems. They are diversified individuals who can fill the many industrial positions that require a knowledge of both mechanical and electrical technology.

\*Evening study available.

**Intellectual Foundations Requirements<sup>1</sup>.....39–66 cr**

**Major Requirements.....48 cr**

ENT 300	Analytical Methods for Technologists
ENT 301	Mechanics I
ENT 302	Mechanics II
ENT 331	Electrical Circuits and Devices I
ENT 341	Electronics
ENT 342	Networks
ENT 371	Electric Machines
ENT 431	Digital Systems I
ENT 432	Microprocessors
ENT 445	Power Electronics
ENT 461	Control Systems I
ENT 462	Control Systems II
ENT 465	Electrical Design
ENT 471	Power Systems I
ENT 472	Power Systems II
TEC 101	Technical Drawing

**Electives<sup>1</sup> .....6–33 cr**

<sup>1</sup> The following accreditation requirements can be included in the Intellectual Foundations requirements and electives:

CHE 101 or CHE 111
CHE 102 or CHE 112
CIS 151
MAT 110 or MAT 124
MAT 126 or MAT 161
MAT 127 or MAT 162
PHY 107 or PHY 111
PHY 108 or PHY 112
SPC 205

**Total Required Credit Hours .....124 cr**

\*\*Technology Accreditation Commission/Accreditation Board for Engineering and Technology Inc. (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202. (410) 347-7700(TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202. (410) 347-7700.

# ENGLISH

(0705)

## English Department Bachelor of Arts (HEGIS 1501)

Ketchum Hall 326 (716) 878-5416

The English B.A. program offers three areas of service: a liberal arts English major, the enhancement of writing skills, and electives to satisfy Intellectual Foundations requirements.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credits in English.....42 cr**  
(27 credits must be upper-division)

### A. Required Courses (15 cr)

- ENG 190 Introduction to Literary Analysis and Interpretation  
(Must be taken immediately after completion of freshman composition requirement or within first year of transfer to English Department.)
- Major Figure  
Select one course from the following:  
ENG 313 Milton  
ENG 314 Chaucer  
ENG 315 Shakespeare I  
ENG 316 Shakespeare II
- ENG 370 Foundations of Language
- ENG 390 Literary Criticism and Theory
- ENG 490W Senior Seminar

### B. Area Courses in English (27 cr)

- Three courses in British literature, at least two before 1900 and at least one before 1800.  
Pre-1800 options: ENG 210, ENG 313, ENG 314, ENG 315, ENG 316, ENG 415, ENG 416, ENG 417.  
Pre-1900 options: ENG 211, ENG 418, ENG 419, ENG 420, OR ENG 421. Other options: ENG 252, ENG 455.  
If students use ENG 313, ENG 314, ENG 315, or ENG 316 to satisfy their Major Figure requirement (see above), they cannot use it to satisfy their pre-1800 requirement.
- Three courses in American literature, at least one prior to 1900, and ONLY one can be in a minority area.  
Pre-1900 options: ENG 220, ENG 441, ENG 442, ENG 445. Other options: ENG 221, ENG 443, ENG 444.  
Minority area options: ENG 240, ENG 241, ENG 353, ENG 354.
- Two courses in world literature, one of which must be non-Western. Non-Western options: ENG 230, ENG 345, ENG 346 Other options: ENG 130, ENG 131, ENG 310, ENG 330, ENG 331, ENG 332, ENG 350, ENG 351. The following courses from the Modern and Classical Languages Department and the Humanities Program CAN apply to these areas with approval of English Department chair. Non-Western option: FRE 341. Other options: FRE 331, GER 337, GER 338, ITA 336, MCL 337, MCL 338, HUM 320, HUM 328.
- One course in minority literature.  
Options: ENG 231, ENG 240, ENG 241, ENG 353, ENG 354. (If any of these courses are taken to fulfill an American literature requirement, they cannot count for the minority literature requirement.)

Note: Other courses, such as topics courses, when appropriate, can also fulfill major requirements. Discuss questions with adviser.

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# ENGLISH EDUCATION (7-12)

(0610)

## English Department Bachelor of Science (HEGIS 1501.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Ketchum Hall 326 (716) 878-5416

The English B.S. degree program in secondary education leads to a New York State Initial Certificate for teaching English in grades 7–12.

Freshmen and transfers with fewer than 30 credits or a GPA below 2.5 are admitted into the English major and may switch to English Education upon meeting departmental requirements. Transfers with more than 30 credits and a GPA of 2.5 or above can be admitted directly into English Education.

# ENGLISH EDUCATION (7–12; POSTBACCALAUREATE)

(7043)

## English Department Postbaccalaureate Teacher Certification Program (HEGIS 1501.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Ketchum Hall 326 (716) 878-5416

The English secondary education postbaccalaureate certification-only program prepares students to create productive learning environments, plan and execute effective instructional activities in the English language arts, monitor and assess student learning, address the special developmental needs of students at the middle-school level and in high school, and work effectively with learners having diverse backgrounds or special needs. It takes approximately three to four semesters to complete certification requirements at Buffalo State. Students in this program take both undergraduate- and graduate-level courses and will be billed appropriately for each type. Graduate credits can be applied to a master's degree at Buffalo State. For financial aid purposes, students will be considered fifth-year undergraduates eligible for undergraduate loans. To apply for the program, students should request an application from the Graduate Studies and Research Office, Cleveland Hall 204.

**Admission Requirements:** (1) Bachelor's degree in English with courses in Shakespeare, ethnic American literature, young adult literature, and world literature, or completion of an undergraduate degree in a related discipline with 36 credit hours of coursework in English, including courses in Shakespeare, ethnic American literature, young adult literature, and world literature. Applicants who do not meet these admission requirements can take courses at Buffalo State to become eligible to apply. (2) The study of a language other than English. Applicants must have completed two years of high school study in one foreign language or two semesters in college. Students not meeting these requirements must complete two semesters of a language other than English at Buffalo State. (Students must provide the department with copies of their high school transcripts to demonstrate the high school foreign-language requirement.) (3) Coursework in exceptional education and education technology (3 credits each) or demonstrated expertise in these areas. Students not meeting these requirements can take undergraduate or graduate courses at Buffalo State. (4) Minimum cumulative GPA of 2.75 in baccalaureate studies, as well as 2.75 GPA in the English major or English coursework.

**Additional Requirements:** To receive provisional teaching certification, students must pass the first two tests of the New York State Teacher Certification Exams, the Liberal Arts and Sciences Test, and the Assessment of Teaching Skills-Written. Registration bulletins for the exams can be obtained from the Teacher Certification Office, Caudell Hall, Room 101. Students can obtain certifications in identifying child abuse by attending one of several workshops offered at Buffalo State.

### Total Required Credit Hours in English and Professional Education ....24 cr

#### A. Undergraduate-level Coursework (15 cr)

- EDF 403 Historical and Philosophical Forces Influencing Secondary Education
- EDU 416 Teaching Literacy in Middle and Secondary Schools
- ENG 311 Teaching Language
- ENG 463 Methods, Materials, and Professional Development for Teachers of English (6)

#### B. Graduate-level Coursework (9 cr)

- EDF 500 Multicultural Education
- EDF 503 Educational Psychology  
OR  
EDF 529 Adolescent Psychology
- EDF 692 The Teaching of Writing

### Total Required Credit Hours in Student Teaching\* .....12 cr

ENG 464/ENG 465 Supervised Student Teaching

\*Students certified in another secondary area are exempt from this requirement.

### Total Required Credit Hours .....36 cr

**Admission requirements:** 30 credits of college coursework; mandatory meeting with the English education coordinator; a 2.5 GPA and/or a strong indication of the professional disposition required to be a successful teacher. Evidence of professional dispositions can be indicated in a variety of ways: faculty recommendations, completed professional disposition forms, interview with English Education Committee, and/or evidence of relevant extracurricular activities.

### Intellectual Foundations Requirements .....39–66 cr

### Total Required Credits in English (Literature and Language) .....39 cr (21 credits must be upper division)

#### A. Required Courses (15 credits)

- ENG 190 Introduction to Literary Analysis and Interpretation (Must be taken immediately after completion of freshman composition requirement or within first year of transfer to English Department.)
- ENG 317 Shakespeare for Future Teachers  
(Students can also take ENG 315 or ENG 316.)
- ENG 370 Foundations of Language
- ENG 354 Ethnic American Literature
- ENG 461 Young Adult Literature

#### B. Area Courses in Literature (24 credits)

- Three courses in British Literature, at least two before 1900 and at least one before 1800  
Pre-1800 options: ENG 210, ENG 314, ENG 313, ENG 415, ENG 416, ENG417  
Pre-1900 options: ENG 211, ENG 418, ENG 419, ENG 420 OR ENG 421  
Other options: ENG 252, ENG 455
- Three courses in American literature, at least one prior to 1900, and ONLY one can be in a minority area.  
Pre-1900 options: ENG 220, ENG 441, ENG 442, ENG 445  
Other options: ENG 221, ENG 443, ENG 444  
Minority area options: ENG 240, ENG 241, ENG 353
- One course in World Literature.  
Options: ENG 130, ENG 131, ENG 230, ENG 310, ENG 330, ENG 331, ENG 332, ENG 345, ENG 346, ENG 350, ENG 351

The following courses from the Modern and Classical Languages Department and the Humanities Program can apply to these areas with approval of the English Department chair: FRE 331, FRE 341, GER 337, GER 338, ITA 336, MCL 337, MCL 338, HUM 320, HUM 328

4. One elective: Students may choose from any of the literature courses listed in the categories above, and from the following:

- |          |                               |
|----------|-------------------------------|
| ENG 151  | Introduction to Poetry        |
| ENG 231  | Women in Literature           |
| ENG 390  | Literary Criticism and Theory |
| ENG 301W | Advanced Composition          |
| ENG 305W | Creative Writing: Narrative   |
| ENG 306W | Creative Writing: Poetry      |
| ENG 356  | Futuristic Fiction            |
- Or an appropriate 490 or 499 section.

Note: Other courses, such as topics courses, when appropriate, can fulfill major requirements. Discuss questions with adviser.

### Total Required Credits in Professional Education ..... 42 cr

#### A. General Education Courses (15 cr)

- |         |   |
|---------|---|
| EXE 100 | Nature and Needs of Individuals with Special Needs                  |
| EDU 375 | Integration of Technology in Education                              |
| EDU 416 | Teaching Literacy in Middle and Secondary Schools                   |
| EDF 303 | Educational Psychology for Teachers of Adolescents                  |
| EDF 403 | Historical and Philosophical Forces Influencing Secondary Education |

#### B. English Education (27 cr)

- |         |   |
|---------|---|
| ENG 200 | Field Experience in Secondary English Education                             |
| ENG 309 | Teaching and Evaluating Writing   |
| ENG 311 | Teaching Language   |
| ENG 463 | Methods, Materials and Professional Development for Teachers of English (6) |
| ENG 464 | Student Teaching in Middle/Junior High School English (6) <sup>1</sup>      |
| ENG 465 | Student Teaching in Senior High School English (6) <sup>2</sup>             |

Students are encouraged to utilize their exceptional education course (EXE 100) to fulfill Intellectual Foundations/CORE requirements. Doing so will offer more flexibility to their program.

<sup>1</sup>ENG 200, EDF 303, EDU 416, EDF 403, ENG 309, ENG 463 are prerequisites for student teaching ENG 464 and ENG 465).

<sup>2</sup>Students must have 2.0 overall GPA, 2.75 GPA in English courses and in education courses to student teach.

### All College Electives .....0 cr

### Total Required Credit Hours .....120–141 cr

# EXCEPTIONAL EDUCATION

(0299)

## Dual Certification Program: Teachers of Childhood Special Education and Childhood Education Exceptional Education Department Bachelor of Science in Education (HEGIS 0808)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Ketchum Hall 202 (716) 878-5317

Undergraduate majors in exceptional education study within a cross-categorical program focusing on the education of students who have a variety of regular and special instructional needs. Included are students in disability groups traditionally associated with mental retardation, physical/neurological disabilities, and learning and behavioral problems.

Graduates of the program typically obtain positions as teachers in resource rooms, self-contained classrooms, special schools, and residential facilities, or as consultant teachers in general education settings. Students who pursue initial certification in both childhood special education and childhood education are particularly well qualified to work with students with special needs in integrated education settings. Students in exceptional education complete coursework in elementary education to be recommended for initial certification as a teacher of childhood education (grades 1–6) in New York State, as well as being recommended for initial certification as a teacher of childhood special education in New York State.

Candidates for initial certification in special education must achieve passing scores on the Liberal Arts and Sciences Test (LAST), the Assessment of Teaching Skills-Written (ATS-W), Multi-Subject Content Specialty Test, and the Students with Disabilities Content Specialty Test of the New York State Teacher Certification Exam (NYSTCE).

**Admission Requirements:** Students must provide evidence of potential for success to be admitted into the exceptional education program. Entering freshmen who express an interest in exceptional education on their applications to Buffalo State will be assigned to premajor status (0301) and will be accepted into exceptional education (0299) after (1) successfully completing 12 credit hours at Buffalo State, (2) successfully completing ENG 101 and ENG 102, (3) earning at least two minimum grades of C in two Intellectual Foundations courses, (4) completing the mathematics basic skills competency requirement, and (5) earning a minimum cumulative GPA of 2.6.

Transfer students from other colleges who are not directly accepted into the exceptional education program by the Admissions Office will be accepted as exceptional education premajors (0301). They will be accepted as majors (0299) after (1) successfully completing 12 credit hours at Buffalo State; (2) waiving/successfully completing ENG 101 and 102; (3) earning at least two minimum grades of C in two cognate foundations courses, unless waived by an associate of arts or associate of science degree; (4) passing the mathematics basic skills competency requirement, unless waived; and (5) earning a minimum cumulative GPA of 2.6.

Buffalo State students who are undeclared or wishing to change to an exceptional education major from another major will be accepted directly into the program (0299) after (1) successfully completing ENG 101 and 102, (2) earning at least two minimum grades of C in two cognate foundations courses, (3) passing the mathematics basic skills competency requirement, and (4) earning a minimum cumulative GPA of 2.6. Students who meet criteria 1, 2, and 3 above will be accepted as premajors (0301) if their cumulative GPA is between 2.5 and 2.59. They can be accepted into the major only after earning a cumulative GPA of 2.6.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours for Concentration .....30 cr**

A concentration can be in one of the following subjects: English, French, Italian, math, science, social studies, Spanish, or American studies.

**Total Required Credit Hours for the Exceptional Education Major .....65 cr**

EDF 202	Child Development and Education
EDF 203	School and Society
EDF 302	Educational Psychology: Elementary Education
EDU 211	Introduction to Literacy
EDU 310	Teaching Social Studies in the Elementary School
EDU 311	Teaching Reading and Language Arts (6)
EDU 312	Teaching Math and Science (6)
EDU 404	Practicum in Elementary School Teaching (6)
EXE 100	Nature and Needs of Individuals with Special Needs
EXE 360	Foundations of Teaching Individuals with Disabilities
EXE 361	Field Experience in Teaching Individuals with Disabilities (1)
EXE 362	Behavior Management
EXE 363	Field Experience in Behavior Management (1)
EXE 364	Educating Students with Severe Disabilities
EXE 365W	Evaluation and Assessment in Special Education
EXE 366	Field Experience in Evaluation and Assessment in Special Education (1)
EXE 367W	Curriculum for Children with Mild Disabilities
EXE 368	Field Experience in Curriculum for Children with Mild Disabilities (2)
EXE 375	Integration of Technology into Education
EXE 420	Practicum in Special Education (6)

**Distribution Courses .....24 cr**

6 credit hours can be in each of the following areas: English, math, science, and social studies.

**Total Required Credit Hours .....161–179 cr**

# FASHION AND TEXTILE TECHNOLOGY

(0401)

## Technology Department Bachelor of Science (HEGIS 1303)

Upton Hall 314 (716) 878-6018

The fashion and textile technology program at Buffalo State is the only baccalaureate program in Western New York that offers career preparation for the multifaceted, global fashion industry. Faculty expertise, continuous updating of technology-based curriculum, and industry partnerships contribute to the strength of the program. Class sizes are small, allowing individual attention. Students are encouraged to participate in extracurricular programmatic activities and regional and national competitions. Students have achieved top honors in national apparel (Bobbin Show) and textile design [Computer Integrated Textile Design Association (CITDA)] competitions. Internships are available in the Buffalo area and elsewhere in the United States. Affiliations with industry and professional organizations include the American Apparel Footwear Association (AAFA), which has endorsed the program; the American Association of Textiles Chemists and Colorists (AATC); the American Collegiate Retailing Association (ACRA); and the International Textiles Apparel Textile Association (ITAA).

The fashion and textile technology program is designed to prepare students for employment in the apparel, textile, and fashion industry. Employment opportunities exist in textiles, retail management, CAD design for textiles and apparel, apparel production, product development, textile testing/quality control, home furnishing, and government agencies. Examples of available positions include technicians in testing labs to set safety and performance standards, CAD (print, weave, knit, technical, or fashion graphic) apparel designers, trend and design specialists, private label costing and sourcing, CAM production, stylists, colorists, entrepreneurs, fashion/visual merchandisers, merchandiser representatives, fashion journalists, logistics specialists, U.S. customs agents, historic costume/textiles conservators, and theater costuming.

Graduates have been employed by most major apparel and textile companies, including, but not limited to: Abercrombie & Fitch, Calvin Klein, Dior, Ralph Lauren, Federated, Fisher-Price, Foresight Design, GAP and GAP Kids, Hartmarx, Lord & Taylor, Bureau Veritas testing labs, Limited, Oxford Industries, Springs Industry, Swavelle Home Fashion, Tobin Home Fashions, Toppers, Tommy Hilfiger, Graco Home Fashions International, Park B. Smith, Appollo Patio Furniture Design, Target, Dillards, and Victoria's Secret.

*Program Information:* The curriculum for the fashion and textile technology program is divided into two parts: the required 21 credit hours of core coursework; and one or more specialized concentrations: fashion merchandising, apparel design, product development, or fashion/textile design. Individuals who have extensive work experience in the fashion field are encouraged to explore earning college credit by course challenge or experiential learning.

Fashion and textile technology majors may spend a year studying their specialty at the Fashion Institute of Technology (FIT) in New York City in a "three-one" program, earning a B.S. from Buffalo State and an associate's degree from FIT. North Carolina State University and other institutions have exchange programs. Study abroad opportunities are available in several countries.

*Scholarships and Financial Aid:* Students may apply for departmental scholarships. Financial assistance through the college is also available. The American Apparel and Footwear Association endorses the program and offers \$5,000 in scholarships for majors every year.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Fashion Technology .....48 cr**

**A. Required Core Courses (21 cr)**

FTT 110	Survey of Fashion/Textile Industry
FTT 206	Introduction to Textiles
FTT 208	Introduction to Fashion Technologies
FTT 306	Textile Evaluation
FTT 310	Sewn Products Industry
FTT 358	Fashion Forecasting and Consumer Issues
FTT 450	Issues in Fashion /Textile Industry

**B. Concentration Courses (27 cr)**

*Select one concentration:*

**Fashion Merchandising Concentration**

FTT 150	Introduction to Fashion Merchandising
FTT 250	Fashion Buying and Merchandising Principles
FTT 350	Fashion Merchandising Applications
FTT 455	Issues in Merchandising and Fashion Retailing
BUS 320	Principles of Marketing
FTT 488	Internship

*Select three courses from the following:*

FTT 308	Fashion CAD (Computer Aided Design)
FTT 355	Research in Fashion Merchandising
BUS 325	Human Resource Management
BUS 365	Entrepreneurship
ECO 201	Principle of Macroeconomics
ECO 202	Principle of Microeconomics
COM 210	Introduction to Writing for the Media
COM 303*	Writing for News Publications

**Apparel Design Concentration<sup>1</sup>**

FTT 109	Apparel Design Processes
FTT/THA 303	Fashion Illustration
FTT 325	Pattern Drafting and Grading
FTT 326	Apparel Design I: Flat Pattern
FTT 327	Apparel Design II: Computerized Flat Pattern
FTT 328	Apparel Design III: Draping
FTT 451 or 488	Senior Project or Internship

*Select two courses from the following:*

FTT 300	Knit Technology I
FTT 329*	Designing Knit Apparel
FTT 308	Fashion CAD (Computer Aided Design)
FTT 411	CAM: Apparel Manufacturing Software Systems
FTT 412	CAD: Apparel/Textile Design for Industry

**Product Development Concentration**

FTT 109	Apparel Design Processes
FTT 300	Knit Technology I
FTT 325	Pattern Drafting and Grading
FTT 326	Apparel Design I: Flat Pattern
FTT 410	Advanced Product Development
FTT 411	CAM: Apparel Manufacturing Software Systems
FTT 451 or 488	Senior Project or Internship

*Select two courses from the following:*

FTT 308	Fashion CAD (Computer Aided Design)
FTT 327	Apparel Design II: Computerized Pattern Making
FTT 400*	Knit Technology II: Computerized Software
FTT 412	CAD: Apparel/Textile Design for Industry
TEC 200	Total Quality Management

**Fashion/Textile Design Technologies Concentration<sup>1</sup>**

FTT 303 or FAR 101	Fashion Illustration or Drawing 1
FTT 304	Print Rendering for Industry
FTT 308	Fashion CAD (Computer Aided Design)
FTT 412	CAD: Apparel/Textile Design for Industry
FTT 413	CAD Weave for Industry
FTT 451 or 488	Senior Project or Internship
DES 242	Fibers I

*Select one course from the following:*

FTT 348	History of Costume
FTT 349	History of Textiles
DES 215	Design History
THA 332	Period Styles

*Select one course from the following:*

AED 100	Essentials of Visual Arts
DES 307*	Color Theory
DES 342*	Fibers II
FAR 210*	Introduction to Painting
FTT 150	Introduction to Merchandising
FTT 200	Introduction to Hand Knitting
FTT 300	Knit Technology I
FTT 400*	Knit Technology II: Commercial Software
FTT 410*	Advanced Product Development

**C. Recommended Electives:**

FTT 150	Introduction to Merchandising
FTT 200	Introduction to Hand Knitting
FTT 348	History of Costume
FTT 349	History of Textiles
FTT 355*	Research in Fashion Merchandising
FTT 400*	Knit Technology II: Commercial Software
FTT 410*	Advanced Product Development
FTT 412	CAD: Apparel/Textile Design for Industry
FTT 413	CAD Weave for Industry
FTT 451	Senior Project
FTT 452	Fashion Show Production
FTT 488	Internship
DES 101	Introduction to Design: Two Dimensional I
DES 102*	Introduction to Design: Two Dimensional II
DES 307*	Color Theory
TEC 200	Total Quality Management

*\*Courses that may have additional prerequisites.*

<sup>1</sup>A minor in design is strongly recommended.

**All College Electives .....6–33 cr**

**Total Required Credit Hours .....120 cr**

## FINE ARTS

### See Individual Majors

- Art
- Art History
- Painting
- Photography
- Printmaking
- Sculpture

## FORENSIC CHEMISTRY

(0773)

### Chemistry Department Bachelor of Science (HEGIS 1999.20)

Science Building 313 (716) 878-5204

Forensic chemistry is a program of professional study whose graduates are prepared to assume entry-level positions as forensic chemists in police laboratories at the local, state, or federal level.

*Admission Requirements:* Prospective majors must complete CHE 111 and CHE 112 (or the equivalent) with minimum grades of C before applying to the program. Students who have not yet met these requirements will be accepted into the pre-forensic chemistry program (0774) and will be formally admitted to the major upon completion of the previously stated requirements.

*Admission Recommendations:* Transfer students from two-year colleges should also have earned credit for courses equivalent to CHE 201, CHE 202, CHE 203, CHE 204, CHE 301, MAT 126, PHY 107, PHY 108, and CRJ 101 to avoid possible delays in the completion of the degree program.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Chemistry .....32 cr**

- CHE 201, CHE 202 Organic Chemistry I, II
- CHE 203, CHE 204 Organic Chemistry Laboratories I, II (1, 1)
- CHE 301 Analytical Chemistry (4)
- CHE 312 Chemistry and Criminalistics
- CHE 331 Principles of Physical Chemistry
- CHE 403 Instrumental Analysis (4)
- CHE 412 Internship in Criminalistics
- CHE 414 Forensic Chemistry Laboratory
- CHE 470 Biochemistry I
- CHE 471 Biochemical Techniques (1)

Transfer students must complete a minimum of 10 credit hours in chemistry at Buffalo State. Chemistry courses taken elsewhere may be substituted for similar courses at Buffalo State only if they have the same equivalent prerequisite. Chemistry courses not meeting this criterion may be transferred as elective credit.

**Total Required Credit Hours in Criminal Justice .....6 cr**

- CRJ 101 Introduction to Criminal Justice
- CRJ 201 Criminal Law and Procedures

**Total Required Credit Hours in Biology .....8 cr**

- BIO 211 Introduction to Cell Biology and Genetics (4)
- BIO 303 Genetics (4)

**Total Required Credit Hours in Other Fields .....12 cr**

- MAT 126 Calculus
- MAT 311 Introductory Probability and Statistics
- PHY 107, PHY 108 General Physics I, II (3, 3)

**All College Electives .....0–23 cr**

**Total Required Credit Hours .....120–124 cr**

## FRENCH EDUCATION (7–12)

(0651)

### Modern and Classical Languages Department Bachelor of Science (HEGIS 1102.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 122 (716) 878-5414

The French secondary education program enables students to earn provisional certification to teach French in New York State secondary schools. Students develop French language skills and study the structure and sound system of French, the literature and culture of French-speaking peoples, and, in the professional education component, the growth and role of the public school, adolescent development and psychology, and the teaching/learning of foreign languages in school settings. The curriculum includes a series of field experiences. Students must have a minimum GPA of 2.5 (overall and in the major) to student teach.

Students desiring this program may be admitted into the B.A. language and literature program (0709), which functions as a pre-major for the B.S. program. Students must apply for admission to the B.S. program by filling out a form in the Modern and Classical Languages Department office (Bishop 122) after they have successfully completed 30 credit hours in French, including two 300-level courses. Transfer students who enter with more than 30 hours in French may apply as soon as they have completed two 300-level courses in French at Buffalo State. No student will be admitted with less than a 2.5 overall GPA, or with less than a 2.5 GPA in French courses.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in French .....36 cr**

**A. Required Courses (27 cr)**

- FRE 301, FRE 302 French Conversation and Composition
- FRE 305 Phonetics and Orthography
- FRE 306 The Civilization of France
- FRE 307, FRE 308 Survey of French Literature
- FRE 309 Survey of Nineteenth- and Twentieth-Century French Literature
- FRE 415 Advanced Grammar and Composition
- FRE 416 Advanced Conversation and Composition

**B. Electives (9 cr)**

*Select three courses from the following:*

- FRE 303 Translation
- FRE 331 French Literature in Translation (if all assignments are completed in French)
- FRE 341 Francophone Literature in Translation (if taken in French)
- FRE 411 Studies in French Poetry
- FRE 412 Studies in the French Novel
- FRE 413 Studies in French Theater
- FRE 417 Business French
- FRE 496 Seminar I
- FRE 497 Seminar II

**Total Required Credit Hours in Professional Education .....24 cr**

- EDF 303 Educational Psychology
- EDF 403 Historical and Philosophical Forces Influencing Secondary Education
- EDU 416 Teaching Reading in Secondary Schools
- EXE 372 Foundations of Teaching Secondary Students with Disabilities
- FLE 200 Field Experience in Foreign Language Education
- FLE 316 Teaching Reading in the Second Language in the Middle School
- FLE 405 Methods and Materials for Teaching Foreign Languages in the High School
- FLE 406 Techniques for Teaching and Evaluating Foreign Languages in the Middle School

**Total Required Credit Hours in Student Teaching .....12 cr**

- FLE 407/SED 407 Student Teaching of Foreign Languages in the Middle/Junior High School (6)
- FLE 407/SED 408 Student Teaching of Foreign Languages in the High School (6)

**All College Electives .....0–6 cr**

**Total Required Credit Hours .....120 cr**

## FRENCH EDUCATION (7–12; POSTBACCALAUREATE)

(0651)

### Modern and Classical Languages Department Postbaccalaureate Teacher Certification Program (HEGIS 1102.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 122 (716) 878-5414

For information about this program, contact the Modern and Classical Languages Department.

## FRENCH LANGUAGE AND LITERATURE

(0709)

### Modern and Classical Languages Department Bachelor of Arts (HEGIS 1102)

Bishop Hall 122 (716) 878-5414

This program develops the ability to communicate in French and introduces students to the masterpieces of the literature of France and the most significant aspects of French and Francophone culture. Students are encouraged to study in France for a semester in an approved program.

This program also serves as a pre-major for new students who wish to enter the French B.S. secondary education (7–12) program (0651). When students have successfully completed 30 credit hours with a minimum GPA of 2.5, they may apply for entrance to the French Education (7–12) program. Transfer students with more than 30 credit hours may apply when they have successfully completed two French courses at the 300- or 400-level. Applications are available in the departmental office.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in French .....36 cr**

**A. Required Courses (18 cr)**

- FRE 301, FRE 302 French Conversation and Composition
- FRE 306 The Civilization of France
- FRE 307, FRE 308 Survey of French Literature
- FRE 309 Survey of Nineteenth- and Twentieth Century French Literature

**B. Electives Selected by Advisement (18 cr)**

- FRE 303 Translation
- FRE 305 Phonetics and Orthography
- FRE 331 French Literature in Translation<sup>1</sup>
- FRE 341 Francophone Literature in Translation<sup>1</sup>
- FRE 411 Studies in French Poetry
- FRE 412 Studies in the French Novel
- FRE 413 Studies in French Theater
- FRE 415 Advanced Grammar and Composition
- FRE 416 Advanced Conversation and Composition
- FRE 417 Business French
- FRE 496 Seminar I
- FRE 497 Seminar II

<sup>1</sup> These courses may be taken as a part of the French major only with the instructor's permission and the chair's permission, and only if all the work for the course is done in French.

**All College Electives ..... 18–45 cr**

**Total Required Credit Hours .....120 cr**

# GEOGRAPHY

(0715)

## Geography and Planning Department Bachelor of Arts (HEGIS 2206)

Classroom Building A213 (716) 878-6216

Geography provides students with a basic foundation of the discipline while allowing them to focus on one of two major geographic subject areas. The physical geography concentration emphasizes the interaction of humans with the natural environment; the human geography concentration emphasizes social, cultural, and urban patterns.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Geography .....39 cr**

**A. Required Courses (24 cr)**

- GEG 101 World Natural Environments
- GEG 102 Human Geography
- GEG 199 Computers in the Social Sciences
- GEG/PLN 325 Remote Sensing and Mapping
- GEG 390 Quantitative Methods in Geography and Planning
- GEG 430 Senior Thesis

Select one course from the following:

- GEG 357 Geography of Buffalo and the Niagara Frontier
- GEG 359 Arctic Geography
- GEG 360 Geography of Asia
- GEG 362 Geography of the United States and Canada
- GEG 363 Geography of Middle America
- GEG 364 Geography of Europe

Select one course from the following:

- PSC 300 Political Analysis
- SOC 300 Methods in Social Research<sup>1</sup>

<sup>1</sup> Prerequisites for SOC 300 are waived by the Sociology Department for geography majors.

In addition, geography majors are required to select one of two concentrations to complete an additional 15 credit hours of geography.

**B. Physical Geography Concentration Electives (15 cr)**

*Selected by advisement*

- GEG 303 Global Climatology
- GEG 307 Conservation and Environmental Management
- GEG 365 Soil Science and Management
- GEG 370 Principles of Water Resource Planning
- GEG 375 Principles of Hydrology
- GEG 382 Weather Forecasting
- GEG 384 Atmospheric Science
- GEG 386 Applied Climatology
- GEG 420 Economic Evaluation of Water Resources
- GEG 421 Watershed Analysis
- GEG 425 Fundamentals of GIS
- GEG 428 Environmental Assessment and Planning Applications in GIS
- GEG 480 Air Pollution Modeling
- GEG 488 Internship
- GES 307 Geomorphology
- GEG 452 Hydrogeology
- GEG 241/GES 241 Meteorology

**C. Human Geography Concentration Electives (15 cr)**

*Selected by advisement*

- GEG 305 Principles of Economic Geography
- GEG 307 Conservation and Environmental Management
- GEG 309 Introduction to Urban Geography
- GEG 310 Geography of Transportation
- GEG 320 Historical Geography of the United States
- GEG/PLN 330 Land Resource Analysis and Planning
- GEG 350 Comparative Canadian-U.S. Metropolitan Systems
- GEG 405 Advanced Urban Geography
- GEG 406 Geography of Retailing
- GEG 425 Fundamentals of GIS
- GEG 427 Corporate Applications in GIS

**All College Electives .....15–42 cr**

**Total Required Credit Hours .....120 cr**

# GEOLOGY

(0727)

## Earth Sciences and Science Education Department Bachelor of Arts (HEGIS 1914)

Science Building 271 (716) 878-6731

The geology program offers students a variety of opportunities to investigate the materials that constitute and the processes that shape the earth. Classroom, laboratory, and fieldwork provide a base for careers related to energy, the environment, and the exploration for and production of petroleum and mineral resources.

Coursework in calculus and physics is strongly recommended, particularly for students contemplating graduate study. The recommended courses, or higher, are MAT 126, MAT 127, PHY 111, and PHY 112. Each student should choose the appropriate courses by advisement, beginning with entry into the major.

Student majors are strongly encouraged to pursue independent research under faculty supervision or an internship experience. Students may find additional information about undergraduate research possibilities from faculty and by visiting the Office of Undergraduate Research Web site, [www.buffalostate.edu/undergraduateresearch](http://www.buffalostate.edu/undergraduateresearch).

A departmental honors program also is available. Students should contact the department for additional information.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Geology.....42 cr**

**A. Required Courses (33 cr)**

- GES 101 Introductory Geology
  - GES 102 Historical Geology
  - GES 103 Introductory Geology Laboratory (1)
  - GES 300 Sedimentology
  - GES 301 Stratigraphy
  - GES 302 Invertebrate Paleontology (4)
  - GES 303 Mineralogy and Petrology (4)
  - GES 308 Structural Geology (4)
- Two semesters of chemistry: CHE 111 and CHE 112 or equivalent (8)

**B. Electives Selected by Advisement (9 cr)**

Credit will be allowed for any course in geology, astronomy, or oceanography.

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# HEALTH AND WELLNESS

(0739)

## Health and Wellness Department Bachelor of Science (HEGIS 0837)

Houston Gymnasium 205 (716) 878-6501

The health and wellness program prepares undergraduate students to assume roles as health/wellness professionals in private business and industry, community organizations, and healthcare environments. Students will be able to administer effective health/wellness programs in organizations that advance preventive medicine and positive lifestyle habits. Concentrations are available in adult fitness, social issues, and site-based health promotion.

*Admission Requirements:* Applicants must have a minimum cumulative GPA of 2.5.

The programs in the Health and Wellness Department are under revision. Contact the department for current program requirements.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Health and Wellness .....42 cr**

**A. Required Courses (33 cr)**

- HEW 204 Personal Health
- HEW 225 Introduction to Disease Prevention
- HEW 302 Exercise Principles
- HEW 305 Community Health and Wellness
- HEW 310 Health Standards and Emergency Care
- HEW 312W Methods and Materials in Health and Wellness
- HEW 401 Assessment and Evaluation in Health and Wellness
- HEW 412 Health and Wellness Programs
- BIO 308 Human Anatomy and Physiology<sup>1</sup>

*Select one course from the following:*

- NFS 105 Food and People: Interactions and Issues
- NFS 334 Contemporary Nutrition

<sup>1</sup> BIO 100 is a prerequisite for BIO 308.

**B. Concentration Courses (9 cr)**

**Adult Fitness Concentration**

*Select three courses from the following:*

- HEW 307 Exercise, Fitness, and Nutrition
- HEW 345 Wellness, Fitness, and Aging
- HEW 488 Internship
- HPR 301 Kinesiology

**Social Issues Concentration**

*Select three courses from the following:*

- HEW 308 Women's Health Issues
- HEW 320 Psychoactive Drugs and Health
- HEW 411 Critical Issues in Health and Wellness
- HEW 425 Alcohol Problems

**Site-Based Health Promotion Concentration**

*Select three courses from the following:*

- HEW 303 Planning, Management, and Evaluation of Health and Wellness Facilities
- HEW 320 Psychoactive Drugs and Health
- HEW 425 Alcohol Problems
- HEW 488 Internship

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# HISTORY

(0716)

## History and Social Studies Education Department Bachelor of Arts (HEGIS 2205)

Classroom Building C205 (716) 878-5412

The program ensures both a knowledge and an understanding of the foundations of the development of humankind, stimulates thinking about interaction of ideas, develops facility with written and verbal expression, increases confidence in articulating ideas, and encourages the critical awareness of self so important to an educated individual. Special emphasis is placed on the development of the abilities to analyze, synthesize, and communicate.

A departmental honors program is also available. Students should contact the department for additional information.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in History .....39 cr**

**American History (6 cr)**

- HIS 106 History of American Life I
- HIS 107 History of American Life II

**European History (6 cr)**

*Select two courses from the following:*

- HIS 115 Foundations of Western Civilization
- HIS 116 Europe Since 1500
- HIS 117 Twentieth-Century Europe

**World History (6 cr)**

Two electives in Asian, African, Middle Eastern, or Latin American history

**Research and Writing Seminar (3 cr)**

- HIS 300W Research and Writing Seminar

**Historiography Seminar (3 cr)**

- HIS 490W Senior Seminar in Historiography

**Upper-Division History Electives (15 cr)**

- Three 300-level history courses
- Two 400-level history courses

**All College Electives .....15–42 cr**

**Total Credit Hours .....120 cr**

# HOSPITALITY ADMINISTRATION

(0437)

## Hospitality and Tourism Department Bachelor of Science (HEGIS 1307)

Accreditation Commission for Programs in  
Hospitality Administration (ACPHA) Accredited  
Caudell Hall 207 (716) 878-5913

The hospitality and tourism curriculum prepares graduates for management positions in various aspects of the hospitality industry. Career opportunities exist for managers in restaurants, hotels, clubs, catering operations, health care, school food service, sales, production, travel and tourism, and other components of industry/business.

The department's mission is to educate and develop enterprising students to become leaders in regional and global hospitality-tourism professions. The faculty is dedicated to frequent student interactions leading to effective learning and higher achievement.

*Admission Requirements:* Transfer or undeclared students desiring to major in this program must have a minimum GPA of 2.0 in previous college credits.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Hospitality Administration .....42 cr**

**A. Required Courses (30 cr)**

HTR 110	Introduction to Hospitality and Tourism
HTR 300	Food and Beverage Management (4)
HTR 350	Computer Applications for Hospitality
HTR 370	Cost Controls in Hospitality
HTR 380	Advanced Training in Hospitality
HTR 390	Strategic Marketing in Hospitality
HTR 455	Advanced Human Resource Management in Hospitality
HTR 470	Legal Issues in Hospitality
HTR 480	Practicum in Hospitality Operations (4)
HTR 485	Seminar in Hospitality (1)

**B. Concentration Courses (12 cr)**

**Restaurant and Institutional Management Concentration**

HTR 100	Multicultural Foods
HTR 200	Sanitation and Safety in Food Service
NFS 334	Contemporary Nutrition
HTR 361W	Principles of Management in Food Service

Required: 400 hours of hospitality-related industry experience

**Hotel Tourism Management Concentration**

HTR 368	Hotel Operations
HTR 408	Conventions, Meetings, and Expositions Management
HTR 418	Tourism Management
HTR 468	Hotel Management

Required: 400 hours of hospitality-related industry experience

**Electives in Hospitality Administration**

HTR 100	Multicultural Foods
HTR 200	Sanitation and Safety in Food Service
HTR 305	Advanced Food
HTR 320	Alcohol Management Issues (2)
HTR 330	Fundamentals of Bakeshop Production
HTR 335	Wine Essentials
HTR 340	Industry Experience
HTR 348	Tourism and World Travel
HTR 361	Principles of Management in Food Service
HTR 363	Quantity Food Production
HTR 364	Dining Room Service
HTR 365	Menu Planning
HTR 368	Hotel Operations
HTR 375	Events Management
HTR 400	Catering Management
HTR 408	Convention and Meeting Management
HTR 418	Tourism Management
HTR 420	Franchising and Entrepreneurship in the Hospitality Industry
HTR 430	Management and Marketing of Services
HTR 460	Concepts in Strategic Management
HTR 468	Hotel Management
HTR 475	Research Methods in Hospitality

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Humanities .....42 cr**

HUM 100	Introduction to Humanities
HUM 300	Humanistic Perspectives
HUM 490	Senior Seminar

Two courses in philosophy.  
 Three courses in English.  
 Two courses in a foreign language.  
 An additional 12 credit hours from communication, English, modern and classical languages, humanities, or philosophy.

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# INDIVIDUALIZED STUDIES\*

(0556)

## Bachelor of Science (HEGIS 4901)

Continuing Professional Studies  
Cleveland Hall 210 (716) 878-5907

Dean's Office, School of Arts and Humanities  
Rockwell Hall 222 (716) 878-6326

Dean's Office, School of Education  
Caudell Hall 230 (716) 878-4106

Dean's Office, School of Natural and Social Sciences  
Classroom Building 113 (716) 878-6434

Dean's Office, School of the Professions  
Cleveland Hall 214 (716) 878-4698

Dean's Office, University College  
100 Twin Rise or 310 South Wing (716) 878-5303

The individualized studies program provides students with a vehicle to design their own unique programs of study. The program allows students to investigate a theme, an issue, a problem, or a particular career interest and to formulate a specific curriculum accordingly. Individualized Studies provides appreciable academic advisement so that students can integrate and synthesize several academic fields.

The program offers students a choice between two distinct options. Students may combine any two compatible minor programs (Track I), or develop their own programs of study by drawing upon the offerings of two to four different academic fields (Track II). Students in both tracks complete all collegewide degree expectations: the Intellectual Foundations requirements, and unrestricted electives. Both tracks require a senior-level integrating research project as a culminating degree experience.

Since individualized studies is particularly attractive to working adult students, it recognizes and embraces college-level experiential learning generated outside the formal classroom.

*Admission Requirements:* Entering students must have a minimum 2.3 GPA and must expect to complete a minimum of 36 credit hours under individualized studies advisement once accepted into the major.

\*Evening study available.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Individualized Studies .....39–45 cr**

Track I:	Two minors
OR	
Track II:	Two to four academic fields, maximum of six courses per discipline
	Culminating Project 495 (3 cr)

**All College Electives .....9–42 cr**

**Total Required Credit Hours .....120 cr**

# HUMANITIES

(0717)

## Philosophy and Humanities Department Bachelor of Arts (HEGIS 4903)

Bishop Hall 207 (716) 878-5136

Humanities is an interdisciplinary program that provides students with a broad liberal arts education and ample opportunity to pursue their own interests. Humanities majors must:

1. Complete and submit an application form.
2. Be interviewed by the coordinator of the program.
3. Have a minimum GPA of 2.0.

Second-semester sophomores, or juniors or seniors, will normally be expected to have taken a minimum of three courses in humanities, with no grade lower than C and at least one grade higher than C.

# INDUSTRIAL TECHNOLOGY\*

(0810)

## Technology Department Bachelor of Science (HEGIS 0925)

National Association of Industrial Technology (NAIT) Accredited  
Upton Hall 314 (716) 878-6018

The industrial technology program, through its two concentrations, provides students with the opportunity to develop a specialty within a broader framework of operations knowledge. By selecting the manufacturing concentration, the student specializes in direct manufacturing support of a technical or managerial nature. Knowledge of management principles, physical sciences, technology of industry, and liberal arts is employed to optimize manufacturing processes, materials, and personnel. The quality concentration allows the student to develop the ability to assist the organization in obtaining the maximum level of quality performance in providing products or services. This concentration requires a professional internship that places the student in a specialty position in a local organization as a culminating activity.

Program graduates have filled positions as industrial engineers, quality-assurance specialists, operations supervisors, trainers, and technical sales and marketing specialists.

**Admission Requirements:** This program accepts freshmen, sophomores, and transfer students.

\*Evening study available.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Technology/Core Courses .....24 cr**

TEC 101	Technical Drawing
TEC 201	Materials Processing
TEC 311	Materials Science and Testing
TEC 312	Materials Management
TEC 313	Statistical Quality Control
TEC 314	Electromechanics
TEC 402	Ergonomics
TEC 403	Systems Analysis

**Total Required Credit Hours in Concentration .....18 cr**

**A. Manufacturing Concentration<sup>1</sup>**

TEC 400/BUS 320	Marketing
TEC 302	CAD/CAM
TEC 351	Energy Systems
TEC 404	Industrial Systems Applications
TEC 405	Manufacturing Technology
TEC 465	Safety Management

**B. Quality Concentration<sup>1</sup>**

COM 307	Communication and Group Processes
MAT 311	Introductory Probability and Statistics
TEC 200	Total Quality Management
TEC 321	Measurement Systems
TEC 323	Quality Improvement Through Design of Experiments
TEC 488	Quality Internship

<sup>1</sup>Student selects either the manufacturing or quality concentration.

**Total Required Credit Hours in Other Fields for Accreditation .....12 cr**

Core Math (3)	
Core Chemistry (3)	
MAT 124	Pre-Calculus Mathematics
PHY 107	General Physics I

**All College Electives ..... 0–27 cr**

**Total Required Credit Hours .....120 cr**

# INTERIOR DESIGN

(0180)

## Interior Design Department Bachelor of Fine Arts (HEGIS 1009)

National Association of Schools of Art and Design (NASAD) Accredited  
Council for Interior Design Accreditation  
Upton Hall 212 (716) 878- 6032

For up-to-date information about this program, contact the department.

The interior design program at Buffalo State achieved a three-year accreditation from the Foundation for Interior Design Education Research (FIDER) in 2000 followed by a six-year accreditation in 2004. The current accreditation expires in 2010.

The design B.F.A. degree with interior design concentration offers students a specialized studio-oriented education in preparation for advanced or graduate studies or for beginning careers as professional interior designers. Students gain a thorough knowledge of design processes, as well as technical skills, including computer-aided design and traditional drafting and rendering. Construction methods, lighting design, materials specification, and color-use are emphasized to support specializations within the major. Studios offer design exploration in spatial experimentation, residential design, retail design, public buildings, office planning, and culminates in the Undergraduate Thesis Project.

Interior design graduates are prepared for careers in independent practice and employment in interior design and architectural firms, institutions, corporations, and other settings. As an accredited program, graduates are eligible to apply and sit for the professional, nationally recognized NCIDQ licensing exams, earning a Certified Interior Designer designation and a right to practice in New York State.

Primary to the mission of interior design is a commitment to the intellectual, personal, and professional growth of students. Through varied and increasingly complex coursework coupled with a strong community-based project component, the students and faculty continue to enhance the region in terms of residential, health-care, and commercial designs as well as culturally sensitive and public-interest projects. These projects connect the students, faculty, and community in a dynamic relationship, and inspire students to both expand their horizons and become lifelong learners. The program is rigorous and comprehensive, resulting in professional and innovative designers that regional employers actively seek out after graduation.

**Acceptance to Major Requirements:**

1. Successful completion of the Skills Competency Exam following IDE 151, IDE 152, IDE 153. The test evaluates entry-level ability to visualize, design, and communicate spatial solutions to a simple problem through scaled drafting, rendering, and modeling. This is a series of exams given on one day. The final product includes a drafted solution, a rendering, and a three-dimensional component.
2. A minimum cumulative GPA of 2.6 after the freshman year.
3. Transfer students acceptance to major is determined after reviewing a portfolio of work; transcripts are evaluated on a case-by-base basis.

Please see design B.F.A with interior design concentration for a listing of program requirements.

# JOURNALISM

(0708)

## Communication Department Bachelor of Arts (HEGIS 0602)

Bishop Hall 210 (716) 878-6008

This major allows students who enjoy writing the flexibility to tailor a program based on reporting and presentation of news and other journalistic writing through print, broadcast and online media. It meets the needs of students preparing for a career in which research and interviewing abilities, accurate and objective reporting, legal and

ethical insight, and competence in editing are central to professional practice. Compare this major with communication studies, media production, and public communication.

**Career Opportunities:** Students in the print/online-news sequence of journalism prepare for careers as reporters, editors and columnists on newspapers (daily, weekly and special interest), as well as on magazines and Internet-based media. Students in the electronic-news sequence of journalism prepare for careers as reporters, anchors, news directors, and commentators in radio and television settings, as well as with Internet-based media.

The profile of a successful journalism graduate is a person with a strong writing proficiency and a compelling use of language, good speaking and listening skills, keen ethical insight and legal awareness, and competence in presentation of information in a particular format (written, visual and/or digital).

**Admission Requirements:** Incoming freshmen and transfer students can declare the major. A 2.6 in the major is required to register for certain upper division courses (300- and 400-level).

See [www.buffalostate.edu/communication](http://www.buffalostate.edu/communication) for application forms and additional information, including a list of equivalent core courses at community colleges. Transfer students from two-year schools may apply only core courses toward this major for a maximum of 12 credits. Students generally require four semesters of study after completing communication core courses.

**Academic Standards:** Only grades of C or higher may be applied toward requirements for any communication degree; courses with lower grades must be repeated. Consistent with standards of the Accrediting Council for Education in Journalism and Mass Communication, the number of communication courses that students may take is capped, encouraging a broad-based liberal arts education. The department encourages students to take minors or second majors, and requires evidence of an academic concentration or area of expertise outside the Communication Department.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Journalism Courses .....42 cr**

**A. Communication Core (12 cr)**

COM 100	Media Literacy
COM 210	Introduction to Media Writing
COM 215	Introduction to Visual Communication
SPC 205	Introduction to Oral Communication

*Note: Students must have a minimum GPA of 2.6 in the major to register for certain upper division courses (300- and 400-level).*

**B. Major Requirements (9 cr)**

COM 302	Principles of Journalism
COM 400	Communication Law
COM 405	News Lab (Bengal News Online)
COM 450	Communication and Society

**C1. Print/Online Sequence (9 cr)**

COM 303	PrintNews I: Reporting
COM 319	PrintNews II: Editing
COM 325	Feature Writing

OR

**C2. Electronic News Sequence (9 cr)**

COM 337	Electronic News I: Producing
COM 338	Electronic News II: Reporting
COM 348	Electronic News III: Advanced Reporting
COM 450	Communication and Society

**D. Senior Seminar (3 cr)**

COM 450	Communication and Society
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**E. Communication Electives (9 cr)**

300- and 400-level courses in the department (selected by advisement)

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

## MATHEMATICS (B.A.)

(0718)

### Mathematics Department Bachelor of Arts (HEGIS 1701)

Bishop Hall 317 (716) 878-5621

**Admission Requirements:** High school mathematics through Regents Course III is recommended.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Mathematics .....39 cr**

**A. Required Courses (27 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 202	Introduction to Linear Algebra
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 270	Discrete Mathematics I
MAT 301	Fundamentals of Abstract Algebra
MAT 381	Probability
MAT 417	Introduction to Real Analysis I

**B. Electives Selected by Advisement (12 cr)**

Select four courses from the following:

MAT 302	Algebra II
MAT 309	Discrete Mathematics II
MAT 315	Differential Equations
MAT 316	Intermediate Differential Equations
MAT 322W	Modern Geometry
MAT 351	Elementary Theory of Numbers
MAT 366	Computer Mathematics II
MAT 370	Applied Networks
MAT 382	Topics in Mathematical Statistics
MAT 401	Introduction to Turing Machines and Abstract Computability
MAT 404	Applications of Linear Algebra
MAT 411	Complex Variables
MAT 418	Introduction to Real Analysis II
MAT 431	Mathematical Logic
MAT 461	Numerical Analysis
MAT 471	Introduction to Topology
MAT 490	Seminar
MAT 495	Project
MAT 499	Independent Study

**All College Electives .....15–42 cr**

**Total Required Credit Hours .....120 cr**

## MATHEMATICS—APPLIED (B.S.)

(0719)

### Mathematics Department Bachelor of Science (HEGIS 1703)

Bishop Hall 317 (716) 878-5621

The applied mathematics B.S. program is directed toward a career goal for computer- and mathematics-related government, industrial, or business employment. It may also provide a basis for entry into graduate school in mathematics, applied mathematics, computer science, or other related disciplines.

**Admission Requirements:** MAT 161, MAT 162 and MAT 241 with a grade of C or higher in each. Students interested in this program should declare a mathematics major (0718) until admission requirements are met.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Mathematics .....48 cr**

**A. Required Courses (36 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 202	Introduction to Linear Algebra
MAT 241	Computer Mathematics I
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 270	Discrete Mathematics
MAT 366	Computer Mathematics II
MAT 381	Probability
MAT 382	Topics in Mathematical Statistics
MAT 390	Introduction to Operations Research
MAT 495	Project

**B. Concentration Courses Selected by Advisement (12 cr)**

*Students must choose one of two concentrations:*

**Concentration in Numeric Computation**

*Select 3 courses from the following:*

MAT 315	Differential Equations
MAT 316	Intermediate Differential Equations
MAT 404	Applications of Linear Algebra
MAT 411	Complex Variables
MAT 417	Introduction to Real Analysis I
MAT 461	Numerical Analysis
MAT 471	Introduction to Topology
MAT 490	Seminar
MAT 499	Independent Study

**Concentration in Computational Discrete Mathematics**

*Select 3 courses from the following:*

MAT 301	Fundamentals of Abstract Algebra
MAT 309	Discrete Mathematics II
MAT 351	Elementary Theory of Numbers
MAT 370	Applied Networks
MAT 401	Introduction to Turing Machines and Abstract Computability
MAT 431	Mathematical Logic
MAT 490	Seminar
MAT 499	Independent Study

**All College Electives .....6–33 cr**

**Total Required Credit Hours .....120 cr**

## MATHEMATICS EDUCATION (7–12)

(0721)

### Mathematics Department Bachelor of Science (HEGIS 1701.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 317 (716) 878-5621

The B.S. in mathematics with adolescent certification is directed to a career goal of teaching. This program includes the course requirements leading to New York State certification to teach mathematics in grades 7–12.

*Admission Requirements:* High school mathematics through Regents Course III is recommended.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Mathematics .....39 cr**

**A. Required Courses (30 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 202	Introduction to Linear Algebra
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 270	Discrete Mathematics I

MAT 301W	Fundamentals of Abstract Algebra
MAT 322W	Modern Geometry
MAT 325	Probability and Statistics
MAT 417	Introduction to Real Analysis I

**B. Electives (9 cr)**

*Select three courses from the following:*

MAT 302	Algebra II
MAT 309	Discrete Mathematics II
MAT 315	Differential Equations
MAT 316	Intermediate Differential Equations
MAT 351	Elementary Theory of Numbers
MAT 366	Computer Mathematics II
MAT 370	Applied Networks
MAT 382	Topics in Mathematical Statistics
MAT 401	Introduction to Turing Machines and Abstract Computability
MAT 404	Applications of Linear Algebra
MAT 411	Complex Variables
MAT 418	Introduction to Real Analysis II
MAT 431	Mathematical Logic
MAT 461	Numerical Analysis
MAT 471	Introduction to Topology
MAT 490	Seminar
MAT 495	Project
MAT 499	Independent Study

**Total Required Credit Hours in Professional Education .....25 cr**

EDF 303	Educational Psychology
EDF 403	Historical and Philosophical Forces Influencing Secondary Education
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 100	Nature and Needs of Individuals with Special Needs*
MED 200	Field Experience: Secondary Education and Related Careers
MED 300	Methods in the Teaching of Secondary School Mathematics Field Experience
MED 307	Uses of Technical Aids in the Teaching of Mathematics
MED 308W	Methods in the Teaching of Secondary School Mathematics
MED 383W	Learning and Teaching Problem Solving

*\*EXE 100 fulfills an Intellectual Foundations requirement.*

**Total Required Credit Hours in Student Teaching .....12 cr**

MED 407	Student Teaching of Mathematics in Junior High/Middle School (6)
MED 408	Student Teaching of Mathematics in Senior High School (6)

**All College Electives .....0–2 cr**

**Total Required Credit Hours .....121–136 cr**

## MATHEMATICS EDUCATION (7–12; 5–6 EXTENSION)

(0721)

### Mathematics Department Bachelor of Science (HEGIS 1701.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 317 (716) 878-5621

The B.S. program in mathematics with adolescent certification (5–6 extension) is directed to a career goal of teaching. This program includes the course requirements leading to New York State initial certification to teach mathematics in grades 5–12.

*Admission Requirements:* High school mathematics through Regents Course III is recommended.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Mathematics .....39 cr**

**A. Required Courses (30 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 202	Introduction to Linear Algebra
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 270	Discrete Mathematics I

MAT 301W	Fundamentals of Abstract Algebra
MAT 322W	Modern Geometry
MAT 325	Probability and Statistics
MAT 417	Introduction to Real Analysis I

**B. Electives (9 cr)**

Select three courses from the following:

MAT 302	Algebra II
MAT 309	Discrete Mathematics II
MAT 315	Differential Equations
MAT 316	Intermediate Differential Equations
MAT 351	Elementary Theory of Numbers
MAT 366	Computer Mathematics II
MAT 370	Applied Networks
MAT 382	Topics in Mathematical Statistics
MAT 401	Introduction to Turing Machines and Abstract Computability
MAT 404	Applications of Linear Algebra
MAT 411	Complex Variables
MAT 418	Introduction to Real Analysis II
MAT 431	Mathematical Logic
MAT 461	Numerical Analysis
MAT 471	Introduction to Topology
MAT 490	Seminar
MAT 495	Project
MAT 499	Independent Study

**Total Required Credit Hours in Professional Education.....31 cr**

EDF 303	Educational Psychology
EDF 353	Human Development During Early Adolescence and Adolescence
EDF 403	Historical and Philosophical Forces Influencing Secondary Education
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 100	Nature and Needs of Individuals with Special Needs*
MED 200	Field Experience: Secondary Education and Related Careers
MED 307	Uses of Technical Aids in the Teaching of Mathematics
MED 308W	Methods in the Teaching of Secondary School Mathematics
MED 309	Teaching Mathematics in the Middle School
MED 383W	Learning and Teaching Problem Solving

\*EXE 100 fulfills an Intellectual Foundations requirement.

**Total Required Credit Hours in Student Teaching .....12 cr**

MED 406	Student Teaching of Mathematics in the Lower Middle Grades (6)
MED 408	Student Teaching of Mathematics in Senior High School (6)

**All College Electives .....0-2 cr**

**Total Required Credit Hours .....124-142 cr**

## MATHEMATICS EDUCATION (7-12; POSTBACCALAUREATE)

(7055)

## MATHEMATICS EDUCATION (7-12; 5-6 EXTENSION; POSTBACCALAUREATE)

(7058)

### Mathematics Department Postbaccalaureate Teacher Certification Program (HEGIS 1701.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 317 (716) 878-5621

For information about these programs, see the Graduate Catalog.

## MECHANICAL ENGINEERING TECHNOLOGY\*

(0832)

### Technology Department Bachelor of Science (HEGIS 0925)

Technology Accreditation Commission/Accreditation Board for Engineering and Technology (TAC/ABET) Accredited\*\*  
Upton Hall 315 (716) 878-6017

The bachelor's degree in the mechanical engineering technology program is designed to give the student a broad education in the areas of mechanical design, mechanics, stress analysis, thermosciences, and manufacturing. Graduates are in high demand and are employed by manufacturing companies, consulting firms, government agencies, testing laboratories, and other enterprises that require people with strong mechanically oriented backgrounds. Graduates work as mechanical designers developing new products, manufacturing supervisors solving problems of producing these products for performance or quality, as plant engineers improving or maintaining factories, and in technical sales selling these products. The duties of technologists may involve overseeing installation, operation, maintenance, and repair to ensure that machines and equipment are installed and functioning according to specifications; specifying system components; supervising drafters in developing the design of products; testing and evaluating products; and or/developing cost estimates.

\*Evening study available.

**Intellectual Foundations Requirements .....39-66 cr**

**Major Requirements.....48 cr**

ENT 300	Analytical Methods for Technologists
ENT 301	Mechanics I
ENT 302	Mechanics II
ENT 303	Kinematics
ENT 311	Thermodynamics
ENT 312	Fluid Mechanics
ENT 331	Electrical Circuits and Devices I
ENT 371	Electric Machines
ENT 401	Stress Analysis
ENT 402	Shock and Vibration Analysis
ENT 411	Heat Transfer
ENT 421	Machine Design I
ENT 422	Machine Design II
TEC 101	Technical Drawing
TEC 201	Materials Processing
TEC 311	Materials Science and Testing

**Electives .....6-33 cr**

The following accreditation requirements can be included in the Intellectual Foundations requirements and electives:

CHE 101 or CHE 111
CHE 102 or CHE 111
CIS 151
MAT 110 or MAT 124
MAT 126 or MAT 161
MAT 127 or MAT 162
PHY 107 or PHY 111
PHY 108 or PHY 112
SPC 205

**Total Required Credit Hours .....124 cr**

\*\*Technology Accreditation Commission/Accreditation Board for Engineering and Technology Inc. (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202, (410) 347-7700.

# MEDIA PRODUCTION

(0707)

## Communication Department Bachelor of Arts (HEGIS 0603)

Bishop Hall 210 (716) 878-6008

This major (formerly called Broadcasting) allows students flexibility to tailor a program based on production of audio and/or visual messages using various electronic media. It meets the needs of students preparing for a career integrating many elements: research, planning, writing and other aspects of preproduction; studio and field experience in technical production; postproduction activities, such as editing; and media management areas. Compare this major with communication studies, journalism, and public communication.

**Career Opportunities:** Students in media production prepare for careers in radio or audio production, television or video production, Web design, music production, media sales and management, related technical areas, and other fields that require a liberal arts education enhanced with production skills. Specific job titles associated with this major include writer, producer, director, videographer, editor, Web designer, and production manager.

The profile of a successful media studies graduate is a person with strong skills in using computers, cameras, and other technical equipment, writing and speaking proficiency, keen ethical insight, analytical and creative competence, and management abilities.

**Admission Requirements:** Incoming freshmen and transfer students can declare the major. A 2.6 GPA in the major is required to register for certain upper-division courses (300- and 400-level).

See [www.buffalostate.edu/communication](http://www.buffalostate.edu/communication) for application forms and additional information, including a list of equivalent core courses at community colleges. Transfer students from two-year schools may apply only core courses toward this major for a maximum of 12 credits. Students generally require four semesters of study after completing communication core courses.

**Academic Standards:** Only grades of C or higher may be applied toward requirements for any communication degree; courses with lower grades must be repeated. Consistent with standards of the Accrediting Council for Education in Journalism and Mass Communication, the number of communication courses that students may take is capped, encouraging a broad-based liberal arts education. The department encourages students to take minors or second majors, and requires evidence of an academic concentration or area of expertise outside the Communication Department.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Media Production .....42 cr**

### A. Communication Core (12 cr)

COM 100	Media Literacy
COM 210	Introduction to Media Writing
COM 215	Introduction to Visual Communication
SPC 205	Introduction to Oral Communication

*Note: Students must have a minimum GPA of 2.6 in the major to register for certain upper division courses (300- and 400-level).*

### B. Major Requirements (18 cr)

COM 304	Writing and Producing
COM 317	Media Management
COM 328	Audio Production
COM 329	Video Production
COM 400	Communication Law
COM 428	Advanced Audio Production
OR	
COM 429	Advanced News Production
OR	
COM 431	Advanced Video Production

### C. Senior Seminar (3 cr)

COM 450 Communication and Society

### D. Communication Electives (9 cr)

300- and 400-level courses in the department (selected by advisement)

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# MUSIC

(0125)

## Music Department Bachelor of Arts (HEGIS 1005)

Rockwell Hall 203 (716) 878-6401

The music major is a liberal arts program that provides students with the broad knowledge and skills to enjoy a lifetime of music, integrate music into a career, and, in some cases, perform as a vocalist or instrumentalist.

The Music Department is in the process of attaining accreditation from the National Association of Schools of Music. For current information regarding policies and procedures for music program acceptance, continuance, and completion, visit [www.buffalostate.edu/music/documents/handbook.pdf](http://www.buffalostate.edu/music/documents/handbook.pdf).

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Musicianship .....43 cr**

MUS 122	Introduction to Music Studies (2)
MUS 206	Jazz and Rock Foundations
MUS 218	Aural Perception I (1)
MUS 219	Aural Perception II (1)
MUS 230	Music Theory I
MUS 231	Music Theory II
MUS 302	Music History: Antiquity-Baroque
MUS 303	Music History: Classic-Modern
MUS 318	Aural Perception III (1)
MUS 319	Aural Perception IV (1)
MUS 321	Composition, Improvisation, and Arranging (2)
MUS 330	Music Theory III
MUS 331	Music Theory IV
MUS 340	Ethnomusicology
MUS 495	Capstone Project (1)

**Total Required Credit Hours in Musical Performance .....10 cr**

MUS 171-273	Applied Instruction (4 semesters; 4 cr)
MUS 314 or 335	Ensemble Requirements (6 semesters; 6 cr)

**Music Electives .....10 cr**

**All College Electives (not Music) .....1–28 cr**

**Total Required Credit Hours .....120 cr**

# MUSIC EDUCATION (PRE-K–12)

(0126)

## Music Education in Music Department Bachelor of Music (HEGIS 1005)

Rockwell Hall 203 (716) 878-6401

The music education program leads to a New York State Initial Certificate for teaching general, vocal, and instrumental music in New York State schools at the pre-kindergarten through grade 12 levels. The program requires intensive study in music performance, music history, music theory, and methodology of teaching, with an emphasis on world music and urban culture.

The Music Department is in the process of attaining accreditation from the National Association of Schools of Music. For current information regarding policies and procedures for music program acceptance, continuance, and completion, visit [www.buffalostate.edu/music/documents/handbook.pdf](http://www.buffalostate.edu/music/documents/handbook.pdf).

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Basic Musicianship and Performance ....70 cr**

MUS 171 or 473	Applied Instruction (7 semesters; 7 cr)
MUS 314 or 335	Ensemble Requirement (7 semesters; 7 cr)
MUS 113	Brass Techniques (1)
MUS 114	Percussion Techniques (1)
MUS 115	String Techniques (1)
MUS 116	Woodwind Techniques (1)
MUS 117	Vocal Pedagogy
MUS 122	Introduction to Music Studies (2)
MUS 206	Jazz and Rock Foundations
MUS 218	Aural Perception I (1)
MUS 219	Aural Perception II (1)
MUS 220	Technology Applications (2)
MUS 230	Music Theory I
MUS 231	Music Theory II
MUS 302	Music History: Antiquity-Baroque
MUS 303	Music History: Classic-Modern
MUS 318	Aural Perception III (1)
MUS 319	Aural Perception IV (1)
MUS 321	Composition, Improvisation, and Arranging (2)
MUS 322	Instrumental Conducting (2)
MUS 330	Music Theory III
MUS 331	Music Theory IV
MUS 333	Choral Conducting (2)
MUS 340	Ethnomusicology
MUS 345	Elementary Methods
MUS 346	Elementary Field Experience (1)
MUS 353	Special Needs Field Experience (1)
MUS 360	Secondary Instrumental Methods
MUS 361	Secondary Instrumental Field Experience (1)
MUS 362	Secondary Choral Methods
MUS 363	Secondary Choral Field Experience (1)

**Total Required Credit Hours in Professional Education .....30 cr**

EDF 203	School and Society
EDF 211	Introduction to Literacy Instruction
EDF 303	Educational Psychology
EDF 403	Historical and Philosophical Forces Influencing Secondary Education
EDU 416	Teaching Literacy in Middle and Secondary Schools
EXE 100	Nature and Needs of Individuals with Special Needs
MUS 457	Elementary Student Teaching (5)
MUS 458	Secondary Student Teaching (5)
MUS 460	Student Teaching Seminar (2)

In addition to the course requirements for music education majors, the class piano sequence is strongly recommended in the freshman and sophomore years of study:

MUS 161	Class Piano I (1)
MUS 162	Class Piano II (1)
MUS 261	Class Piano III (1)
MUS 262	Class Piano IV (1)

**Total Required Credit Hours .....130 cr**

## NUTRITION

See Dietetics

## PAINTING

(0155)

### Fine Arts Department Bachelor of Fine Arts (HEGIS 1002)

National Association of Schools of Art and Design (NASAD) Accredited  
Upton Hall 502 (716) 878-6014

All freshmen and transfer students enter the B.F.A. program through required portfolio review. Those admitted as freshmen or as transfers with fewer than four semesters in college must be examined for the major prior to their last four semesters in the program. Students admitted as upper-division transfers must be examined for the major at the end of the first semester in the program.

The application for a major is the most critical evaluation in the program. Eligibility will be determined by a two-member faculty committee on the basis of an interview with the student and a review of his or her portfolio. Each B.F.A. student will be required to mount an individual exhibition of his or her work. It will be planned and installed with the advice of the student's faculty adviser, but no grade will be assigned. The Fine Arts Department reserves the right to retain student artwork for official purposes, such as exhibits, catalogs, or teaching aids.

*Admission Requirements:* Admission to the B.F.A. program is based on an interview and portfolio examination by the Fine Arts Department. The portfolio is to be presented in person or mailed along with a statement of intent as stipulated by the department and should contain examples of work that the candidate believes best display his or her abilities.

Students are expected to assume the costs of materials they use in their courses. All studio courses may have an additional instructional charge for materials used in class.

**Intellectual Foundations Requirements .....39-66 cr**

**Total Required Credit Hours in Fine Arts .....78 cr**

**A. Required Courses (42 cr)**

DES 101	Two-Dimensional Design
FAR 101	Drawing I
FAR 102	Drawing II
FAR 103	Modeling
FAR 210	Introductory Painting
FAR 220	Introductory Photography
FAR 230	Introductory Printmaking
FAR 240	Introductory Sculpture
FAR 250	Art History I
FAR 251	Art History II
FAR 363	Twentieth-Century Art
FAR 470	Senior Seminar in Fine Arts

Two art history electives.

**B. Painting Courses (21 cr)**

FAR 311	Intermediate Painting I
FAR 312	Intermediate Painting II
FAR 313	Advanced Painting (three courses) (9)
FAR 410	Senior Studio in Painting (6)

**C. Art Electives (15 cr)**

**All College Electives .....0-3 cr**

**Total Required Credit Hours .....120-144 cr**

## PHILOSOPHY

(0720)

### Philosophy and Humanities Department Bachelor of Arts (HEGIS 1509)

Bishop Hall 207 (716) 878-5136

The B.A. degree in philosophy is basic to a well-rounded liberal arts education, especially in its emphasis on careful, critical thinking. It challenges students to examine their societal and personal beliefs and values so that their own philosophy is more creatively and responsibly chosen. It is a solid preparation for law school and other specializations requiring a liberal arts background, as well as for graduate studies in philosophy. The department also offers a minor in religious studies that deepens students' understanding of various religious traditions and their own religious choices.

A departmental honors program is also available. Students should contact the department for additional information.

**Intellectual Foundations Requirements .....39-66 cr**

**Total Required Credit Hours in Philosophy .....27 cr**

**A. Required Courses (9 cr)**

PHI 103	Introduction to Logic
OR	
PHI 307	Beginning Symbolic Logic
PHI 317	The History of Philosophy I: The Greeks
PHI 318	The History of Philosophy II: The Seventeenth and Eighteenth Centuries

**B. Electives (18 cr)***Select six courses from the following:*

PHI 101	Introduction to Philosophy
PHI 102	Introduction to Moral and Social Philosophy
PHI 106	Critical Thinking
PHI 110	The Meaning of Life
PHI 202	Philosophy of Human Nature
PHI 204	Philosophy of Religion
PHI 207	Philosophy in Literature
PHI 210	Existentialism
PHI 212	History of American Philosophy
PHI 300	Problems of Philosophy
PHI 301	Wealth and Justice
PHI 302	Philosophy of Art and Beauty
PHI 304	Philosophy of Law
PHI 305	Analytic Philosophy I: Philosophy of Language
PHI 308	Philosophy of Love and Sex
PHI 309	Knowledge and Truth
PHI 310	History of Ethics
PHI 312	Analytic Philosophy II: Philosophy of Mind
PHI 314	Contemporary Ethical Theory
PHI 316	Freedom and the Self
PHI 323	Moral Issues
PHI 324	Zen Buddhism
PHI 328	Business and Ethics
PHI 339	Friendship
PHI 401	Problems in Philosophy Seminar
PHI 402	Seminar in History of Philosophy
PHI 495	Project
PHI 499	Independent Study

**All College Electives .....27–54 cr****Total Required Credit Hours .....120 cr**

## PHOTOGRAPHY

**(0160)****Fine Arts Department  
Bachelor of Fine Arts (HEGIS 1011)**National Association of Schools of Art and Design (NASAD) Accredited  
Upton Hall 502 (716) 878-6014

All freshmen and transfer students enter the B.F.A. program through required portfolio review. Those admitted as freshmen or as transfers with fewer than four semesters in college must be examined for the major prior to their last four semesters in the program. Students admitted as upper-division transfers must be examined for the major at the end of the first semester in the program.

The application for a major is the most critical evaluation in the program. Eligibility will be determined by a two-member faculty committee on the basis of an interview with the student and a review of his or her portfolio. Each B.F.A. student will be required to mount an individual exhibition of his or her work. It will be planned and installed with the advice of the student's faculty adviser, but no grade will be assigned.

The Fine Arts Department reserves the right to retain student artwork for official purposes, such as exhibits, catalogs, or teaching aids.

**Admission Requirements:** Admission to the B.F.A. program is based on an interview and portfolio examination by the Fine Arts Department. The portfolio is to be presented in person or mailed along with a statement of intent as stipulated by the department and should contain examples of work that the candidate believes best display his or her abilities.

Students are expected to assume the costs of materials they use in their courses. All studio courses may have an additional charge for materials used in class.

**Intellectual Foundations Requirements .....39–66 cr****Total Required Credit Hours in Fine Arts .....78 cr****A. Required Courses (42 cr)**

DES 101	Two-Dimensional Design
FAR 101	Drawing I
FAR 102	Drawing II
FAR 103	Modeling
FAR 210	Introductory Painting
FAR 220	Introductory Photography
FAR 230	Introductory Printmaking
FAR 240	Introductory Sculpture
FAR 250	Art History I
FAR 251	Art History II
FAR 363	Twentieth-Century Art
FAR 470	Senior Seminar in Fine Arts

Two art history electives.

**B. Photography Courses (21 cr)**

FAR 321	Intermediate Photography I
FAR 322	Intermediate Photography II
FAR 323	Advanced Photography (three courses) (9)
FAR 420	Senior Studio in Photography (6)

**C. Art Electives (15 cr)****All College Electives .....0–3 cr****Total Required Credit Hours .....120–144 cr**

## PHYSICS (B.A.)

**(0728)****Physics Department  
Bachelor of Arts (HEGIS 1902)**

Science Building 262 (716) 878-6726

The physics B.A. program provides a good concentration in physics courses and a broad distribution in the liberal arts. It prepares students for technical or technically related graduate school studies or employment.

**Intellectual Foundations Requirements .....39–66 cr****Total Required Credit Hours in Physics .....31 cr****A. Required Core Courses (18 cr)**

PHY 111	University Physics I (or equivalent) (4)
PHY 112	University Physics II (or equivalent) (4)
PHY 213	University Physics III
PHY 305	Modern Atomic Physics I
PHY 320	Introduction to Theoretical Physics (4)

**B. Electives in Physics (13 cr)**

PHY 306	Modern Physics II
PHY 310	Computational Physics Laboratory (2)
PHY 315	Heat and Thermodynamics
PHY 323	Statics
PHY 324	Electric Circuits
PHY 410	Advanced Physics Laboratory
PHY 425	Classical Mechanics (4)
PHY 435	Introduction to Quantum Mechanics
PHY 440	Electricity and Magnetism I
PHY 441	Electricity and Magnetism II

**Total Required Credit Hours Outside the Major .....12 cr**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)

**All College Electives .....11–38 cr****Total Required Credit Hours .....120 cr**

# PHYSICS (B.S.)

(0778)

## Physics Department Bachelor of Science (HEGIS 1902)

Science Building 262 (716) 878-6726

The physics B.S. program gives a broad background in the fundamental concepts and applications of physics. This background is appropriate for further study in graduate school or for scientific employment in physics or physics-related fields.

Students in this program may pursue a four-year physics degree or they may choose the "three-two" option.

Transfer students must take a minimum of 8 credit hours of upper-division courses, including PHY 410, in the Buffalo State Physics Department.

### "Three-Two" Physics-Engineering Option

This program offers an ideal combination of basic and applied science. Students in the Cooperative (three-two) Physics-Engineering Program attend the college for three years pursuing a liberal arts curriculum in physics. After three years, students transfer to the engineering school of their choice and complete the requirements for an engineering degree in two more years. Cooperating engineering schools include Binghamton University and the University at Buffalo (both SUNY universities), and Clarkson University.

**Intellectual Foundations Requirements** .....39–66 cr

**Total Required Credit Hours in Physics** .....42 cr

#### A. Required Core Courses (20 cr)

PHY 111	University Physics I (4)
PHY 112	University Physics II (4)
PHY 213	University Physics III
PHY 305	Modern Physics I
PHY 310	Computational Physics Laboratory (2)
PHY 320	Introduction to Theoretical Physics (4)

#### B. Additional Required Courses for the "Three-Two" Option (22 cr)

PHY 306	Modern Physics II
PHY 323	Statics
PHY 324	Electric Circuits
PHY 440	Electricity and Magnetism I

Plus 10 credit hours of engineering courses, transferred from engineering school.

#### C. Additional Required Courses for Four-Year Physics B.S.-Only Degree (22 cr)

PHY 306	Modern Physics II
PHY 324	Electric Circuits
PHY 410	Advanced Physics Laboratory
PHY 425	Classical Mechanics (4)
PHY 435	Introduction to Quantum Mechanics
PHY 440	Electricity and Magnetism I
PHY 441	Electricity and Magnetism II

**Total Required Credit Hours Outside the Major** .....15 cr

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 315	Differential Equations

**All College Electives** ..... 0–24 cr

**Total Required Credit Hours** .....120–123 cr

# PHYSICS EDUCATION (7–12)

(0634)

## Physics Department Bachelor of Science (HEGIS 1902.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 262 (716) 878-6726

The physics B.S. degree program in secondary education leads to a New York State Initial Certificate for teaching both physics and general science in grades 7-12. Students seeking admission to the B.S. physics education program should initially enroll in the B.S. physics program. After successfully completing at least two required physics courses at Buffalo State with a GPA in these courses of 2.75 or higher, students apply for admission to the B.S. physics education program during the semester they complete SED 200. A minimum GPA of 2.75 in physics courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements** .....39–66 cr

**Total Required Credit Hours in Physics** .....32 cr

PHY 111	University Physics I (4)
PHY 112	University Physics II (4)
PHY 213	University Physics III
PHY 305	Modern Physics I
PHY 306	Modern Physics II
PHY 310	Computational Physics Laboratory (2)
PHY 320	Introduction to Theoretical Physics (4)
PHY 324	Electric Circuits
PHY 410	Advanced Physics Laboratory
PHY 440	Electricity and Magnetism I

**Total Required Credit Hours in Professional Education** .....24 cr

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching** .....12 cr

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification** .....47 cr

#### A. One Year (or Equivalent) of a Foreign Language (6 cr)

#### B. Cognate Sciences (26 cr)

CHE 111	Fundamentals of Chemistry I (4)
CHE 112	Fundamentals of Chemistry II (4)
GES 101	Introductory Geology
GES 102	Historical Geology
GES 103	Introductory Geology Laboratory (1)

Select one course from the following:

GES 111	General Oceanography
GES 131	Introduction to Astronomy
GES 241	Meteorology

Select two courses from the following:

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

#### C. Mathematics (15 cr)

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 315	Differential Equations

**Total Required Credit Hours** .....157–175 cr

# PHYSICS EDUCATION (7–12; 5–6 EXTENSION)

(0635)

## Physics Department Bachelor of Science (HEGIS 1902.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 262 (716) 878-6726

The physics B.S. degree program in secondary education leads to a New York State Initial Certificate for teaching both physics and general science in grades 5–12. Students seeking admission to the B.S. physics education program should initially enroll in the B.S. physics program. After successfully completing at least two required physics courses at Buffalo State with a GPA in these courses of 2.75 or higher, students apply for admission to the B.S. physics education program during the semester they complete SED 200. A 2.75 GPA in physics courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Physics .....32 cr**

PHY 111	University Physics I (4)
PHY 112	University Physics II (4)
PHY 213	University Physics III
PHY 305	Modern Physics I
PHY 306	Modern Physics II
PHY 310	Computational Physics Laboratory (2)
PHY 320	Introduction to Theoretical Physics (4)
PHY 324	Electric Circuits
PHY 410	Advanced Physics Laboratory
PHY 440	Electricity and Magnetism I

**Total Required Credit Hours in Professional Education .....30 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in the Middle School
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....44 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences (23 cr)**

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)

Select one course from the following:

GES 111	General Oceanography
GES 131	Introduction to Astronomy
GES 241	Meteorology

Choose two of the following courses:

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

**C. Mathematics (15 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 315	Differential Equations

**Total Required Credit Hours .....160–178 cr**

# PHYSICS EDUCATION (7–12; POSTBACCALAUREATE)

(7064)

## Physics Department Postbaccalaureate Teacher Certification Program (HEGIS 1902.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 262 (716) 878-6726

The physics postbaccalaureate certification-only program in secondary education leads to a New York State Initial Certificate for teaching both physics and general science in grades 7–12. This program is intended for persons with a bachelor's degree in physics or a related field who are interested in obtaining certification to teach physics in secondary schools or general science in middle schools. A minimum GPA of 2.75 in physics courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Physics .....32 cr**

PHY 111	University Physics I (4)
PHY 112	University Physics II (4)
PHY 213	University Physics III
PHY 305	Modern Physics I
PHY 306	Modern Physics II
PHY 310	Computational Physics Laboratory (2)
PHY 320	Introduction to Theoretical Physics (4)
PHY 324	Electric Circuits
PHY 410	Advanced Physics Laboratory
PHY 440	Electricity and Magnetism I

**Total Required Credit Hours in Professional Education .....24 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....44 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences (23 cr)**

CHE 111	Fundamentals of Chemistry I (4)
CHE 112	Fundamentals of Chemistry II (4)
GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)

Select one course from the following:

GES 111	General Oceanography
GES 131	Introduction to Astronomy
GES 241	Meteorology

Choose two of the following courses:

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

**C. Mathematics (15 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 315	Differential Equations

**Total Required Credit Hours .....112 cr**

# PHYSICS EDUCATION (7–12; 5–6 EXTENSION; POSTBACCALAUREATE)

(7067)

## Physics Department Postbaccalaureate Teacher Certification Program (HEGIS 1902.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Science Building 262 (716) 878-6726

The physics postbaccalaureate certification-only program in secondary education leads to a New York State Initial Certificate for teaching both physics and general science in grades 5–12. This program is intended for persons with a bachelor's degree in physics or a related field who are interested in obtaining certification to teach physics in secondary schools or general science in middle schools. A minimum GPA of 2.75 in physics courses is required for admission to SED 405, SED 407, and SED 408.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Physics .....32 cr**

PHY 111	University Physics I (4)
PHY 112	University Physics II (4)
PHY 213	University Physics III
PHY 305	Modern Physics I
PHY 306	Modern Physics II
PHY 310	Computational Physics Laboratory (2)
PHY 320	Theoretical Physics (4)
PHY 324	Electric Circuits
PHY 410	Advanced Physics Laboratory
PHY 440	Electricity and Magnetism I

**Total Required Credit Hours in Professional Education .....30 cr**

EDF 303	Educational Psychology
EDU 416	Teaching Literacy in Middle and Secondary Schools
EDU 417	Adolescent Literacy
EXE 372	Foundations of Teaching Adolescents with Disabilities
SED 200	Field Experience in Secondary Science Education
SED 310	Teaching Science in the Middle School
SCI 323	Science as Inquiry
SED 401	Techniques for Teaching Laboratory Activities in the Secondary Science Classroom
SED 405	Methods and Materials in Teaching Secondary School Science
SED 409	Seminar in Secondary Science Education

**Total Required Credit Hours in Student Teaching .....12 cr**

SED 407	Practice Teaching Science in the Middle School (6)
SED 408	Practice Teaching Science in the High School (6)

**Total Required Credit Hours in Other Fields for Certification .....44 cr**

**A. One Year (or Equivalent) of a Foreign Language (6 cr)**

**B. Cognate Sciences (23 cr)**

CHE 111, CHE 112	Fundamentals of Chemistry I, II (4, 4)
GES 101	Introductory Geology
GES 103	Introductory Geology Laboratory (1)

Select one course from the following:

GES 111	General Oceanography
GES 131	Introduction to Astronomy
GES 241	Meteorology

Select any two courses from the following:

BIO 211	Introduction to Cell Biology and Genetics (4)
BIO 212	Introduction to Organismal Biology and Diversity (4)
BIO 213	Introduction to Ecology, Evolution, and Behavior (4)

**C. Mathematics (15 cr)**

MAT 161	Calculus I
MAT 162	Calculus II
MAT 163	Using Technology to Explore Calculus I (1)
MAT 164	Using Technology to Explore Calculus II (1)
MAT 263	Calculus III
MAT 264	Using Technology to Explore Calculus III (1)
MAT 315	Differential Equations

**Total Required Credit Hours .....118 cr**

# POLITICAL SCIENCE

(0722)

## Political Science Department Bachelor of Arts (HEGIS 2207)

Classroom Building B218 (716) 878-6116

Political science is the study of government and politics. The major is divided into four areas: American politics, international politics, comparative politics, and political theory. A variety of courses are offered in each of these areas. Minors are offered in both public administration and political science.

Students gain an understanding of government and politics through a combination of theoretical analysis and practical experience, interning in national, state, or local government, or participating in the Washington Program. Students are prepared for an array of career options in the public and private sectors. The department offers special advisement for graduate study, pre-law, and public administration.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Political Science .....36 cr**

*(18 of the 36 credit hours must be in 300- or 400-level courses)*

**A. Required Courses (12 cr)**

PSC 101	Introduction to Government and Politics
PSC 102	Introduction to American Government
PSC 300	Political Analysis
PSC 301	Political Statistics

**B. Distribution Requirements (12 cr)**

**American Government and Politics (3 cr)**

Select one course from the following:

PSC 210	The American Presidency
PSC 215	Urban Government
PSC 218	African American Political Culture
PSC 220	The Development of American Constitutional Law
PSC 225	Women in American Politics
PSC 310	American Political Parties
PSC 311	Interest Groups
PSC 312	Legislative Process
PSC 315	State and Local Government and Politics
PSC 316	Urban Ethnic Politics
PSC 320	U.S. Constitution/Civil Liberties
PSC 325	Politics of Welfare
PSC 326	Politics and Media
PSC 327	Practical Politics
PSC 360	Public Administration
PSC 364	American Public Policy
PSC 410	Political Behavior and Public Opinion
PSC 415	Urban Public Policy
PSC 420	Contemporary Constitutional Issues

**International Relations (3 cr)**

Select one course from the following:

PSC 230	International Relations
PSC 309	International Political Economy
PSC 330	American Foreign Policy
PSC 333	African International Relations
PSC 335	International Relations of the Middle East

**Comparative Government (3 cr)**

Select one course from the following:

PSC 240	European Political Systems
PSC 340	Politics of Developing Countries
PSC 345/HIS 313	Politics and History of the Middle East
PSC 368	Comparative Public Administration
PSC 370	Canadian Public Administration

**Political Theory and Philosophy (3 cr)**

Select one course from the following:

PSC 350	Introduction to Legal Thought
PSC 351	History of Western Political Theory I
PSC 352	History of Western Political Theory II
PSC 355	American Political Thought
PSC 375	Race/Sex/Politics of Myth and Story
PSC 450	Contemporary Political Thought

**C. Electives in Political Science (12 cr)**

*Courses in section B may also count as electives if not used to fulfill distribution requirements.*

PSC 103	Great Political Issues
PSC 306	Politics of Energy
PSC 389	Topics in Political Science
PSC 470	Senior Seminar
PSC 488	Internship
PSC 495	Project
PSC 497	Washington Semester
PSC 499	Independent Study

**All College Electives .....18–45 cr**

**Total Required Credit Hours .....120 cr**

# PRINTMAKING

(0165)

## Fine Arts Department Bachelor of Fine Arts (HEGIS 1009)

National Association of Schools of Art and Design (NASAD) Accredited  
Upton Hall 502 (716) 878-6014

All freshmen and transfer students enter the B.F.A. program through required portfolio review. Those admitted as freshmen or as transfers with fewer than four semesters in college must be examined for the major prior to their last four semesters in the program. Students admitted as upper-division transfers must be examined for the major at the end of the first semester in the program.

The application for a major is the most critical evaluation in the program. Eligibility will be determined by a two-member faculty committee on the basis of an interview with the student and a review of his or her portfolio. Each B.F.A. student will be required to mount an individual exhibition of his or her work. It will be planned and installed with the advice of the student's faculty adviser, but no grade will be assigned. The Fine Arts Department reserves the right to retain student artwork for official purposes, such as exhibits, catalogs, or teaching aids.

**Admission Requirements:** Admission to the B.F.A. program is based on an interview and portfolio examination by the Fine Arts Department. The portfolio is to be presented in person or mailed along with a statement of intent as stipulated by the department and should contain examples of work that the candidate believes best display his or her abilities.

Students are expected to assume the costs of materials they use in their courses. All studio courses may have an additional instructional charge for materials used in class.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Fine Arts .....78 cr**

**A. Required Courses (42 cr)**

DES 101	Two-Dimensional Design
FAR 101	Drawing I
FAR 102	Drawing II
FAR 103	Modeling
FAR 210	Introductory Painting
FAR 220	Introductory Photography
FAR 230	Introductory Printmaking
FAR 240	Introductory Sculpture
FAR 250	Art History I
FAR 251	Art History II
FAR 363	Twentieth-Century Art
FAR 470	Senior Seminar in Fine Arts

Two art history electives.

**B. Printmaking (21 cr)**

FAR 331	Intermediate Printmaking I
FAR 322	Intermediate Printmaking II
FAR 333	Advanced Printmaking (three courses) (9)
FAR 420	Senior Studio in Printmaking (6)

**C. Art Electives (15 cr)**

**All College Electives .....0–3 cr**

**Total Required Credit Hours .....120–144 cr**

# PSYCHOLOGY (B.A.)

(0723)

## Psychology Department Bachelor of Arts (HEGIS 2001)

Classroom Building C312 (716) 878-6215

Students in the B.A. degree program receive a broad and comprehensive background in the science of psychology, which will qualify them to seek entry to graduate or professional schools or to apply for jobs that require a liberal arts training. The department's approach is both theoretical and empirical at all levels. The broad content areas represented include learning, perception, lifespan development and aging, animal behavior, industrial/organizational psychology, social processes, and normal and abnormal behavior.

**B.A. Honors in Psychology:** Departmental honors are for students who are performing exceptionally well in their courses. The honors designation is an adjunct to the B.A. degree with an added emphasis on independent work, and requires that students conduct a comprehensive original research project under the supervision of a faculty mentor. To be considered, students must have at least 24 credit hours in psychology from Buffalo State with a minimum GPA of 3.5, and a minimum GPA of 3.25 in all courses taken at Buffalo State. In addition to the required courses in the B.A. degree program, honors students must take PSY 496, and PSY 498. A 39-credit-hour sequence of psychology courses is required for a B.A. honors degree. This requirement is identical to that of the B.A. degree except that PSY 496 is used as a psychology elective and PSY 498 is an additional required course. Students should see their adviser no later than the junior year for more information about the honors option.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Psychology .....36 cr**

**A. Required Courses (15 cr)**

PSY 101	Introduction to Psychology
PSY 306	Statistics in Psychological Research
PSY 450W	Research Methods in Psychology I: Introduction to Research Methods
PSY 471	History and Systems of Psychology
PSY 472W	Seminar on Psychology

**B. Electives Selected by Advisement: 300-level (12 cr)**

- Select one course from each of the following three concentrations (9 cr):

**Bio/Cognitive Psychology Concentration**

PSY 304	Learning: Theory and Research
PSY 308	Sensation and Perception
PSY 321	Comparative Animal Behavior
PSY 340	Cognitive Psychology

**Social/Developmental Psychology Concentration**

PSY 325	Social Behavior
PSY 327	Adult Development and Aging I
PSY 355	Lifespan Developmental Psychology
PSY 356	Child Development
PSY 357	Adolescent and Young Adult Development
PSY 370	Environmental Psychology I

**Clinical/Applied Psychology Concentration**

PSY 310	Behavior Modification I
PSY 311	Personality: Theory and Research
PSY 365	Psychology in the Workplace
PSY 367	Organizational Behavior
PSY 375	Forensic Psychology
PSY 376	Health Psychology

- Any additional 3 credit hours of psychology at the 300-level.

**C. Electives Selected by Advisement: 400-level (9 cr)**

- Select one course from two of the following three concentrations (6 cr):

**Bio/Cognitive Psychology Concentration**

PSY 404	Theories of Learning
PSY 421	Physiological Psychology
PSY 430	Psycholinguistics: Language Structures and Processes
PSY 432	Human Motivation and Emotion
PSY 441	Introduction to Neuropsychology

**Social/Developmental Psychology Concentration**

PSY 415 The Competent Infant
PSY 416 Abnormal Child Psychology
PSY 417 The Atypical Infant
PSY 427 Adult Development and Aging II
PSY 470 Environmental Psychology II

**Clinical/Applied Psychology Concentration**

PSY 411 Abnormal Psychology
PSY 412 Community Psychology
PSY 440 Addictive Behaviors
PSY 466 Personnel Psychology
PSY 480 Psychotherapy: Theory, Research, and Procedures
PSY 481 Psychological Tests and Measurements

2. Any additional 3 credit hours of psychology at the 400-level: can include PSY 488, PSY 495, or PSY 499.

All College Electives .....15-42 cr

Total Required Credit Hours .....120 cr

PSYCHOLOGY (B.S.)

(0724)

Psychology Department
Bachelor of Science (HEGIS 2001)

Classroom Building C312 (716) 878-6215

A specialized B.S. degree in psychology is offered in the following concentrations: biological psychology, clinical psychology, environmental psychology, industrial/organizational psychology, psychology of aging, and psychology of infancy. The B.S. program is designed for a very limited number of students who seek an intensive preparation in one of the above areas. Emphasis is placed upon intensive practicum work and independent study. Students have the opportunity to work closely with a faculty mentor.

Admission Requirements:

- 1. The student must be enrolled in the B.A. program and be in good academic standing at the college before he or she can apply to the B.S. program.
2. The student applying for the B.S. program must have received a minimum grade of B in the first course of the required sequence of B.S. courses for that concentration.
3. For guidance in the application process, the potential B.S. applicant must meet with the faculty coordinator for the specialized B.S. concentration in which the student is interested.
4. A psychology department faculty member must formally sponsor the student.
5. The student must be able to complete a minimum of one academic year of supervised work with his or her sponsor in the B.S. program prior to graduation.
6. Final acceptance into the B.S. program requires approval of the candidate by the Psychology Department.

B.S. Honors in Psychology: Departmental honors are for students who are performing exceptionally well in their courses. The honors designation is an adjunct to the B.S. degree with an added emphasis on independent work, and requires that students conduct a comprehensive original research project under the supervision of a faculty mentor. To be considered, students must have at least 24 credit hours in psychology from Buffalo State with a minimum GPA of 3.5, and a minimum GPA of 3.25 in all courses taken at Buffalo State. In addition to the required courses in the B.S. degree program, honors students must take PSY 496 and PSY 498. A 42-credit-hour sequence of psychology courses is required for a B.S. honors degree. PSY 496 and PSY 498 may be used, where applicable, as elective courses in these programs. Students should see their adviser no later than the junior year for more information about the honors option.

Intellectual Foundations Requirements .....39-66 cr

Total Required Credit Hours in Psychology .....39-42 cr

A. Required Courses (18 cr)

PSY 101 Introduction to Psychology
PSY 306 Statistics in Psychological Research
PSY 450W Research Methods in Psychology I: Introduction to Research Methods
PSY 471 History and Systems of Psychology
PSY 472W Seminar on Psychology

PSY 488 Internship
OR
PSY 495 Project
OR
PSY 499 Independent Study

B. Concentration Courses (21-24 cr)

Students are required to complete one of the following concentrations. At least two courses for each concentration must be at the 400 level (excluding the courses listed in group A).

Biological Psychology Concentration (24 cr)

PSY 304 Learning: Theory and Research
PSY 308 Sensation and Perception
PSY 321 Comparative Animal Behavior
PSY 376 Health Psychology
PSY 421 Physiological Psychology
PSY 441 Introduction to Neuropsychology
Elective courses selected by advisement (6)

Clinical Psychology Concentration (24 cr)

PSY 311 Personality: Theory and Research
PSY 411 Abnormal Psychology
PSY 480 Psychotherapy: Theory, Research, and Procedures
PSY 481 Psychological Tests and Measurements
Elective courses selected by advisement (12)

Environmental Psychology Concentration (24 cr)

PSY 370 Environmental Psychology I
PSY 470 Environmental Psychology II
Elective courses selected by advisement (18)

Industrial/Organizational Psychology Concentration (24 cr)

PSY 365 Psychology in the Workplace
PSY 367 Organizational Behavior
PSY 466 Personnel Psychology
Elective courses selected by advisement (15)

Psychology of Aging Concentration (21 cr)

PSY 327 Adult Development and Aging I
PSY 355 Lifespan Developmental Psychology
PSY 427 Adult Development and Aging II
Elective courses selected by advisement (12)

Psychology of Infancy Concentration (21 cr)

PSY 355 Lifespan Developmental Psychology
PSY 415 The Competent Infant
PSY 417 The Atypical Infant
Elective courses selected by advisement (12)

All College Electives .....18-39 cr

Biological Psychology (18-36)
Clinical Psychology (18-36)
Environmental Psychology (24-36)
Industrial/Organizational Psychology (18-36)
Psychology of Aging (21-39)
Psychology of Infancy (21-39)

Total Required Credit Hours .....120 cr

PUBLIC COMMUNICATION

(0703)

Communication Department
Bachelor of Arts (HEGIS 0699)

Bishop Hall 210 (716) 878-6008

This major allows students flexibility to tailor a program based on strategic communication through the disciplines of public relations, advertising, and related fields. It meets the needs of students preparing for a career in which research, strategic planning, implementation of creative tactics, and evaluation are central, whether to advance an organization, promote a product, or advocate a cause. Compare this major with communication studies, journalism, and media production.

Career Opportunities: Students in public communication prepare for careers in public relations and advertising, as well as fundraising, organizational communication, research, lobbying, marketing communication, and other fields that require a liberal arts education enhanced with communication expertise.

The profile of a successful public communication graduate is a person with strong writing and speaking proficiency, keen ethical insight, competence in research and planning, and skill in working effectively both independently and in teams.

**Admission Requirements:** Incoming freshmen and transfer students can declare the major. A 2.6 GPA in the major is required for certain upper-division courses (300- and 400-level).

See [www.buffalostate.edu/communication](http://www.buffalostate.edu/communication) for application forms and additional information, including a list of equivalent core courses at community colleges. Transfer students from two-year schools may apply only core courses toward this major for a maximum of 12 credits. Students generally require four semesters of study after acceptance into public relations and advertising.

**Academic Standards:** Only grades of C or higher may be applied toward requirements for any communication degree; courses with lower grades must be repeated. Consistent with standards of the Accrediting Council for Education in Journalism and Mass Communication, the number of communication courses that students may take is capped, encouraging a broad-based liberal arts education. The department encourages students to take minors or second majors and requires evidence of an academic concentration or area of expertise outside the Communication Department.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Requirements .....42 cr**

**A. Communication Core (12 credits)**

- COM 100 Media Literacy
- COM 210 Introduction to Media Writing
- COM 215 Introduction to Visual Communication
- SPC 205 Introduction to Oral Communication

*Note: Students must have a minimum GPA of 2.6 in the major to register for certain upper-division courses (300- and 400-level).*

**B. Major Requirements (18 credits)**

- COM 301 Principles of Public Relations and Advertising
- COM 307 Group Communication
- COM 308 Public Relations Writing
- COM 322 Communication Graphics
- COM 401 Applied Communication Research
- COM 418 Campaigns in Public Relations and Advertising

**C. Senior Seminar (3 cr)**

- COM 450 Communication and Society

**D. Communication Electives (9 credits)**

300- and 400-level courses in the department (selected by advisement)

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

## SCULPTURE

(0170)

### Fine Arts Department Bachelor of Fine Arts (HEGIS 1002)

National Association of Schools of Art and Design (NASAD) Accredited  
Upton Hall 502 (716) 878-6014

All freshmen and transfer students enter the B.F.A. degree program through required portfolio review. Those admitted as freshmen or as transfers with fewer than four semesters in college must be examined for the major prior to their last four semesters in the program. Students admitted as upper-division transfers must be examined for the major at the end of the first semester in the program.

The application for a major is the most critical evaluation in the program. Eligibility will be determined by a two-member faculty committee on the basis of an interview with the student and a review of his or her portfolio. Each B.F.A. student will be required to mount an individual exhibition of his or her work. It will be planned and installed with the advice of the student's faculty adviser, but no grade will be assigned.

The Fine Arts Department reserves the right to retain student artwork for official purposes, such as exhibits, catalogs, or teaching aids.

**Admission Requirements:** Admission to the B.F.A. program is based on an interview

and portfolio examination by the Fine Arts Department. The portfolio is to be presented in person or mailed along with a statement of intent as stipulated by the department and should contain examples of work that the candidate believes best display his or her abilities.

Students are expected to assume the costs of materials they use in their courses. All studio courses may have an additional instructional charge for materials used in class.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Fine Arts .....78 cr**

**A. Required Courses (42 cr)**

- DES 101 Two-Dimensional Design
- FAR 101 Drawing I
- FAR 102 Drawing II
- FAR 103 Modeling
- FAR 210 Introductory Painting
- FAR 220 Introductory Photography
- FAR 230 Introductory Printmaking
- FAR 240 Introductory Sculpture
- FAR 250 Art History I
- FAR 251 Art History II
- FAR 363 Twentieth-Century Art
- FAR 470 Senior Seminar in Fine Arts
- Two art history electives

**B. Sculpture (21 cr)**

- FAR 341 Intermediate Sculpture I
- FAR 342 Intermediate Sculpture II
- FAR 343 Advanced Sculpture (three courses) (9)
- FAR 440 Senior Studio in Sculpture (6)

**C. Art Electives (15 cr)**

**All College Electives .....0–3 cr**

**Total Required Credit Hours .....120–144 cr**

## SOCIAL STUDIES EDUCATION (7–12)

(0640)

### History and Social Studies Education Department Bachelor of Science (HEGIS 2201.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Classroom Building C205 (716) 878-5412

The social studies B.S. degree program in secondary education prepares students to meet the educational requirements leading to New York State Initial Certification in Adolescence Education required to teach social studies in grades 7–12. The program supplies a knowledge base that provides the background knowledge necessary for teachers to implement the NYS Learning Standards for students in grades 7–12.

**Admission Requirements:** Applicants must have a minimum cumulative GPA of 2.75, a minimum GPA of 2.75 in all history and social science courses, and achieve acceptable evaluations on the PRAXIS II: Subject Assessment in Social Studies Content Knowledge exam. An interview with the program coordinator, department chair, or other designated official is mandatory, and formal acceptance into the program is necessary.

**Prerequisites for Student Teaching:** See prerequisites for SSE 409 and SSE 410.

A departmental honors program is also available. Students should contact the department for additional information.

The social studies content core constitutes a 42-credit major in social studies that consists of study in economics, government, and a minimum of 30 credit hours of study in the history and geography of the United States and the world (see total required credit hours in social studies, below). All program majors are required to complete a minimum of 100 clock hours of field experience related to coursework prior to student teaching. These field experiences consist of observations, individual tutoring, and the teaching of small groups of students under the supervision of certified teachers. These experiences are an integral component of the pedagogical core courses specified in the previous section, with learning outcomes specified and their achievement evaluated by course instructors.

Students complete a minimum of 30-35 clock hours of field experience in each of three courses: SSE 200, SSE 303, and SSE 309. Another course, SSE 488, is available and will be used by transfer students and others who may have a deficiency in field experience. The department has established relationships with several “high-need” urban and suburban school districts where field experiences are held. All majors will have study and experiences that together provide a solid foundation for teaching in high-need schools.

To student teach, students are required to have a minimum cumulative GPA of 2.75 and a minimum GPA of 2.75 in the social studies major, as well as obtain a minimum grade of C in SSE 303 and SSE 309. All majors meeting these requirements must enroll in two practicum courses following completion of all other coursework and satisfaction of English and math competency requirements. Placements for these practica include urban and suburban settings. The urban placements may be in high-need districts that provide opportunities for student teachers to work with students from diverse backgrounds, including socio-economically disadvantaged students, students with disabilities, and students who are English-language learners. Experiences include individual and group instruction, daily and long-view planning, unit teaching, classroom management and routine procedures, use of audiovisual aids, community resources, record-keeping, evaluation procedures, and participation in the total school program.

**Intellectual Foundations Requirements .....39–66 cr**

Program majors should enroll in an introductory psychology course, such as PSY 101, to satisfy their Intellectual Foundation requirements. It is recommended that majors take history courses to meet their civilizations requirements, with the understanding that only 3 credit hours will “double dip.”

**Total Required Credit Hours in Social Sciences .....42 cr**

**A. History of the Western Hemisphere (12 cr)**

- Basic U.S. history
- HIS 106 History of American Life I
- HIS 107 History of American Life II
- HIS 415 History and Government of New York State
- Upper-division elective (any U.S., Canadian, or Latin American history course)

**B. History of the Eastern Hemisphere (12 cr)**

- Select two courses from the following:*
- HIS 115 Foundations of Western Civilization
- HIS 116 Europe Since 1500
- HIS 117 Twentieth-Century Europe
- HIS 230 World Civilizations
- World history elective (any Asian, African, or Middle-Eastern world history course)

**C. Geography (6 cr)**

- GEG 300 World Regional Geography
- Select one course from the following:*
- GEG 102 Human Geography
- GEG 206 Geography of New York State
- GEG 309 Introduction to Urban Geography
- GEG 320 Historical Geography of the United States
- GEG 360 Geography of Asia
- GEG 362 Geography of the United States and Canada
- GEG 364 Geography of Europe

**D. Political Science (3 cr)**

- Select one course from the following:*
- PSC 102 Introduction to American Government
- PSC 220 The Development of American Constitutional Law
- PSC 320 U.S. Civil Liberties

**E. Economics (3 cr)**

- Select one course from the following:*
- ECO 101 The Economic System
- ECO 201 Principles of Macroeconomics
- ECO 202 Principles of Microeconomics

**F. Upper-Division Social Science Elective (3 cr)**

**G. Seminar (3 cr)**

- HIS 300W Research and Writing Seminar

**Total Required Credit Hours in Professional Education .....30 cr**

- EDF 303 Educational Psychology
- EDU 416 Teaching Literacy in Middle and Secondary Schools
- ENG 309 Teaching and Evaluating Writing
- EXE 100 Nature and Needs of Individuals with Special Needs
- OR
- EXE 372 Foundations of Teaching Adolescents with Disabilities

- PSY 357 Adolescent and Young-Adult Development
- SSE 200 Introduction to Secondary Teaching
- SSE 303 Methods and Materials in Teaching Middle School Social Studies
- SSE 309 Methods and Materials in Teaching High School Social Studies
- SSE 370 Computer Technology in the Social Studies Classroom
- SSE 402 Historical and Philosophical Foundations of Social Education
- OR
- SSE 407 The Teaching of History

**Total Required Credit Hours in Student Teaching .....12 cr**

- SSE 409 Student Teaching of Social Studies in the Middle School (6)
- SSE 410 Student Teaching of Social Studies in Senior High School (6)

**One Year (or Equivalent) of a Foreign Language .....6 cr**

**Total Required Credit Hours .....132–150 cr**

## SOCIAL STUDIES EDUCATION (7–12; 5–6 EXTENSION)

(0641)

### History and Social Studies Education Department Bachelor of Science (HEGIS 2201.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Classroom Building C205 (716) 878-5412

The social studies secondary education program prepares students to meet the educational requirements leading to New York State Initial Certification in Adolescence Education required to teach social studies in grades 7–12, with an extension for middle childhood that qualifies the holder to teach social studies in grades 5–9. The program supplies a knowledge base that provides the background knowledge necessary for teachers to implement the NYS Learning Standards for students in grades 5–12.

*Admission Requirements:* Applicants must have a minimum cumulative GPA of 2.75, a minimum GPA of 2.75 in all history and social science courses, and achieve acceptable evaluations on the PRAXIS II: Subject Assessment in Social Studies Content Knowledge exam. An interview with the program coordinator, department chair, or other designated official is mandatory, and formal acceptance into the program is necessary.

*Prerequisites for Student Teaching:* See prerequisites for SSE 409 and SSE 410.

A departmental honors program is also available. Students should contact the department for additional information.

The social studies content core constitutes a 42-credit major in social studies that consists of study in economics, government, and a minimum of 33 credit hours of study in the history and geography of the United States and the world (see “Total Required Credit Hours in Social Studies,” below).

All program majors are required to complete a minimum of 150 clock hours of field experience related to coursework prior to student teaching. These field experiences consist of observations, individual tutoring, and the teaching of small groups of students under the supervision of certified teachers. These experiences are an integral component of the pedagogical core courses specified in the previous section, with learning outcomes specified and their achievement evaluated by course instructors.

Students complete a minimum of 30-35 clock hours of field experience in each of three courses: SSE 200, SSE 303, and SSE 309. Another course, SSE 488, is available and will be used by students to complete the additional 50 clock hours in field experience required for the grades 5-6 extension. The department has established relationships with several “high-need” urban and suburban school districts where field experiences are held. All majors will have study and experiences that together provide a solid foundation for teaching in high-need schools.

To student teach, students are required to have a minimum cumulative GPA of 2.75 and a minimum GPA of 2.75 in the social studies major, as well as obtain a minimum grade of C in SSE 303 and SSE 309. All majors meeting these requirements must enroll in two practicum courses following successful completion of all other coursework, and satisfaction of English and math competency requirements. Placements for these practica include urban and suburban settings. The urban placements may be in high-

need districts that provide opportunities for student teachers to work with students from diverse backgrounds, including socio-economically disadvantaged students, students with disabilities, and students who are English-language learners. Experiences include individual and group instruction, daily and long-view planning, unit teaching, classroom management and routine procedures, use of audiovisual aids, community resources, record-keeping, evaluation procedures, and participation in the total school program.

**Intellectual Foundations Requirements .....39–66 cr**

Program majors should enroll in an introductory psychology course, such as PSY 101, to satisfy their Intellectual Foundations requirements. It is recommended that majors take history courses to meet their civilizations requirements, with the understanding that only 3 credit hours will “double dip.”

**Total Required Credit Hours in Social Sciences .....42 cr**

**A. History of the Western Hemisphere (15 cr)**

- HIS 106 History of American Life I
- HIS 107 History of American Life II
- HIS 308 History of Early Canada
- OR
- HIS 316 History of Modern Canada
- OR
- HIS 326 History of the Great Lakes Region
- HIS 314 Modern Latin America
- HIS 415 History and Government of New York State

**B. History of the Eastern Hemisphere (15 cr)**

- Select two courses from the following:*
- HIS 115 Foundations of Western Civilization
  - HIS 116 Europe Since 1500
  - HIS 117 Twentieth-Century Europe
  - HIS 230 World Civilizations
- Two upper-division electives (any Asian, African, or Middle-Eastern world history courses)

**C. Geography (3 cr)**

- GEG 300 World Regional Geography

**D. Political Science (3 cr)**

- Select one course from the following:*
- PSC 102 Introduction to American Government
  - PSC 220 The Development of American Constitutional Law
  - PSC 320 U.S. Civil Liberties

**E. Economics (3 cr)**

- Select one course from the following:*
- ECO 101 The Economic System
  - ECO 201 Principles of Macroeconomics
  - ECO 202 Principles of Microeconomics

**F. Seminar (3 cr)**

- HIS 300W Research and Writing Seminar

**Total Required Credit Hours in Professional Education .....30 cr**

- EDF 303 Educational Psychology
- EDU 416 Teaching Literacy in Middle and Secondary Schools
- ENG 309 Teaching and Evaluating Writing
- EXE 100 Nature and Needs of Individuals with Special Needs
- OR
- EXE 372 Foundations of Teaching Adolescents with Disabilities
- PSY 357 Adolescent and Young-Adult Development
- SSE 200 Introduction to Secondary Teaching
- SSE 303 Methods and Materials in Teaching Middle School Social Studies
- SSE 309 Methods and Materials in Teaching High School Social Studies
- SSE 370 Computer Technology in the Social Studies Classroom
- SSE 402 Historical and Philosophical Foundations of Social Education
- OR
- SSE 407 The Teaching of History

**Total Required Credit Hours in Field Experience and Student Teaching .....15 cr**

- SSE 409 Student Teaching of Social Studies in the Middle School (6)
- SSE 410 Student Teaching of Social Studies in Senior High School (6)
- SSE 488 Internship: Middle Childhood and Adolescence Education

**One Year (or Equivalent) of a Foreign Language .....6 cr**

**Total Required Credit Hours .....135–153 cr**

# SOCIAL STUDIES EDUCATION (7–12; POSTBACCALAUREATE)

(7070)

## History and Social Studies Education Department Postbaccalaureate Teacher Certification Program (HEGIS 2201.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Classroom Building C205 (716) 878-5412

The social studies education (7–12) postbaccalaureate certification-only program prepares persons with existing undergraduate degrees in history or social science, or with a 36-credit concentration in history and/or social science courses, to meet the disciplinary content and educational requirements leading to New York’s Initial Certificate in adolescence education required to teach social studies in grades 5–12. The program supplies the background knowledge necessary for teachers to implement the NYS Learning Standards for social studies in grades 5–12. It also meets the standards set by national professional organizations such as the National Council for the Social Studies and the National Council for the Accreditation of Teacher Education.

**Admission Requirements:** Applicants must have an existing undergraduate degree with a 36-credit concentration in history and/or social science courses, as well as a minimum 2.75 cumulative GPA; a minimum 2.75 GPA in all history and social science courses; and achieve acceptable evaluations on the PRAXIS II: Subject Assessment in Social Studies Content Knowledge exam. An interview with the program coordinator, department chair, or other designated official is mandatory, and formal acceptance into the program is necessary.

Students complete a minimum of 30-35 clock hours of field experience in each of three courses: SSE 200, SSE 303, and SSE 309. The department has established relationships with several high-need urban and suburban school districts where field experiences are held. All majors will have study and experiences that together provide a solid foundation for teaching in high-need schools.

To meet NCATE certification requirements, the total social studies subject matter coursework must include no less than 40 percent of a total four-year program, with an area of concentration of at least 18 semester hours in one academic discipline. The program of study must include economics, government, and a minimum of 30 semester hours of study in the history and geography of the United States and the world. All students’ history/social science coursework must include the following or the equivalent of the following:

**Total Required Credit Hours in Content Area Courses .....50 cr**

**A. Basic U.S. History (9 cr)**

- HIS 106 American Life I
- HIS 107 American Life II
- HIS 415 History and Government of New York State

**B. Basic World History (9 cr)**

- Select two courses from the following:*
- HIS 115 Foundations of Western Civilization
  - HIS 116 Europe Since 1500
  - HIS 117 Twentieth-Century Europe
  - HIS 230 World Civilizations

**C. Other World History (6 cr)**

Two Asian, Middle-Eastern, or African history courses

**D. Geography (6 cr)**

- GEG 300 World Regional Geography
- Select one course from the following:*
- GEG 102 Human Geography
  - GEG 206 Geography of New York State
  - GEG 309 Introduction to Urban Geography
  - GEG 320 Historical Geography of the United States
  - GEG 360 Geography of Asia
  - GEG 362 Geography of the United States and Canada
  - GEG 364 Geography of Europe

**E. Political Science (3 cr)**

Select one course from the following:

- PSC 102 Introduction to American Government
- PSC 220 Development of American Constitutional Law
- PSC 320 U.S. Constitution/Civil Liberties

**F. Economics (3 cr)**

Select one course from the following:

- ECO 101 The Economic System
- ECO 201 Principles of Macroeconomics
- ECO 202 Principles of Microeconomics

**G. Cultural Diversity (3 cr)**

- SSE 363 American Identity in Transition: Diversity and Pluralism in the United States

**H. History/Social Science Electives (11 cr)**

**Total Required Credit Hours in Professional Education.....30 cr**

- EDF 303 Educational Psychology
- EDU 416 Teaching Literacy in Middle and Secondary Schools
- ENG 309 Teaching and Evaluating Writing
- EXE 100 Nature and Needs of Individuals with Special Needs
- OR
- EXE 372 Foundations of Teaching Secondary Students with Disabilities
- PSY 357 Adolescent and Young Adult Development
- SSE 200 Introduction to Secondary Teaching
- SSE 303 Methods and Materials in Teaching Middle School Social Studies
- SSE 309 Methods and Materials in Teaching High School Social Studies
- SSE 370 Computer Technology in the Social Studies Classroom
- SSE 402 Historical and Philosophical Foundations of Social Education
- OR
- SSE 407 The Teaching of History

**Total Required Credit Hours in Student Teaching .....12 cr**

To student teach, a student must have achieved a cumulative GPA of 2.75 or higher and a minimum 2.75 GPA in the social studies major, as well as obtain a grade of C or higher in SSE 303 and SSE 309.

- SSE 409 Student Teaching of Social Studies in the Middle School (6 cr)
- SSE 410 Student Teaching of Social Studies in Senior High School (6 cr)

**Total Required Credit Hours .....92 cr**

Students complete a minimum of 30-35 clock hours of field experience in each of three courses: SSE 200, SSE 303, and SSE 309. Another course, SSE 488, is available and will be used by students to complete the additional 50 clock hours in field experience required for the 56 extension. The department has established relationships with several high-need urban and suburban school districts where field experiences are held. All majors will have study and experiences that together provide a solid foundation for teaching in high-need schools.

**Total Required Credit Hours in Content Area Courses .....50 cr**

**A. History of the Western Hemisphere (15 cr)**

- HIS 106 American Life I
- HIS 107 American Life II
- HIS 308 History of Canada
- HIS 314 Modern Latin America
- HIS 415 History and Government of New York State

**B. History of the Eastern Hemisphere (9 cr)**

Select two courses from the following:

- HIS 115 Foundations of Western Civilization
- HIS 116 Europe Since 1500
- HIS 117 Twentieth-Century Europe
- HIS 230 World Civilizations

**C. Geography (6 cr)**

- GEG 300 World Regional Geography
- Select one course from the following:
- GEG 102 Human Geography
  - GEG 206 Geography of New York State
  - GEG 309 Introduction to Urban Geography
  - GEG 320 Historical Geography of the United States
  - GEG 360 Geography of Asia
  - GEG 362 Geography of the United States and Canada
  - GEG 364 Geography of Europe

**D. Political Science (3 cr)**

Select one course from the following:

- PSC 102 Introduction to American Government
- PSC 220 Development of American Constitutional Law
- PSC 320 U.S. Constitution/Civil Liberties

**E. Economics (3 cr)**

Select one course from the following:

- ECO 101 The Economic System
- ECO 201 Principles of Macroeconomics
- ECO 202 Principles of Microeconomics

**F. Cultural Diversity (3 cr)**

- SSE 363 American Identity in Transition: Diversity and Pluralism in the United States

**G. History/Social Science Electives (11 cr)**

**Total Required Credit Hours in Professional Education.....30 cr**

- EDF 303 Educational Psychology
- EDU 416 Teaching Literacy in Middle and Secondary Schools
- ENG 309 Teaching and Evaluating Writing
- EXE 100 Nature and Needs of Individuals with Special Needs
- OR
- EXE 372 Foundations of Teaching Secondary Students with Disabilities
- PSY 357 Adolescent and Young Adult Development
- SSE 200 Introduction to Secondary Teaching
- SSE 303 Methods and Materials in Teaching Middle School Social Studies
- SSE 309 Methods and Materials in Teaching High School Social Studies
- SSE 370 Computer Technology in the Social Studies Classroom
- SSE 402 Historical and Philosophical Foundations of Social Education
- OR
- SSE 407 The Teaching of History

**Total Required Credit Hours in Student Teaching .....15 cr**

To complete the program, a student must have achieved a cumulative GPA of 2.75 or higher and a minimum 2.75 GPA in the major.

- SSE 409 Student Teaching of Social Studies in the Middle School (6 cr)
- SSE 410 Student Teaching of Social Studies in Senior High School (6 cr)
- SSE 488 Internship: Middle Childhood and Adolescence Education (3 cr)

**Total Required Credit Hours .....95 cr**

**SOCIAL STUDIES EDUCATION  
(7-12; 5-6 EXTENSION;  
POSTBACCALAUREATE)**

(7073)

**History and Social Studies Education Department  
Postbaccalaureate Teacher Certification Program  
(HEGIS 2201.1)**

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Classroom Building C205 (716) 878-5412

The social studies education (7-12; 5-6 extension) postbaccalaureate certification-only program prepares persons with existing undergraduate degrees who have a history or social science major to meet the disciplinary content and educational requirements leading to New York State's Initial Certificate in adolescence education required to teach social studies in grades 5-12. The program supplies the background knowledge necessary for teachers to implement the NYS Learning Standards for social studies in grades 5-12. It also meets the standards set by national professional organizations such as the National Council for the Social Studies and the National Council for the Accreditation of Teacher Education.

*Admission Requirements:* Applicants must have an existing undergraduate degree with a 36-credit concentration in history and/or social science courses, as well as a minimum 2.75 cumulative GPA; a minimum 2.75 GPA in all history and social sciences courses; and achieve acceptable evaluations on the PRAXIS II: Subject Assessment in Social Studies Content Knowledge exam. An interview with the program coordinator, department chair, or other designated official is mandatory, and formal acceptance into the program is necessary.

## SOCIAL WORK\*

(0435)

### Social Work Department Bachelor of Science (HEGIS 2104)

Council on Social Work Education Accredited  
Classroom Building C115 (716) 878-5705

The social work program prepares students for social work practice at the first professional level. Consistent with accreditation standards, the social work courses cover the following areas: human behavior and the social environment, social welfare policy and services, intervention methods, research, values and ethics, diversity, social and economic justice, populations at risk, and field instruction.

Social work is an upper-division major that builds on a liberal arts base. Academic evaluation includes GPA, class performance, and conduct that is ethical and professional. Interested students should contact the department for specific information on these academic standards.

*Admission Requirements:* Students are required to:

1. Complete 45 credit hours by the end of the semester in which the application is made.
2. Attain a minimum GPA of 2.5.
3. Successfully complete the English and mathematics basic skills competency requirements of the college.
4. Progress toward completing the liberal arts foundation (a recommended course in each of the following areas: sociology, psychology, political science, anthropology, economics, history, philosophy, literature, and the arts). A list of courses that fulfill these requirements is available in the department office and Web site.

\*Evening study available.

**Intellectual Foundations Requirements .....39–66 cr**

BIO 101 or equivalent in human biology

**Total Required Credit Hours in Social Work .....42 cr**

SWK 220	Introduction to Social Work
SWK 307	Human Behavior and Social Environment I
SWK 308	Human Behavior and Social Environment II
SWK 317	Research in Social Work
SWK 319	Dynamics of Poverty
SWK 320	Social Services Organizations
SWK 419	Social Welfare Policy
SWK 422	Interventive Methods I
SWK 423	Interventive Methods II
SWK 424	Interventive Methods III
SWK 493-494	Field Instruction (12 cr)

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

## SOCIOLOGY (B.A.)

(0730)

### Sociology Department Bachelor of Arts (HEGIS 2208)

Classroom Building B307 (716) 878-5411

The B.A. degree in sociology presents a general program to prepare students for a wide variety of positions in business, industry, government, health-related services, or social services. It is also designed to prepare undergraduate students for graduate work in sociology, law, public administration, demography, or other social science disciplines. Its emphasis upon scholarly research culminates in the senior seminar, in which students experience the atmosphere and types of academic tasks prevalent in graduate work. The freedom of choice in selection of sociology courses permits students to develop a particular specialty within sociology, either to meet special career interests, or

graduate program requirements. Although this program does not require either applied computer courses or internship experience, students are strongly advised to consider these courses in the selection of sociology electives.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Sociology .....40 cr**

#### A. Required Courses (22 cr)

SOC 100	Introduction to Sociology
SOC 300W	Methods in Social Research
SOC 301	Social Statistics (4)
SOC 330	Social Psychology
OR	
SOC 350	Power, Class, and Inequality
SOC 400W	Foundations of Sociological Thought
SOC 408W	Contemporary Sociological Theory
SOC 490	Seminar in Sociology

#### B. At Least One Course from Each of Three Clusters (9 cr)

##### Social Institutions Cluster

SOC 320	Sociology of the Family
SOC 323	Sociology of Education
SOC 360	Sociology of Work
SOC 362	Sociology of Organizations

##### Social Structure and Development Cluster

SOC 310	Sociology of Gender and Sex Roles
SOC 333	Social Movements
SOC 340	Sociology of the City
SOC 351	Sociology of Race and Ethnicity

##### Deviance Cluster

SOC 370	Sociology of Deviant Behavior
SOC 380	Sociology of Crime
SOC 382	Sociology of Law
SOC 390	Juvenile Delinquency

#### C. Sociology Electives (9 cr)

At least three additional courses in sociology.

**All College Electives .....14–41 cr**

**Total Required Credit Hours .....120 cr**

## SOCIOLOGY—APPLIED (B.S.)

(0732)

### Sociology Department Bachelor of Science (HEGIS 2208)

Classroom Building B307 (716) 878-5411

The B.S. degree program emphasizes applied sociology and prepares students to conduct and administer sociological research for client organizations, such as business and financial institutions, labor organizations, criminal justice units, government agencies, health-related organizations, and a host of social service agencies. It also provides preparation for graduate study. The program rests upon a foundation of required core courses stressing research skills and sociological theory. Students select one of four clusters to emphasize a particular area of interest in the field.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Sociology .....40 cr**

#### A. Required Courses (19 cr)\*

SOC 100	Introduction to Sociology
SOC 300W	Methods of Research
OR	
SOC 302W	Applied Social Research
SOC 301	Social Statistics (4)
SOC 400W	Foundations of Sociological Thought
SOC 486	Practicum in Applied Sociology
SOC 488	Internship in Sociology

\*A number of courses are listed in more than one section. If a student selects one of these courses, it can only be applied in a single section. The student will choose where to apply the credit.

**B. Cluster Requirement (9 cr)**

Select three courses from one cluster:

**Socialization through Life**

- SOC 320 Sociology of the Family
- SOC 322 Sociology of Childhood and Youth
- SOC 323 Sociology of Education
- SOC 330 Social Psychology
- SOC 331 Sociology of Group Dynamics
- SOC 352 Sociology of Aging
- SOC 360 Sociology of Work
- SOC 370 Sociology of Deviant Behavior
- SOC 420 Sociology of Religion

**Deviance and Social Control**

- SOC 240 Social Problems
- SOC 370 Sociology of Deviant Behavior
- SOC 380 Sociology of Crime
- SOC 381 Sociology of Violence
- SOC 382 Sociology of Law
- SOC 383 Sociology of Punishment and Corrections
- SOC 390 Juvenile Delinquency
- SOC 391 Sociology of Addiction
- SOC 393 Sociology of Mental Illness

**Community, Work, and Organizations**

- SOC 323 Sociology of Education
- SOC 331 Sociology of Group Dynamics
- SOC 333 Social Movements
- SOC 340 Sociology of the City
- SOC 350 Power, Class, and Inequality
- SOC 351 Sociology of Race and Ethnicity
- SOC 353 Environment and Society
- SOC 360 Sociology of Work
- SOC 361 Industrial Sociology
- SOC 362 Sociology of Organizations
- SOC 382 Sociology of Law

**Sociological Practice**

- SOC 199 Social Science Computer Applications
- SOC 300W Methods of Research
- OR
- SOC 302W Applied Social Research
- SOC 330 Social Psychology
- SOC 362 Sociology of Organizations
- SOC 408W Contemporary Sociological Theory
- SOC 415 Population Analysis (OR GEG 309)
- SOC 499 Independent Study in Advanced Statistical Analysis

**C. Inequality Electives (6 cr)**

Select two courses from the following:

- SOC 310 Sociology of Gender and Sex Roles
- SOC 312 Women in Society
- SOC 321 African American Family
- SOC 333 Social Movements
- SOC 350 Power, Class, and Inequality
- SOC 351 Sociology of Race and Ethnicity
- SOC 352 Sociology of Aging
- SOC 353 Environment and Society
- SOC 360 Sociology of Work

**D. Sociology electives; two courses (6 cr)**

Students may take any two courses in the major.

**All College Electives .....14–41 cr**

**Total Required Credit Hours .....120 cr**

# SPANISH EDUCATION (7–12)

(0656)

## Modern and Classical Languages Department Bachelor of Science (HEGIS 1105.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 122 (716) 878-5414

The Spanish secondary education program enables students to earn provisional certification to teach Spanish in New York State secondary schools. Students develop Spanish language skills and study the structure and sound system of Spanish, the literature and culture of Spanish-speaking peoples, and, in the professional education component, the growth and role of the public school, adolescent development and psychology, and the teaching/learning of foreign languages in school settings. The curriculum includes a series of field experiences. Students must have a minimum GPA of 2.5 (overall and in the major) to student teach.

Students desiring this program may be admitted into the B.A. language and literature program (0714), which functions as a pre-major for the B.S. program. Students must apply for admission to the B.S. program by filling out a form in the Modern and Classical Languages Department office (Bishop 122) after they have successfully completed 30 credit hours in Spanish, including two 300-level courses. Transfer students who enter with more than 30 hours in Spanish may apply as soon as they have completed two 300-level courses in Spanish at Buffalo State. No student will be admitted with less than a 2.5 overall GPA, or with less than a 2.5 GPA in Spanish courses.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Spanish .....36 cr**

**A. Required Courses (27 cr)**

- SPA 301, SPA 302 Spanish Conversation and Composition
- SPA 305 Spanish Phonetics
- SPA 306 The Civilization of Spain
- SPA 307, SPA 308 Survey of Spanish Literature
- OR
- SPA 310, SPA 311 Survey of Spanish American Literature
- SPA 309 The Civilization of Latin America
- SPA 415 Advanced Grammar and Composition
- SPA 416 Advanced Conversation

**B. Electives (9 cr)**

Select three courses from the following:

- SPA 303 Introduction to Spanish Literature
- SPA 307 Survey of Spanish Literature\*
- SPA 308 Survey of Spanish Literature\*\*
- SPA 310 Survey of Spanish American Literature\*
- SPA 311 Survey of Spanish American Literature\*
- SPA 317 Business Spanish
- SPA 405 Old Spanish
- SPA 408 Twentieth-Century Spanish Literature
- SPA 411 Spanish American Literature of the Nineteenth and Twentieth Centuries: Novel, Short Story, and Essay
- SPA 421 Structure of Modern Spanish
- SPA 496 Seminar I
- SPA 497 Seminar II

\* May be taken as an elective if not taken as a required course.

**Total Required Credit Hours in Professional Education .....24 cr**

- EDF 303 Educational Psychology
- EDF 403 Historical and Philosophical Forces Influencing Secondary Education
- EDU 416 Teaching Reading in Secondary Schools
- EXE 372 Foundations of Teaching Secondary Students with Disabilities
- FLE 200 Field Experience in Foreign Language Education
- FLE 316 Teaching Reading in the Second Language in Middle Schools
- FLE 405 Methods and Materials for Teaching Foreign Languages in High Schools
- FLE 406 Techniques for Teaching and Evaluating Foreign Languages in Middle Schools

**Total Required Credit Hours in Student Teaching .....12 cr**

- FLE 407/SED 407 Student Teaching of Foreign Languages in the Middle/Junior High School (6)
- FLE 408/SED 408 Student Teaching of Foreign Languages in the High School (6)

**All College Electives .....0–6 cr**

**Total Required Credit Hours .....120 cr**

## SPANISH EDUCATION (7–12; POSTBACCALAUREATE)

(0656)

### Modern and Classical Languages Department Postbaccalaureate Teacher Certification Program (HEGIS 1105.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Bishop Hall 122 (716) 878-5414

For information about this program, contact the Modern and Classical  
Languages Department.

## SPANISH LANGUAGE AND LITERATURE

(0714)

### Modern and Classical Languages Department Bachelor of Arts (HEGIS 1105)

Bishop Hall 122 (716) 878-5414

This program develops the ability to communicate in Spanish and introduces students to the masterpieces of the literature of Spanish-speaking countries and the most significant aspects of Hispanic culture. Students are encouraged to study in Spain or Latin America for a semester in an approved program.

This program also serves as a pre-major for new students who wish to enter the Spanish B.S. secondary education (7–12) program (0656). When students have successfully completed 30 credit hours, with a minimum GPA of 2.5, they may apply for entrance to the Spanish Education (7–12) program. Transfer students with more than 30 credit hours may apply when they have successfully completed two Spanish courses at the 300- or 400- level. Applications are available in the department office.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Spanish.....36 cr**

#### A. Required Courses (15 cr)

*Majors may select either sequence of courses:*

SPA 301, SPA 302	Spanish Conversation and Composition
SPA 306	The Civilization of Spain
SPA 307, SPA 308	Survey of Spanish Literature
OR	
SPA 301, SPA 302	Spanish Conversation and Composition
SPA 309	The Civilization of Latin America
SPA 310, SPA 311	Survey of Spanish American Literature

#### B. Electives (21 cr)

*Courses in Spanish at 300- and 400- levels selected by advisement.*

SPA 303	Introduction to Spanish Literature
SPA 305	Spanish Phonetics
SPA 306	The Civilization of Spain
SPA 307	Survey of Spanish Literature
SPA 308	Survey of Spanish Literature
SPA 309	The Civilization of Latin America
SPA 310	Survey of Spanish American Literature
SPA 311	Survey of Spanish American Literature
SPA 317	Business Spanish
SPA 389	Topics Course
SPA 402	Spanish Drama of the Golden Age
SPA 404	Cervantes
SPA 405	Old Spanish
SPA 406	Nineteenth-Century Spanish Literature
SPA 408	Twentieth-Century Spanish Literature
SPA 409	Twentieth-Century Spanish Literature
SPA 411	Spanish-American Literature of the Nineteenth and Twentieth Centuries: Novel, Short Story, and Essay

SPA 412	Spanish-American Literature of the Twentieth Century
SPA 415	Advanced Grammar and Composition
SPA 416	Advanced Conversation
SPA 421	Structure of Modern Spanish
SPA 495	Special Project
SPA 496	Seminar I
SPA 497	Seminar II

**All College Electives .....30–42 cr**

**Total Required Credit Hours .....120 cr**

## SPEECH-LANGUAGE PATHOLOGY

(0325)

### Speech-Language Pathology Department Bachelor of Science (HEGIS 1220)

Ketchum Hall 209 (716) 878-5502

The undergraduate program in speech-language pathology prepares students in the fundamentals of normal acquisition of speech, language, and hearing, and provides an introduction to the field of communication disorders. The undergraduate program provides students with necessary prerequisite courses for application to graduate study. The speech-language pathology master's degree program is accredited by the American Speech-Language-Hearing Association.

The master's degree is necessary for the initial teaching certificate, as well as for the license to practice speech-language pathology, and for the Certificate of Clinical Competence (CCC) awarded by the American Speech-Language-Hearing Association.

**Admission Requirements:** Students are not admitted to the major as a first-semester freshman. Students may apply for admission to the department after a minimum of one semester of college study. A minimum GPA of 2.8 is required.

**Academic Performance Policy:** Students who have a GPA of 2.0 or less in SLP-prefixed courses required for the major at the end of a semester will be placed on departmental probation. The student will then have one semester to raise their GPA to a 2.0 or greater in SLP-prefixed required courses or they will be dismissed from the department.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in the Major .....43 cr**

EXE 100	Nature and Needs of Individuals with Special Needs
EXE 245	Community Service with Individuals with Special Needs
EDF 202	Child Development and Education
EDF 302	Educational Psychology: Elementary Education
SLP 302	Clinical Phonetics
SLP 303	Language Acquisition
SLP 304	Anatomy and Physiology of Speech and Hearing Mechanisms
SLP 305	Communication Disorders I
SLP 314	Audiology
SLP 328	Audiology Lab
SLP 329	Language Acquisition Lab
SLP 405	Communication Disorders II
SLP 411	Language Diagnosis and Remediation
SLP 412	Speech Acoustics and Perception
SLP 424	Organization and Administration of School Speech and Language Programs
SLP 428	Acoustics Lab
SLP 429	Clinical Observation

**All College Electives ..... 11–38 cr**

*Recommended speech-language pathology electives:*

PSY 306	Statistics in Psychological Research
OR	
MAT 311	Introductory Probability and Statistics

**Total Required Credit Hours .....120 cr**

# TECHNOLOGY

## See Individual Majors

- Electrical Engineering Technology (Electronics)
- Electrical Engineering Technology (Power and Machines)
- Fashion and Textile Technology
- Industrial Technology
- Mechanical Engineering Technology
- Technology Education

# TECHNOLOGY EDUCATION

(0500)

## Technology Department Bachelor of Science (HEGIS 0839.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Upton Hall 315 (716) 878-6017

The technology education program prepares students to teach technology and the technological systems utilized in problem solving. The four systems emphasized are construction, manufacturing, communication, and transportation. The program is laboratory oriented, teaching the important role of engineering a product or service through selecting and systemizing knowledge for the solution of a problem. Graduates are recommended for an initial certificate to teach technology education in grades K–12.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Technology .....33 cr**

TEC 101	Technical Drawing
TED 123	Principles of Manufacturing
TEC 201	Materials Processing
TED 300	Construction Systems
TEC 302	CAD/CAM
TEC 311	Materials Science and Testing
TEC 314	ElectroMechanicals
TEC 319	Technology and Values
TED 100	Introduction to Technology Education
TED 349	Communication Systems
TED 361	Transportation Systems

**Total Required Credit Hours in Professional Sequence .....27 cr**

EDF 303	Educational Psychology
CTE 301/BME 301	Principles of Occupational Education
CTE 302/BME 302	Curriculum and Evaluation in Occupational Education
EDU 416	Teaching Reading in the Secondary School
TED 360W	Technology Education Methods and Evaluation
TED 450W	Professional Semester (6)
TED 451W	Professional Semester (6)

**Total Required Credit Hours in Other Fields for Certification .....15 cr**

CHE XXX	Core Chemistry (3)
EXE 372	Foundations of Teaching Adolescents with Disabilities
MAT XXX	Core Math (3)
MAT 124	Pre-Calculus Mathematics
PHY 107	General Physics I

**All College Electives .....0–6 cr**

**Total Required Credit Hours .....120–141 cr**

# TECHNOLOGY EDUCATION (POSTBACCALAUREATE)

(7079)

## Technology Department Postbaccalaureate Teacher Certification Program (HEGIS 0839.01)

National Council for Accreditation of Teacher Education (NCATE) Accredited  
Upton Hall 315 (716) 878-6017

This program is designed for students who have earned a baccalaureate degree in a technology-related field from an accredited college or university and intend to complete coursework required for New York State certification to teach technology. It generally takes at least three semesters for a person with a degree in engineering or architecture to complete this program.

The Professional Semester, also known as student teaching, is completed with two seven-week rotations: one in a middle school, and one in a high school. Students are assigned to specific schools based on their qualifications; however, each student must complete one rotation in a school with a racially diverse population.

### Admission Requirements:

1. A bachelor's degree from an accredited college or university.
2. Completion of 36 credit hours of coursework in technology or a technologically-related area, such as engineering, architecture, engineering technology, electrical technology, or industrial technology.
3. Evidence of coursework or professional experience from among the following areas: biotechnical systems, communication systems, structural systems, production systems, and transportation systems.

Applications for admission may be obtained online at [www.buffalostate.edu/graduateschool](http://www.buffalostate.edu/graduateschool) or from the Graduate School, Cleveland Hall 204, (716) 878-5601.

**Other Program Requirements:** In addition to the required coursework, students must complete:

1. New York State Certification Exams: LAST, ATS-W, and CST. Registration materials for these exams may be obtained from the Teacher Certification Office, Caudell Hall 101.
2. Seminars:
  - a. S.A.V.E. (School Anti-Violence Education) workshop
  - b. Child abuse identification workshops
  - c. Drug and alcohol awareness seminar
  - d. Fire and arson safety seminar

**Total Required Credit Hours in Technology Education .....6 cr**

TED 100	Introduction to Technology Education
TED 360W	Technology Education Methods and Evaluation

**Total Required Credit Hours in Other Education .....15 cr**

BME 301	Principles of Occupational Education
BME 302	Curriculum and Evaluation in Business/Marketing Education
EDF 303	Educational Psychology
EDF 416	Teaching Reading in Secondary Schools
EXE 372	Teaching Adolescents with Disabilities

**Professional Semesters .....12 cr**

TED 450W	Professional Semester (6)
TED 451W	Professional Semester (6)

**Total Required Credit Hours .....33 cr**

# THEATER

(0115)

## Theater Department Bachelor of Arts (HEGIS 1506)

Rockwell Hall 203 (716) 878-6416

The theater program introduces students to all aspects of theater art. The theater season includes both faculty- and student-directed productions presented on campus. These productions are attended by members of both the college and the community. Through advisement, students may focus their studies in the following concentrations: acting, directing, design/technical, and general study. High standards in this program afford a foundation for careers in professional, as well as educational, theater. A 19-credit-hour minor program in theater is also available.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in Theater .....42 cr**

### A. Required Courses (26 cr)

THA 216	Theater Fundamentals
THA 226	Acting: Theory and Practice
THA 230	Theater Practicum I (1)
THA 231	Theater Practicum II (1)
THA 234	Technical Theater
THA 316	Script Analysis
THA 317	History of Theater: Ancient to Renaissance
THA 318	History of Theater: Renaissance to Modern
THA 330	Theater Practicum III (1)
THA 331	Theater Practicum IV (1)
THA 350	Directing
THA 416	Seminar in Theater Arts (1)

### B. Electives by Advisement (16 cr)

Electives in a concentration: acting, directing, design-technical, or general study.

**All College Electives .....12–39 cr**

**Total Required Credit Hours .....120 cr**

# URBAN AND REGIONAL ANALYSIS AND PLANNING\*

(0738)

## Geography and Planning Department Bachelor of Science (HEGIS 2214)

Classroom Building A213 (716) 878-6216

Urban and regional analysis and planning provides students with an understanding of how communities are structured, what their needs are, and how they are governed. Planners develop long-term and short-term plans to use land for the growth and revitalization of urban, suburban, and rural communities, while helping local officials make decisions concerning social, economic, and environmental problems.

\*Evening study available.

**Intellectual Foundations Requirements .....39–66 cr**

**Total Required Credit Hours in the Major .....40–42 cr**

### A. Required Courses for Both Concentrations (24 cr)

GEG 199	Computers in Social Science
GEG 307	Conservation and Environmental Management
GEG 390	Quantitative Methods in Geography and Planning
PLN 315	Principles of Urban and Regional Planning
PLN 325	Remote Sensing and Mapping
PLN 412	Community Planning Agencies and Issues
PLN 430	Senior Thesis

Select one course from the following:

PSC 300	Political Analysis
SOC 300	Methods in Social Research <sup>1</sup>

<sup>1</sup>Prerequisites for SOC 300 are waived by the Sociology Department for urban and regional analysis and planning majors.

### B. Concentration Electives (16–18 cr)

Select one of two concentrations:

#### 1. Urban and Regional Planning Concentration Electives (18 cr)

GEG 309 Introduction to Urban Geography

Select five courses from the following (by advisement):

ECO 412	Urban Economics
ECO 424	Business and Economic Forecasting
GEG 305	Principles of Economic Geography
GEG 310	Geography of Transportation
GEG 425	Fundamentals of GIS
GEG 427	Corporate Applications in GIS
PLN 330	Land Resource Analysis and Planning
PLN 340	Fundamentals of Zoning
PLN 341	Housing and Real Estate
PLN 401	Comprehensive Planning Principles
PLN 488	Internship (3 cr maximum)
PSC 215	Urban Government

#### 2. Environmental Planning Concentration Electives (16–18 cr)

Students in this concentration must demonstrate college-level competency in general chemistry and general botany. These courses are taken outside of the major.

Select one course from the following:

BIO 212	Introduction to Organismal Biology and Diversity
BIO 213	Introduction to Ecology, Evolution and Behavior

Select one course from the following:

CHE 101	General Chemistry I
CHE 102	General Chemistry II

Electives selected by advisement (9–11 cr):

BIO 315	Ecology (4)
BIO 418	Limnology (4)
GEG 365	Soil Science and Management
GEG 370	Principles of Water Resource Planning
GEG 375	Principles of Hydrology
GEG 386	Applied Climatology
GEG 420	Economic Evaluation of Water Resources
GEG 421	Watershed Analysis
GEG 425	Fundamentals of GIS
GEG 428	Environmental Assessment and Planning Applications in GIS
PLN 360	Environmental Impact Assessment
PLN 488	Internship (3 cr maximum)

**All College Electives: Urban-Regional Planning Concentration ..... 0–23 cr**

**All College Electives: Environmental Planning Concentration ..... 0–23 cr**

**Total Required Credit Hours (Either Concentration) .....120–126 cr**