

---

Academic Departments,  
Programs of Study and  
Course Listings

# Adolescence Education

SUNY Cortland offers 10 undergraduate certification programs that prepare candidates to teach in grades 7-12. Adolescence education programs are available in the following areas of study:

- Adolescence Education: Biology (7-12)
- Adolescence Education: Chemistry (7-12)
- Adolescence Education: Earth Science (7-12)
- Adolescence Education: English (7-12)
- Adolescence Education: French (7-12)
- Adolescence Education: French and Spanish (7-12)
- Adolescence Education: Mathematics (7-12)
- Adolescence Education: Physics (7-12)
- Adolescence Education: Physics and Mathematics (7-12)
- Adolescence Education: Social Studies (7-12)
  - Dual major required; see:
  - African American Studies
  - Anthropology
  - Economics
  - Geography
  - History
  - International Studies
  - Political Science
  - Sociology
- Adolescence Education: Spanish (7-12)

All adolescence education programs are housed in the School of Arts and Sciences, in the department of content area. For specific program requirements, consult the appropriate department pages. Additional requirements for New York State teacher certification are found on pages 49-50 of this catalog.

Those who wish to enroll in a program leading to teacher certification must file an application with the Teacher Education Program. Contact the program coordinator/representative for details and specific degree requirements.

In addition to student teaching in New York State adolescence education candidates may have the opportunity to student teach at the University of the Sunshine Coast, Australia.

## Adolescence Education

### COURSES

#### ADOLESCENCE ENGLISH

- AED 308: Grammar and the Writing Process
- AED 309: Participant-Observer Experience: Writing Process
- AED 310: Grammar and the Writing Process
- AED 311: Participant-Observer Experience: Writing Process
- AED 341: Introduction to English Language Arts
- AED 376: Student Teaching in English in the Middle School
- AED 377: Student Teaching in English in the High School
- AED 385: Participant-Observer Experience
- AED 386: Student Teaching in English in the Middle Schools
- AED 387: Student Teaching in English in the High School
- AED 404: Teaching Writing
- AED 405: Participant-Observer Experience: Writing Process
- AED 408: Teaching Writing
- AED 409: Participant-Observer Experience: Teaching Writing
- AED 441: Methods of Teaching Literature and Critical Literacy

#### ADOLESCENCE LANGUAGES

- AED 323: Seminar for Field Observation
- AED 391: Introduction to Adolescence Education
- AED 437: Methods of Teaching Foreign Languages in Middle/Junior and High Schools I
- AED 438: Methods of Teaching Foreign Languages in Middle/Junior and High Schools II
- AED 439: Student Teaching: Adolescence Education – Foreign Languages

#### ADOLESCENCE MATHEMATICS

- AED 391: Introduction to Adolescence Education
- AED 392: Methods I – Teaching Adolescence Mathematics
- AED 399: Mathematics Practicum
- AED 492: Field Experiences in Mathematics Teaching
- AED 493: Student Teaching – Adolescent Mathematics I
- AED 494: Student Teaching – Adolescent Mathematics II

#### ADOLESCENCE SCIENCES

- AED 391: Introduction to Adolescence Education
- AED 442: Methods I: Teaching the Sciences in the Middle and Secondary Schools
- AED 443: Methods II: Teaching the Sciences in the Middle and Secondary Schools
- AED 444: Laboratory Practicum
- AED 445: Student Teaching: Adolescence Education — Science

#### ADOLESCENCE SOCIAL STUDIES

- AED 300: Introduction to Secondary Social Studies
- AED 301: Pre-practice Teaching Seminar
- AED 391: Introduction to Adolescence Education
- AED 400: Student Teaching I: Adolescence Education Social Studies
- AED 401: Student Teaching II: Adolescence Education Social Studies
- AED 402: Student Teaching Seminar

# African American Studies

## MULTIDISCIPLINARY DEPARTMENT

Old Main, Room 208-B  
(607) 753-2064  
E-mail: [asumahs@cortland.edu](mailto:asumahs@cortland.edu)  
[www.cortland.edu/aas/](http://www.cortland.edu/aas/)

### SCHOOL

Arts and Sciences

### FACULTY ASSOCIATES

Seth N. Asumah (Chair); William Buxton, Literacy; Ibipo Johnston-Anumonwo, Geography; Michelle Kelly, Foundations and Social Advocacy; Samuel Kelley, Communication Studies; Kassim Kone, Sociology/Anthropology; Yomee Lee, Exercise Science and Sport Studies; Edward Moore, Performing Arts; Thomas Mwanika, Communication Studies; Mechtild Nagel, Philosophy; Emmanuel Nelson, English; Susan Rayl, Exercise Science and Sport Studies; Rachel Reinhard, History; Keith Smith, Educational Opportunity Program (EOP); Paul van der Veur, Communication Studies; Donald Wright, History

### PROGRAMS OFFERED

Bachelor of Arts in African American Studies  
Bachelor of Arts in Adolescence Education: Social Studies and African American Studies (7-12)

### MAJORS OFFERED

African American Studies with a concentration in African and African American History  
African American Studies with a concentration in African American Sociological, Political, and Community Development  
Adolescence Education: Social Studies and African American Studies (7-12)

### CONCENTRATIONS OFFERED

African American Studies (Elementary Education)

### MINORS OFFERED

African American Studies

### DESCRIPTION

The African American Studies Program is the oldest of the ethnic studies programs at SUNY Cortland, dating back to 1975 when it was founded as the Department of Black Studies. Students who major in African American studies may choose a concentration in African and African American history or in African American sociological, political, and community development. Thirty-six hours are required for the major.

Students may also minor in African American studies, an 18-hour program. Majors may combine courses in African American Studies with a professional sequence to qualify for initial certification as social studies teachers for grades 7-12.

### SPECIAL FEATURES

- Two professors who have won distinguished awards in teaching
- Fulbright awardees
- Nationally and internationally recognized faculty
- Credit-bearing internships
- Adolescence education — social studies and African American studies career in high school teaching
- Scholarship support in African American Chorale
- Research with faculty, conferences and publication

### CAREER POTENTIAL

- Government service: national, state, local
- Journalism
- Social and family services
- Politics
- Teaching
- Business
- Community activism

### Requirements

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

### Major in African American Studies with a concentration in African and African American History [AAS/AASH]

- A. Nine credit hours:
- AAS 100: Introduction to African American Studies
  - AAS 412: Independent Research in African American Studies
  - AAS 486: Senior Seminar in African American Studies

- B. Twenty-seven credit hours in additional courses in African American Studies with at least 18 hours in courses numbered 300 and above, including:

At least three hours from African American sociological, political and community development: AAS 110, 120, 170, 204, 290, 291, 292, 304, 362, 376, 395, 396, 397, 432, 475, 485, 590, 591

At least three hours from African American literature and the humanities: AAS 110, 241, 251, 260, 332, 352, 353, 365, 425, 436, 455

At least three hours from education and administration of African American institutions: AAS 381, 581

At least 12 hours from African American history: AAS 225, 321, 322, 334, 336, 390, 428

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

### Major in African American Studies with a concentration in African American Sociological, Political and Community Development [AAS/AASC]

- A. Nine credit hours:
- AAS 100: Introduction to African American Studies.
  - AAS 412: Independent Research in African American Studies
  - AAS 486: Senior Seminar in African American Studies.

- B. 27 hours in additional courses in African American studies with at least 18 hours in courses numbered 300 and above, including:
- At least one course from African American history: AAS 225, 321, 322, 334, 336, 390, 428
- At least one course from African American literature and the humanities: AAS 110, 241, 251, 260, 332, 352, 353, 365, 425, 436, 455
- At least one course from education and administration of African American institutions: AAS 381, 581
- At least 12 hours from African American sociological, political and community development: AAS 110, 120, 170, 204, 290, 291, 292, 304, 362, 376, 395, 396, 397, 432, 475, 485, 590, 591

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

## Dual major in Adolescence Education: Social Studies and African American Studies (7-12) [SST and AAS]

This program allows students who major in African American Studies to qualify for certification to teach adolescence education in social studies (grades 7-12). It combines a major in African American Studies with 47-68 credit hours in additional course work and professional teacher preparation.

- A. Requirements for the African American studies major (See above)
- B. Professional Preparation: 44-68 credit hours  
(Including additional social science courses)  
HLH 199: Critical School Health Issues  
PSY 101: General Psychology I  
PSY 232: Adolescent Psychology *or*  
PSY 332: Educational Psychology  
ECO 105: Political Economy and Social Thought  
GRY 425: Geography in the Classroom *or*  
GRY 482: Central America and the Caribbean *or*  
GRY 484: Geography of Europe *or*  
GRY 486: Monsoon Asia  
GRY 480: United States *or*  
GRY 481: Geography of New York State  
POL 100: Introduction to American Government and Politics  
HIS 100: The World to 1500 *and*  
HIS 101: The World since 1500 *or*  
HIS 110: Western Civilization to 1715 *and*  
HIS 111: Western Civilization since 1715  
HIS 200: The United States to 1877 *and*  
HIS 201: The United States from 1877 *and*  
Three additional hours of history at the 300 level or above  
AED 310: Grammar and the Writing Process *or*  
LIT 449: Literacy in the Middle and Secondary School *or*  
LIT 549: Literacy in the Middle and Secondary School  
SHH 300: Normal Language Development *or*  
PSY 350: Psychology of Language
- C. Professional Sequence: Junior year, four credit hours  
AED 391: Introduction to Adolescence Education  
Fall semester only. A 25-hour field requirement is attached to this course.  
AED 300: Introduction to Secondary Social Studies  
Spring semester only. A 35-hour field requirement is attached to this course. Requires acceptance into the adolescence education: social studies (SST) major.
- D. Professional Sequence: Senior year, 21 credit hours\*  
AED 301: Pre-practice Teaching Seminar  
Fall semester only. A 40-hour field requirement is attached to this course and must be completed in the preceding spring semester.  
Student Teaching: Spring semester only. No other courses may be taken during the student teaching semester.  
AED 400: Student Teaching I  
AED 401: Student Teaching II  
AED 402: Student Teaching Seminar

\* To be eligible for student teaching, a student must have declared adolescence education: social studies (7-12) as a major by the beginning of the second semester of the junior year and must have senior status, at or near 90 credit hours, with 24 credit hours in the academic social science major, which must be officially declared. A student must also have an overall grade point average of 2.5, a grade point average of 2.7 in the academic social science major, and a C or better in AED 300. No student who receives a grade below a C- in any introductory course in the academic social science major will be allowed to enter student teaching until the course has been retaken and a higher grade earned. Student teaching is a capstone experience. Students who cannot graduate by the December following student teaching may not register for the AED 400, 401, 402 sequence.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 126

## Minor in African American Studies [AAS]

The following courses are required for the minor in African American studies.

- A. Six credit hours:  
AAS 100: Introduction to African American Studies  
AAS 412: Independent Research in African American Studies *or*  
AAS 429: Special Topics in African American Studies
- B. Twelve additional hours in African American studies with at least nine hours distributed across three of the four program modules: African American history; African American literature and humanities; African American sociological, political and community development; education and administration of African American institutions. At least six hours must be 300-level or above. No more than three hours from AAS 241: Gospel Choir may be applied to minor.

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 18

# African American Studies

## COURSE DESCRIPTIONS

### AAS 100: Introduction to African American Studies

(A) Exploration of philosophies, problems, prospects, challenges of African American Studies viewed in their interdisciplinary nature. (3 cr. hr.) ■

### AAS 106: Africana Dance

(A) Salient features of Africana culture, precepts and norms through dance, discussion and practical performances. May be taken for a maximum of two credits. (1 cr. hr.)

### AAS 110: Survey of African American Music

(F) A general survey of African American music tracing the origin from colonial music of the 17th century to rap music of the 20th Century. Also listed as MUS 110. (3 cr. hr.) ■

**AAS 120: Politics and Multiculturalism**

(S) Introduce students to how and why general democratic theory, key political institutions, patterns of political interaction, and sociopolitical attitudes in the American polity and throughout the world generate or attempt to eliminate injustice, prejudice and discrimination. Problems of racism, sexism, classism, ageism, ableism, religio-ethnic conflicts, and prospects for a “just” society will be examined through the lens of post-modernist political theory. Also listed as POL 110. (3 cr. hr.) ■

**AAS 129, 229, 329, 429, 529: Special Topics in African American Studies**

Selected topics. May be taken more than once as subtitle changes. Prerequisite: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

**AAS 170: Institutional Racism**

(O) Racism: its origins in society and its manifestations in contemporary life. (3 cr. hr.)

**AAS 204: Survey of African American Psychology**

(F) Developmental and social psychology as applied to the African American. Prerequisite: PSY 101. (3 cr. hr.)

**AAS 210: Racial and Gender Role Stereotypes**

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

**AAS 225: Introduction to Africa**

(C) Introduction to African continent and people; broad outlines of history from earliest humans to present. Also listed as HIS 225. (3 cr. hr.) ■

**AAS 241: African American Chorale**

(A) College-community mixed choral group which performs a wide range of African American music such as folk, Negro spirituals, and traditional and contemporary gospel. Concert tours. Consent of department required. S, U grades are assigned. Also listed as MUS 241. (1 cr. hr.)

**AAS 251: Introduction to African American Literature**

(A) Survey of African American literature: representative novel, poetry, drama from various time periods. Prerequisite: CPN 101 or 103. Also listed as ENG 251. (3 cr. hr.) ■

**AAS 260: South Africa on Film**

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

**AAS 270: Race and Racism**

(C) An examination of political and philosophical issues stemming from relations of power based on race in the U.S. Subjects will include how the concept of race has been used to classify humans, designating them as inferior or superior; the notions of racial identity or race consciousness; and political philosophies addressing the problem of racial oppression. Also listed as PHI 270. (3 cr. hr.) ■

**AAS 290: Introduction to African Politics and Society**

(B) Insight and background to traditional, contemporary African society; orientation into aspects of African colonial administration, post-independence politics. Also listed as POL 290. (3 cr. hr.) ■

**AAS 291: Studies in African American Liberation Movements**

(C) Focus on liberation struggles of Zimbabwe (Rhodesia), South Africa, Angola, Mozambique, as well as United States. Comparative, analytical approach used. (3 cr. hr.)

**AAS 292: Race and Politics in America**

(B) Analysis toward understanding factors, impact of race on American politics. Focus on American racial minorities, their role as pressure groups, functional approach to problem of racism in this country. Also listed as POL 292. (3 cr. hr.) ■

**AAS 304: Peoples of Africa**

(C) African ethnology; the religion, language, social, economic, political organization of cultures in Africa south of the Sahara. Prerequisites: ANT 102 or 300. Also listed as ANT 304. (3 cr. hr.) ■

**AAS 321: Africa, Human Origins to 1800**

(F) Origins, groupings of people of Africa: political, social, economic evolution to 1800; Africa's contacts with ancient world, trans-Sahara and Indian Ocean trades, growth of states and empires, spread of Islam. Prerequisite: HIS 100, 101, 110, 111, 150, IST 200, 210 or AAS 100. Also listed as HIS 321. (3 cr. hr.) ■

**AAS 322: Modern Africa, 1800-Present**

(S) Traditional Africa and European influences, imperialism and colonial rule; independence; problems of independent Africa. Prerequisite: HIS 100, 101, 110, 111, 150, IST 200, 210 or AAS 100. Also listed as HIS 322. (3 cr. hr.) ■

**AAS 332: Jazz**

(S) The history of Jazz in the United States — styles and structure as well as the place of this music in our culture. Prerequisite: MUS 100, 221, 222 or 223. Also listed as MUS 332. (3 cr. hr.) ■

**AAS 334: African American History to 1865**

(F) Black America from African origins to end of Civil War. Prerequisite: HIS 200, 201 or AAS 100. Also listed as HIS 312. (3 cr. hr.) ■

**AAS 336: African American History since 1865**

(S) Black America from Reconstruction period to present. Prerequisite: HIS 200, 201 or AAS 100. Also listed as HIS 313. (3 cr. hr.) ■

**AAS 352: Early African American Writing**

(O) African American writing before World War II. Emphasis on critical reactions, analysis. Slave narrative, autobiography, rhetoric, fiction, poetry included. Prerequisite: AAS/ENG 251. Also listed as ENG 352. (3 cr. hr.)

**AAS 353: Recent African American Writing**

(O) Black experience in America as reflected since World War II in works of outstanding African American writers: fiction, nonfiction, poetry, drama. Prerequisites: CPN 101 and 103, and AAS 251 or ENG 251. Also listed as ENG 353. (3 cr. hr.)

**AAS 361: U.S. Ethnic Identity and Conflict**

(B) Social histories of major U.S. ethnic groups are contrasted in terms of both cultural identity and social structural differences. Anthropological and sociological data, theories and interpretations of internal U.S. cultural and power differences are presented to analyze and challenge the concepts of race and minority. Prerequisite: SOC 100 or 150 or ANT 102. Also listed as ANT 352, SOC 352. (3 cr. hr.) ■

**AAS 362: Politics of Developing Nation States**

(C) Politics of development and nation building; political structures and forces examined with special attention to developing political systems of Third World including Asia, Africa, Latin America, Middle East. Also listed as POL 362. (3 cr. hr.) ■

**AAS 365: Third World Literature**

(O) Representative postcolonial works of fiction in English from the Caribbean, Africa, India, the South Pacific. Prerequisite: Any English literature course at the 200 level. Also listed as ENG 365. (3 cr. hr.) ■

**AAS 376: African American Community Organizations**

(O) Ideological concepts, programs, goals of major organizations in African American community. Regular class, off-campus experiences to design more effective organizational strategies. (3 cr. hr.)

**AAS 381: History Of The Education of African Americans**

(G) Education of African Americans and relationship to African American experience. Trends, patterns of current topics. Prerequisite: Three hours in African American Studies. (3 cr. hr.) ■

**AAS 390: South Africa**

(C) Historical background to apartheid and contemporary racial conflict in South Africa, Zimbabwe and Namibia. Also listed as HIS 431. (3 cr. hr.) ■

**AAS 395: International Race Relations**

(O) Race, ethnic relations in United States, Great Britain, South Africa, Zimbabwe. Impact and nature of race issues in League of Nations, United Nations, Organization of African Unity. Prerequisite: Six hours in African American studies or political science. (3 cr. hr.)

**AAS 396: African American Social and Political Thought I**

(O) Social, political thought of African American people and leaders from 1850s to 1950s in periods of emigration, assimilation, accommodation, cultural nationalism, political nationalism, protest movements. (3 cr. hr.)

**AAS 397: African American Social and Political Thought II**

(O) Social, political thought of African American people and leaders from 1960s to present. Emphasis on African American Congressional Caucus, selected African leaders. (3 cr. hr.)

**AAS 412: Independent Research in African American Studies**

(A) One, two or three credits may be earned on projects related to African American Studies. Students may enroll for independent study as many as three times, but for no more than a total of six credits. Prerequisite: Consent of coordinator. (1-3 cr. hr.)

**AAS 425: African American Women Novelists**

(O) Study of African American women's tradition in American literature. Focus on the representative works of Wilson, Harper, Hurston, Larson, Petry, Morrison, Naylor, Walker. Prerequisite: ENG 325, 326, 355 or 356. Also listed as ENG 425. (3 cr. hr.) ■

**AAS 428: The Civil Rights Movement in America**

(C) Origins, ideologies, activities, and results of movement to obtain civil and political rights for African Americans, 1945-1975. Prerequisites: HIS 200, 201 or AAS 100. Also listed as HIS 428. (3 cr. hr.) ■

**AAS 431: Communication and Prejudice**

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

**AAS 432: African Americans in Television and Film**

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

**AAS 436: Films of Spike Lee**

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

**AAS 455: African American Folklore**

(H) African American culture in United States viewed in terms of history (antebellum to present), social change (rural to urban). Use of oral traditions, life histories to explore aspects of African American culture, history. Prerequisite: CPN 101 or 103 and AAS 251 or ENG 251. (3 cr. hr.)

**AAS 470: American Multicultural Literature**

(C) Close readings of representative texts by major 20th century American writers of color. Prerequisite: Any 200-level English course. Also listed as ENG 475. (3 cr. hr.)

**AAS 475: African American Religions**

(O) Role of religion in the African American experience in America. Prerequisite: Six hours in African American studies or SOC 475. (3 cr. hr.) ■

**AAS 485: Africa, South of the Sahara**

(C) Cultural, political factors and relationship to past and present population patterns. Prerequisite: Introductory geography. (3 cr. hr.)

**AAS 486: Senior Seminar in African American Studies**

(O) Interdisciplinary seminar aimed at integrating knowledge of various subspecializations of students beyond the core courses through discussion and readings. Required of all seniors specializing in African American studies. Prerequisite: African American studies major or minor. (3 cr. hr.)

**AAS 581: Teaching the Inner City Child**

(A) Issues related to teaching in high-need urban schools: roles of culture and context in teacher-student relationships; impact of social structures such as race and class on student achievement; how teaching in urban contexts is different; and effective practices in urban schools. Also listed as FSA 525. (3 cr. hr.)

**AAS 590: Seminar in African Politics and Society**

(O) Comparative, analytical study of African sociocultural and political systems, governmental processes of new African nations. Open to seniors with six hours of appropriate course work or graduate students. (3 cr. hr.)

**AAS 591: Current Issues and Problems in African American Politics**

(O) Emphasis on African American opinion leaders and process of articulating, aggregating, implementing African American sociopolitical opinions and issues into public policy. Examples, comparisons drawn from African, other African American World situations. Open to seniors with six hours of appropriate course work or graduate students. (3 cr. hr.)

## Related Education Courses

### AED 300: Introduction to Secondary Social Studies

(S) Introduction to social studies education on the secondary level. Includes pre-student teaching field experience of 35 hours. Open only to junior SST majors meeting all departmental requirements. Prerequisite: AED 391. (1 cr. hr.)

### AED 301: Pre-Practice Teaching Seminar

(F) Integrated study of: A) introduction to methods of teaching secondary social studies; B) introduction to contemporary issues in the teaching of secondary social studies; C) preparation for specific practice teaching assignment; D) 40-hours of field experience. Open only to senior SST majors meeting all departmental requirements. Prerequisites: AED 300 and 391. (6 cr. hr.)

### AED 391: Introduction to Adolescence Education

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

### AED 400: Student Teaching I: Adolescence Education Social Studies

(S) Full-time supervised adolescence education: social studies teaching experience in the public schools for eight weeks. This experience will be one of two school placements, at either the

middle school/junior or high school level; the second experience must be at the other level. Prerequisites: AED 300, 301 and 391. Corequisites: AED 401 and 402 must be taken in the same semester. Open only to senior SST majors meeting all departmental requirements. S, U grades are assigned. (7 cr. hr.)

### AED 401: Student Teaching II: Adolescence Education Social Studies

(S) Full-time supervised adolescence education: social studies teaching experience in the public schools for seven weeks. This experience will be one of two school placements, at either the middle school/junior high or high school level; the second experience must be at the other level. Prerequisites: AED 300, 301 and 391. Corequisites: AED 400 and 402 must be taken in the same semester. Open only to senior SST majors meeting all department requirements. S, U grades are assigned. (7 cr. hr.)

### AED 402: Student Teaching Seminar

(S) Problem approach drawing upon experience of students during practice teaching. Designed to focus on contemporary educational issues, beginning the job search and application process, teaching and learning at the middle and high school level, and exploring the history and philosophy of teaching. Prerequisites: AED 300, 301 and 391. Corequisites: AED 400 and 401 must be taken in the same semester. Open only to senior SST majors meeting all departmental requirements. S, U grades are assigned. (1 cr. hr.)

# Anthropology/ Sociology

## DEPARTMENT

### SCHOOL

Arts and Sciences

### FACULTY

Richard Kendrick (Chair), Jamie Dangler, Julia Ganson, Herbert Haines, Stephen Halebsky, Kassim Kone, Craig Little, Ellis McDowell-Loudan, William Skipper, John R. Sosa, Sharon Steadman, Stuart Traub, Anne Vittoria, Mark Worrell, Tiantian Zheng

### ADJUNCT FACULTY

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

### PROGRAMS OFFERED

Bachelor of Arts in Anthropology  
Bachelor of Arts in Adolescence Education: Social Studies and Anthropology (7-12)

### MAJORS OFFERED

Anthropology  
Adolescence Education: Social Studies and Anthropology (7-12)

### CONCENTRATIONS OFFERED

Americas Archaeology  
Applied Anthropology  
Ethnic Studies  
World Archaeology

Cornish Hall, Room D-311  
(607) 753-2726  
E-mail: [kendrickr@cortland.edu](mailto:kendrickr@cortland.edu)  
[www.cortland.edu/anthropology/](http://www.cortland.edu/anthropology/)

### MINORS OFFERED

Anthropology  
Archaeology

### DESCRIPTION

Anthropology majors will be introduced to the various anthropological fields including archaeology, physical or biological anthropology and linguistic and cultural anthropology. Students have the option of concentrating in applied anthropology, Americas or world archaeology or ethnic studies. Whether or not a concentration is chosen, students will complete a program that provides them with a solid basis for understanding the field of anthropology in general, as well as the human cultural systems of the past and present world. There is also an anthropology minor which is particularly suitable for those interested in the teaching professions (elementary education and secondary social studies majors) who must be prepared for the multicultural classrooms of today's schools. Students who are interested in teaching may combine study in the anthropology major with professional courses leading to a qualification for initial certification in adolescence social studies (grades 7-12).

## SPECIAL FEATURES

- Hands-on work with objects in the in-house Brooks Museum and Lee Beam Collection and with material from archaeological excavations
- Archaeological fieldwork opportunities and possible paid work after ANT 400 participation
- Archaeological/ethnographic fieldwork opportunities outside the U.S.
- Anthropology Honors Program
- Student Referral Program
- Internships
- Teaching certification for adolescence social studies

## Requirements

1. Degree Requirements listed on pages 38-48 of this catalog apply to all anthropology majors.
2. Liberal Arts Requirements – 90 credit hours

## Major in Anthropology [ANT]

The anthropology major provides students the opportunity to undertake a broad based study of the anthropological approaches to understanding past and present human cultural structures. This major is particularly suitable for those interested in teaching professions, continued graduate study or international aid agencies.

## CAREER POTENTIAL

- Corporate positions in culture management
- International aid agency positions (e.g., U.S.A.I.D)
- U.S. government/State Department positions
- Education/teaching including Native American schools (with certification)
- C.A.R.E. posts
- Primate rehabilitation centers, zoos, (e.g., World/National Wildlife Federation)

Total credit hours required for the major: 33

## A. Required Courses: 12 credit hours

- ANT 102: Introduction to Cultural Anthropology (GE 3)
- ANT 300: Human Evolution and Survival (GE 7)
- ANT 492: Anthropological Theory
- ANT 493: Anthropological Methods

## B. Anthropology Electives: 12 credit hours

- Six credit hours from Culture Area Courses
- Six credit hours from Topics Courses

Students may choose courses from the list that follows, depending on their personal preferences and/or whether they have a declared concentration. Special courses not listed within either group are occasionally taught with a topics (TP) designation such as ANT 129, 229, 329 or 429 and may count under one of these groups.

## Culture Area Courses: Six credit hours

- ANT 201: World Cultures
- ANT 301: Native American Archaeology
- ANT 302: Native American Ethnology
- ANT 304: Peoples of Africa
- ANT 305: Archaeology of Eastern United States
- ANT 310: Peoples of South and Southeast Asia
- ANT 311: Peoples of East Asia
- ANT 312: Peoples of the Middle East
- ANT 314: Peoples of Latin America
- ANT 330: Religions of Asia
- ANT 400: Fieldwork in Archaeology
- ANT 550: Independent Study in Anthropology (depending on the title)

## Topics Courses: Six credit hours

- ANT 230: Prejudice and Discrimination (GE 2)
- ANT 234: Anthropology of Gender (GE 2)
- ANT 251: Introduction to Language Study
- ANT 306: Folk Societies and Life Styles
- ANT 307: World Prehistory
- ANT 315: Development Anthropology
- ANT 318: Medical Anthropology
- ANT 322: Sociocultural Study of AIDS
- ANT 326: Archaeology of Religion
- ANT 330: Religions of Asia
- ANT 350: Language in Society and Culture
- ANT 351: Folklore
- ANT 352: U.S. Ethnic Identity and Conflict
- ANT 400: Fieldwork in Archaeology
- ANT 404: Applied Anthropology
- ANT 406: Contact and Culture Change
- ANT 408: Culture and Personality
- ANT 409: Economic Anthropology
- ANT 410: Cultural Ecology
- ANT 415: Culture and Aging
- ANT 460: Introduction to Museum Studies
- ANT 550: Independent Study in Anthropology (depending on the title)

## C. Anthropology Electives: Nine credit hours

Students fulfill these credit hours by choosing three courses listed under Culture Area Courses and Topics Courses.

Three elective credit hours may be fulfilled by completing CPV 400: Cooperative Education/Internship.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

## Major in Anthropology with a concentration in Applied Anthropology [ANT/APPL]

Students with an applied concentration gain an understanding of fields such as development, medical, and legal anthropology, enabling them to address problems of health, education, cultural and linguistic preservation, human rights violations, and poverty in global contexts.

## CAREER POTENTIAL

- World Bank positions
- OXFAM positions
- International aid agency positions (e.g., U.S.A.I.D.)
- Africare posts
- Save The Children posts
- C.A.R.E. posts

Total credit hours required for the major: 33

## A. Required Courses: 21 credit hours

- ANT 102: Introduction to Cultural Anthropology (GE 3)
- ANT 300: Human Evolution and Survival (GE 7)
- ANT 315: Development Anthropology
- ANT 404: Applied Anthropology
- ANT 406: Contact and Culture Change
- ANT 492: Anthropological Theory
- ANT 493: Anthropological Methods

## B. Culture Area Courses: Six credit hours

See list under “Major in Anthropology”

## C. Topics Courses: Six credit hours

See list under “Major in Anthropology”

Three elective credit hours may be fulfilled by completing CPV 400: Cooperative Education/Internship.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

## Major in Anthropology with a concentration in Americas Archaeology [ANT/AARC] or World Archaeology [ANT/WARC]

Students with an archaeology concentration acquire field experience and gain an understanding of the theoretical issues related to both general anthropology and archaeology, including management of cultural resources. Projects can be tailored to student interests and include working with the department's ethnographic and archaeological collections.

### CAREER POTENTIAL

- Teaching (all levels and Native American centers)
- Museum curator and collection management positions
- State and federal advisory positions  
(e.g., Environmental Protection Agency)
- National/state/local historical agencies
- National and state park service positions
- Contract archeology positions (cultural resource management)

Total credit hours required for the major: 33

Choose either concentration:

#### I. Americas Archaeology

##### A. Required Courses: 24 credit hours

- ANT 102: Introduction to Cultural Anthropology (GE 3)
- ANT 300: Human Evolution and Survival (GE 7)
- ANT 301: Native American Archaeology
- ANT 305: Archaeology of the Eastern United States
- ANT 492: Anthropological Theory
- ANT 493: Anthropological Methods
- ANT 400: Fieldwork in Archaeology *or*
- ANT 460: Introduction to Museum Studies *or*
- CPV 400: Cooperative Education/internship in archaeology or related field

*Culture Area Courses: Select one from the following:*

- ANT 302: Native American Ethnology
- ANT 314: Peoples of Latin America

##### B. Electives: Select three from the following:

- ANT 201: World Cultures
- ANT 230: Prejudice and Discrimination (GE 2)
- ANT 234: Anthropology of Gender (GE 2)
- ANT 307: World Prehistory
- ANT 326: Archaeology of Religion
- ANT 352: U.S. Ethnic Identity and Conflict
- ANT 400: Fieldwork in Archaeology
- ANT 406: Contact and Culture Change
- ANT 410: Cultural Ecology
- ANT 460: Introduction to Museum Studies

#### II. World Archaeology

##### A. Required Courses: 24 credit hours

- ANT 102: Introduction to Cultural Anthropology (GE 3)
- ANT 300: Human Evolution and Survival (GE 7)
- ANT 307: World Prehistory
- ANT 326: Archaeology of Religion
- ANT 492: Anthropological Theory
- ANT 493: Anthropological Methods
- ANT 400: Fieldwork in Archaeology *or*
- ANT 460: Introduction to Museum Studies *or*
- CPV 400: Cooperative Education/internship in archaeology or related field

*Culture Area Courses: Select one from the following:*

- ANT 304: Peoples of Africa
- ANT 310: Peoples of South and Southeast Asia
- ANT 311: Peoples of East Asia
- ANT 312: Peoples of the Middle East

##### B. Electives: Select three from the following:

- ANT 201: World Cultures
- ANT 234: Anthropology of Gender
- ANT 306: Folk Societies
- ANT 400: Fieldwork in Archaeology
- ANT 406: Contact and Culture Change
- ANT 410: Cultural Ecology
- ANT 460: Introduction to Museum Studies *or*  
any Culture Area Course

Three elective credit hours may be fulfilled by completing CPV 400: Cooperative Education/Internship

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

## Major in Anthropology with a concentration in Ethnic Studies [ANT/ETHS]

Students with a concentration in ethnic studies take courses that focus on cultural and power differences and similarities among groups in global contexts. Students undertake comprehensive analyses of ethnic identity, prejudice and discrimination, and social problems related to poverty and inequality.

### CAREER POTENTIAL

- Corporate positions in culture management
- International aid agency positions (e.g. U.S.A.I.D.)
- U.S. government/State Department positions
- Development consulting

Total credit hours required for the major: 33

##### A. Required Courses: 18 credit hours

- ANT 102: Introduction to Cultural Anthropology (GE 3)
- ANT 230: Prejudice and Discrimination (GE 2)
- ANT 300: Human Evolution and Survival (GE 7)
- ANT 352: U.S. Ethnic Identity and Conflict
- ANT 492: Anthropological Theory
- ANT 493: Anthropological Methods

##### B. Anthropology Electives: 15 credit hours

Choose five courses from the following:

- ANT 201: World Cultures
- ANT 302: Native American Ethnology
- ANT 304: Peoples of Africa
- ANT 305: Archaeology of Eastern United States
- ANT 310: Peoples of South and Southeast Asia
- ANT 311: Peoples of East Asia
- ANT 312: Peoples of the Middle East
- ANT 314: Peoples of Latin America
- ANT 330: Religions of Asia
- ANT 400: Fieldwork in Archaeology
- ANT 406: Contact and Culture Change
- ANT 460: Introduction to Museum Studies

Three elective credit hours may be fulfilled by completing CPV 400: Cooperative Education/Internship.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

## Dual major in Adolescence Education: Social Studies and Anthropology (7-12) [SST and ANT]

This program allows students who major in anthropology to qualify for certification to teach adolescence education in social studies (grades 7-12). It combines a major in anthropology with 47-68 credit hours in additional course work and professional teacher preparation.

### CAREER POTENTIAL

- Junior high and high school teacher

A. Requirements for the anthropology major (see above)

B. Professional Preparation: 44-68 credit hours

(Including additional social science courses)

HLH 199: Critical School Health Issues

PSY 101: General Psychology I

PSY 232: Adolescent Psychology *or*

PSY 332: Educational Psychology

ECO 105: Political Economy and Social Thought

GRY 425: Geography in the Classroom *or*

GRY 482: Central America and the Caribbean *or*

GRY 484: Geography of Europe *or*

GRY 486: Monsoon Asia

GRY 480: United States *or*

GRY 481: Geography of New York State

POL 100: Introduction to American Government and Politics

HIS 100: The World to 1500 *and*

HIS 101: The World since 1500 *or*

HIS 110: Western Civilization to 1715 *and*

HIS 111: Western Civilization since 1715

HIS 200: The United States to 1877 *and*

HIS 201: The United States from 1877 *and*

Three additional hours of history at the 300 level or above

AED 310: Grammar and the Writing Process *or*

LIT 449: Literacy in the Middle and Secondary School *or*

LIT 549: Literacy in the Middle and Secondary School

SHH 300: Normal Language Development *or*

PSY 350: Psychology of Language

C. Professional Sequence: Junior year, four credit hours

AED 391: Introduction to Adolescence Education

(Fall semester only. A 25-hour field requirement is attached to this course.)

AED 300: Introduction to Secondary Social Studies

Spring semester only. A 35-hour field requirement is attached to this course. Requires acceptance into the adolescence education: social studies (SST) major.

D. Professional Sequence: Senior year, 21 credit hours \*

AED 301: Pre-practice Teaching Seminar

Fall semester only. A 40-hour field requirement is attached to this course and must be completed in the preceding spring semester.

Student Teaching: Spring semester only. No other courses may be taken during the student teaching semester.

AED 400: Student Teaching I

AED 401: Student Teaching II

AED 402: Student Teaching Seminar

\* To be eligible for student teaching, a student must have declared adolescence education: social studies (7-12) as a major by the beginning of the second semester of the junior year and must have senior status, at or near 90 credit hours, with 24 credit hours in the academic social science major, which must be officially declared. A student must also have an overall grade point average of 2.5, a grade point average of 2.7 in the academic social science major, and a C or better in AED 300. No student who receives a grade below a C- in any introductory course in the academic social science major will be allowed to enter student teaching until the course has been retaken and a higher grade earned. Student teaching is a capstone experience. Students who cannot graduate by the December following student teaching may not register for the AED 400, 401, 402 sequence.

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 126

## Minor in Anthropology [ANT]

A. Required Courses: Six credit hours

ANT 102: Introduction to Cultural Anthropology (GE 3)

ANT 300: Human Evolution and Survival (GE 7)

B. Culture Area Courses: Three credit hours

Must be at the 300 level or above.

See list under "Major in Anthropology."

C. Topics Courses: Three credit hours

Must be at the 300 level or above.

See list under "Major in Anthropology."

D. Anthropology Elective: Three credit hours

Must be at the 300 level or above.

See list under "Major in Anthropology."

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 15

## Minor in Archaeology [ARC]

This minor is open to students in any major other than anthropology. Majors in anthropology can declare a concentration in Americas or World archaeology.

A. Required Courses: Nine credit hours

ANT 102: Introduction to Cultural Anthropology (GE 3)

ANT 301: Native American Archaeology

ANT 305: Archaeology of the Eastern United States

B. Anthropology Electives: Three credit hours

ANT 300: Human Evolution and Survival *or*

ANT 307: World Prehistory

C. Anthropology Electives: Three credit hours

ANT 302: Native American Ethnology *or*

ANT 400: Fieldwork in Archaeology

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 15

**Example of the B.A. in Anthropology over four years**

The following is based on freshman admission and 15 credits per semester. More than 15 credit hours will have to be taken in one or more semesters in order to reach the required 124 credit hours for graduation.

First Year	Second Year
<p><i>Fall</i></p> <p>ANT 102 (GE 3) CPN 100 or 102 Foreign language course Two GE courses COR 101 Total credit hours: 16-17</p> <p><i>Spring</i></p> <p>One anthropology course (200 or 300 level) CPN 101 or 103 Quantitative Skills course Foreign language course GE course Total credit hours: 15-16</p>	<p><i>Fall</i></p> <p>Two anthropology courses (200-300 level) GE course Foreign language course One elective Total credit hours: 15</p> <p><i>Spring</i></p> <p>One or two anthropology courses (200-300 level) GE course Foreign language course One or two electives Total credit hours: 15-18</p>
Third Year	Fourth Year
<p><i>Fall</i></p> <p>One or two anthropology courses (300-400 level) One or two electives One or two GE courses Total credit hours: 17</p> <p><i>Spring</i></p> <p>ANT 492 ANT 493 One or two electives One or two GE courses Total credit hours: 15-18</p>	<p><i>Fall</i></p> <p>Two anthropology courses (300-400 level) Two or three electives Total credit hours: 15</p> <p><i>Spring</i></p> <p>One or two anthropology electives (300-400 level) One to four electives Total credit hours: 15-18</p>

# Anthropology

## COURSE DESCRIPTIONS

**ANT 102: Introduction to Cultural Anthropology**

(A) Subdisciplines, conceptual frameworks dealing with origins, development, diversity of human cultures. (3 cr. hr.) ■

**ANT 129, 229, 329, 429, 529: Special Topics in Anthropology**

Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

**ANT 201: World Cultures**

(B) Exploration of the cultural factors which shape human behavior through the intensive analysis of a selection of anthropological texts from around the globe, organized around a specific theme that varies each time the course is taught. (3 cr. hr.) ■

**ANT 230: Prejudice and Discrimination**

(B) Descriptive and theoretical review of the existence and effects of prejudice and discrimination in worldwide context. Comparison of Western and non-Western social structure, and of dominant and subordinate relationships in the U.S. and around the world. Also listed as SOC 230. (3 cr. hr.) ■

**ANT 234: Anthropology of Gender**

(B) A comprehensive approach examining gender, race, sexual orientation and discrimination against these various social groups, using evidence from early human contexts to present-day cultures. Focus is primarily on non-western cultures with some exploration of North American societies. (3 cr. hr.) ■

**ANT 251: Introduction to Language Study**

(B) Concepts, scope, methodology of science of language. Principles of descriptive and historical linguistics. Geographical, historical, social dialects of English. Prerequisite: CPN 101 or 103. This course is cross-listed as ENG 201 and COM 211 and this prerequisite is required. (3 cr. hr.) ■

**ANT 300: Human Evolution and Survival**

(A) Combined study of human evolution, genetics, and culture and their theory and methodologies in anthropological archaeology. (3 cr. hr.) ■

**ANT 301: Native American Archaeology**

(C) Aboriginal New World cultures before significant Old World contact; from simple tribal societies to civilizations of Meso-American and Andean regions. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 302: Native American Ethnology**

(B) Acculturation in New World since Columbus, as seen in range of tribal, peasant and urban groups. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 304: Peoples of Africa**

(C) African ethnology; the religion, language, social, economic, political organization of cultures in Africa south of The Sahara. Prerequisite: ANT 102 or 300. Also listed as AAS 304. (3 cr. hr.) ■

**ANT 305: Archaeology of Eastern United States**

(C) Local, regional prehistory and protohistory of New York State, eastern United States. Reference to Post-Columbian period of the East, investigation of American Indian arrivals and activities. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 306: Folk Societies and Lifestyles**

(C) Anthropological theories, methods dealing with peasant and folk societies and cultures. Comparative analysis of world peasantry and the place of peasants in complex societies. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 307: World Prehistory**

(C) Survey of human cultures around the world from earliest evidence to development of civilizations. Human behavior in groups before the time of written records emphasized; comparison and contrast of such social organization through time provided. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 310: Peoples of South and Southeast Asia**

(C) Social, economic, political, religious institutions of countries of South and Southeast Asia. Traditional cultures, current changes. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 311: Peoples of East Asia**

(C) Examines the cultures of the contemporary East Asian societies from an anthropological perspective with special reference to China and Japan. Course topics may include family and kinship structure, gender and marriage, popular culture, child rearing, subalterns, body culture, work, play and sports. Focus on unique elements in shaping local social structures and cultural forms and what is unique to the social structure of these societies. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 312: Peoples of the Middle East**

(C) Ethnic mosaic of North Africa and Southwest Asia; Islam as a cultural tradition in ethnic group relations; integration of urban, peasant and nomadic subcultures of area. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 314: Peoples of Latin America**

(C) Historical and contemporary review of Latin American societies with emphasis on the ethnology of indigenous people. Particular attention paid to the role Western colonial policies have played in shaping contemporary conflicts. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 315: Development Anthropology**

(O) Anthropologists' and development sociologists' specific roles in economic development, public health, other projects involving cross-cultural planned change. Concepts of socioeconomic change emphasizing classic case studies of applied anthropology and sociology; modern roles in project planning, design, instrumentation and evaluation. Social scientists' responsibilities in understanding recipient culture, in encouraging participatory approaches to development as part of interdisciplinary development project team emphasized. Prerequisite: ANT 102 or SOC 100 or 150. Also listed as SOC 315. (3 cr. hr.) ■

**ANT 318: Medical Anthropology**

(C) Introduces a broad range of medical anthropology topics and research techniques, both traditional and modern. Investigates how different cultures respond to pain, suffering, illness, sex, death and healing in specific contexts; how experiences such as pain, misfortune and ecstasy are produced in a number of different societies. Prerequisite: ANT 102 or 300 or SOC 100 or 150. (3 cr. hr.)

**ANT 322: Sociocultural Study of AIDS**

(C) Emphasizes anthropological and sociological approaches to the social and cultural aspects of the disease that are ignored or downplayed in the dominant biomedical paradigm. Attention given to the local community as a nexus of historical, social, cultural, political and economic forces that critically determine the effects of AIDS. Issues covered may include AIDS and commercial sex, gay communities, drug use, migration, condom use, women, prevention, and AIDS in cross-cultural contexts such as the U.S., Thailand, China, etc. Prerequisite: ANT 102 or SOC 100 or SOC 150. Also listed as SOC 322. (3 cr. hr.) ■

**ANT 326: Archaeology of Religion**

(C) Exploration of theoretical frameworks used to interpret human belief systems. Cross-cultural examination of religions in cultural contexts, using archaeology to explore their origins, and sociocultural anthropology to understand their present-day structures. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 330: Religions of Asia**

(B) General introduction to the basic and enduring structures of the major religions of Asia with attention to the fundamentals of history, cultural aspects (sacred objects or places, beliefs, values, symbols, and rituals), social organization, and present day position. Prerequisite: ANT 102 or SOC 100 or 150. Also listed as SOC 330. (3 cr. hr.) ■

**ANT 350: Language in Society and Culture**

(C) Cross-cultural studies in interrelationships between language and the individual, the society and the culture. (3 cr. hr.) ■

**ANT 351: Folklore**

(O) Major genres of world folklore with emphasis on American folklore. Regional lore, including New York State. Folklore theory and methodology. (3 cr. hr.) ■

**ANT 352: U.S. Ethnic Identity and Conflict**

(B) Social histories of major U.S. ethnic groups are contrasted in terms of both cultural identity and social structural differences. Anthropological and sociological data, theories and interpretations of internal U.S. cultural and power differences are presented to analyze and challenge the concepts of "race" and "minority." Prerequisite: ANT 102 or SOC 100 or 150. Also listed as SOC 352 and AAS 361. (3 cr. hr.) ■

**ANT 369: Population and Society**

(S) Social significance of population mass, population redistribution through births, deaths, migration. Prerequisite: ANT 102 or SOC 100 or 150. Also listed as SOC 369. (3 cr. hr.)

**ANT 400: Fieldwork in Archaeology**

(O) Combination field and laboratory study of one or more archaeology sites. Prerequisite: Consent of department. (3-6 cr. hr.) ■

**ANT 404: Applied Anthropology**

(C) Theoretical and empirical analysis of selected topics in applied anthropology. Such topics include poverty, the fulfillment of basic human needs and different approaches that anthropology can contribute to solving these problems. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 406: Contact and Culture Change**

(C) Mechanisms of acculturation, dominance patterns, culture conservatism and receptivity, and applied anthropology with examples drawn from non-literate societies. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 408: Culture and Personality**

(C) Comparative study of personality and structure produced in various cultures and epochs. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 409: Economic Anthropology**

(C) Economic aspects of human behavior in primitive, traditional, peasant societies. Distribution of goods, services through such mechanisms as redistribution, reciprocity, barter, markets, marketing. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 410: Cultural Ecology**

(C) Relationship between sociocultural and environmental factors with special attention to political, techno-economic and ideational phenomena. Prerequisite: ANT 102 or 300. (3 cr. hr.) ■

**ANT 415: Culture and Aging**

(S) Comparative perspective on roles, problems of the elderly provided by cross-cultural surveys, representative case studies of non-western societies. Prerequisite: ANT 102 or 300 or SOC 100 or 150. (3 cr. hr.) ■

**ANT 455: The Individual in Communication**

(C) Relation of language to self-identity, interaction with others. Approaches from psychological anthropology and sociolinguistics. (3 cr. hr.) ■

**ANT 460: Introduction to Museum Studies**

(B) Introduction to the field of museology. Topics covered include cataloging, classifying, conservation and display of ethnographic and archaeological materials. Hands on experience is gained through work with the Brooks' Collection and other department materials. (3 cr. hr.) ■

**ANT 492: Anthropological Theory**

(C) Historical development, current emphasis in theoretical approaches to all fields of anthropology, providing integrated frame of reference for discipline as a whole. Prerequisite: Junior or senior status. (3 cr. hr.) ■

**ANT 493: Anthropological Methods**

(A) Introduction to anthropological research. Provides students with basic understanding of how to conduct and evaluate scientific research in the anthropological fields. Course topics follow the major steps in design and execution of anthropological research from the definition of the problem and formulation of hypotheses to interpretation of results and preparation of final report. Prerequisite: Junior or senior status. (3 cr. hr.) ■

**ANT 495: Anthropology Honors Course I**

(A) Directed in depth research on an anthropological topic in student's major concentration. Open only to eligible students. Prerequisite: Junior or senior status. (2 cr. hr.) ■

**ANT 496: Anthropology Honors Course II**

(A) Directed in depth research project, begun in ANT 495, on an anthropological topic in student's major concentration. Open only to eligible students. Prerequisite: ANT 495. (1-6 cr. hr.) ■

**ANT 550: Independent Study in Anthropology**

(A) Individual studies in selected areas. Prerequisites: ANT 102, 300 and junior or senior status. (1-6 cr. hr.)

**Related Education Courses****AED 300: Introduction to Secondary Social Studies**

(S) Introduction to social studies education on the secondary level. Includes pre-student teaching field experience of 35 hours. Open only to junior SST majors meeting all departmental requirements. Prerequisite: AED 391. (1 cr. hr.)

**AED 301: Pre-Practice Teaching Seminar**

(F) Integrated study of: a) introduction to methods of teaching secondary social studies; b) introduction to contemporary issues in the teaching of secondary social studies; c) preparation for specific practice teaching assignment; d) 40-hours of field experience. Open only to senior SST majors meeting all departmental requirements. Prerequisites: AED 300 and 391. (6 cr. hr.)

**AED 391: Introduction to Adolescence Education**

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

**AED 400: Student Teaching I: Adolescence Education Social Studies**

(S) Full-time supervised adolescence education: social studies teaching experience in the public schools for eight weeks. This experience will be one of two school placements, at either the middle school/junior or high school level; the second experience must be at the other level. Prerequisites: AED 300, 301 and 391. Corequisites: AED 401 and 402 must be taken in the same semester. Open only to senior SST majors meeting all departmental requirements. S, U grades are assigned. (7 cr. hr.)

**AED 401: Student Teaching II: Adolescence Education Social Studies**

(S) Full-time supervised adolescence education: social studies teaching experience in the public schools for seven weeks. This experience will be one of two school placements, at either the middle school/junior high or high school level; the second experience must be at the other level. Prerequisites: AED 300, 301 and 391. Corequisites: AED 400 and 402 must be taken in the same semester. Open only to senior SST majors meeting all department requirements. S, U grades are assigned. (7 cr. hr.)

**AED 402: Student Teaching Seminar**

(S) Problem approach drawing upon experience of students during practice teaching. Designed to focus on contemporary educational issues, beginning the job search and application process, teaching and learning at the middle and high school level, and exploring the history and philosophy of teaching. Prerequisites: AED 300, 301 and 391. Corequisites: AED 400 and 401 must be taken in the same semester. Open only to senior SST majors meeting all departmental requirements. S, U grades are assigned. (1 cr. hr.)

# Art and Art History

## DEPARTMENT

Dowd Fine Arts Center, Room 222  
(607) 753-4316  
E-mail: [greenear@cortland.edu](mailto:greenear@cortland.edu)  
[www.cortland.edu/art/](http://www.cortland.edu/art/)

### SCHOOL

Arts and Sciences

### FACULTY

Lori Ellis (Chair), Jeremiah Donovan, Charles Heasley, Lori Hepner, Lisa Joyce, Kathryn Kramer, Jenn McNamara, Barbara Racker, Vaughn Randall, Barbara Wisch

### ADJUNCT FACULTY

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

### PROGRAMS OFFERED

Bachelor of Arts in Art  
Bachelor of Arts in New Media Design

### MAJORS OFFERED

Art – with concentration in either studio art or art history  
New Media Design

### CONCENTRATIONS OFFERED

Studio Art – with specialization in ceramics, graphic design, fiber arts, print media, painting, sculpture  
Art History

### MINORS OFFERED

Art – with specialization in either studio art or art history

### DESCRIPTION

The art and art history curriculum develops skills of analysis and critical thinking through instruction in the making and history of visual art. Art and art history courses emphasize the importance of the art object in society as a means of both individual and cultural expression, which is reinforced by a variety of guest lectures, studio critiques, and museum and gallery visits. The year-round program of exhibitions, visiting artists, and symposia organized by the Ruth E. Dowd Fine Arts Gallery complements the department's activities by providing further opportunities for students to apply their developing aesthetic awareness to a wide range of artwork, ideas and values.

### SPECIAL FEATURES

- Dowd Fine Arts Gallery and Art and Art History Department permanent art collection and study archive
- Internships
- Semester in New York apprenticeship program
- Visiting artists and lecturers program
- Scholarship fund
- Visual resources collection
- Cooperative work-study program

### Requirements

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

### Major in Art with a concentration in Studio Art [ART/ARTS]

Introductory courses in studio art explore a variety of expressive media, teach basic technical skills, and begin to develop perceptual awareness. Students continuing in advanced courses are directed toward an objective understanding of visual languages and a refinement of independent responses in one of the concentrated specializations in painting, printmaking, graphic design fiber arts, ceramics and sculpture.

Such critical explorations of either two- or three-dimensional forms facilitate intuitive problem solving. This applies not only to visual work, but has been shown to carry over into other academic and professional endeavors as well. This introduction to conceptual problem solving can be one of the most valuable contributions of the study of the visual arts within a liberal arts curriculum.

Students should be advised that although most courses do not require textbooks, studio courses require the purchase of materials and supplies some of which are included in the tuition fees. Check with the instructor.

### CAREER POTENTIAL

- Art education
- Graphic design, Web page design, environmental design
- Textile design
- Corporate art buyer
- Artists in ceramics, fiber arts, design, painting, printmaking, sculpture

Art Studio Core: 36 credit hours

A. Required Courses Core in Art Studio: 15 credit hours

#### *Drawing Foundation*

ATS 101: Drawing I (GE 4)  
ATS 201: Drawing II  
ATS 301: Drawing III

#### *Design Foundation*

ATS 102: Design I (GE 4)  
ATS 202: Design II

B. Exposure and Skills Core in Art Studio: 15 credit hours

ATS 103: Painting I (GE 4)  
ATS 104: Ceramics I (GE 4)  
ATS 105: Weaving I (GE 4) *or*  
ATS 111: Fabric Design I (GE 4)  
ATS 106: Sculpture I (GE 4)  
ATS 107: Printmaking I (GE 4) *or*  
ATS 112: Photography I (GE 4) *or*  
ATS 209: Lithography I

C. Studio Art Specialization Courses: Six credit hours

Specialization and advanced skills in one of the following areas: ceramics, graphic design, fibers, painting, print media or sculpture

#### *Art History Foundation: 12 credit hours*

ATH 121: Art in the Ancient World (GE 4)  
ATH 122: Art in the Modern World (GE 4)

Six additional credit hours of related electives chosen in consultation with advisor, including one 300-level ATH or above

Free Electives: 29-42 total credit hours

**TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124**

## Major in Art with a concentration in Art History [ART/ARTH]

Art history survey courses (ATH 121, 122, 223) provide a systematic exploration of the major art traditions of the world. Upper division courses (200-level and above) introduce the student to more intensive study of the art of a particular period or region through a variety of approaches and techniques of art historical analysis. ATH 429: Advanced Topics in Art History often is used to meet the special interests of students and to take advantage of new art discoveries and major exhibitions.

The diverse interests of Cortland's art history faculty provide the student with opportunities to broaden global and multicultural awareness through an understanding of artistic achievement in our own and other cultures.

### CAREER POTENTIAL

- Art historian
- Museum practices: curator, archivist, researcher
- Art education
- Art criticism

*Art History Core:* 36 credit hours

#### A. Required Art History Core Courses: Nine credit hours

- ATH 121: Art in the Ancient World
- ATH 122: Art in the Modern World
- ATH 223: Art History III

#### B. Core exposure in Art History: 12 credit hours

Three hours from each of the following areas:

1. ATH 254: Art of the Middle Ages  
ATH 326: Art of Greece and Rome
2. ATH 340: The Early Renaissance in Italy  
ATH 341: 15th, 16th-Century Painting in Northern Europe  
ATH 344: Renaissance, Mannerism, Baroque
3. ATH 355: Rococo through Impressionism – 18th and 19th Centuries  
ATH 357: Modern Art  
ATH 457: Contemporary Art
4. ATH 330: Far Eastern Art

#### C. Additional Art History Course Requirements selected from (areas 1-4): Three credit hours

#### D. Art history elective chosen from courses at the 200-400 level Nine credit hours

#### E. ATH 429: Special Topics in Art and Art History: Three credit hours

*Related Areas:* 12 credit hours

#### A. Studio Art: Three credit hours

#### B. History Courses: Six credit hours

It is recommended that three hours be directly related to student's area of specialization in section C of the art history core above.

#### C. Electives: Three credit hours

Chosen in consultation with the student's advisor from literature, philosophy, political science, anthropology/sociology which relate directly to the temporal or spacial period of the cultural context of an art history course that the student has taken or is taking, or three additional hours of a second or third language.

**TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124**

## Major in New Media Design [NMD]

The major in New Media Design provides in-depth exposure to the changing area of new media while at the same time maintaining a critical core of studio foundations and art history. Majors have the opportunity to work directly with digital video, digital photography, and audio and multimedia production in a technology laboratory setting. For specific information, contact the Art and Art History Department.

### CAREER POTENTIAL

- Graphic design
- Web page design
- Animation
- Digital Imaging
- Advertising art

#### A. All College Requirements: 34-49 total credit hours

Academic Writing I, II: Six credit hours

Quantitative Skills: 3-4 credit hours

General Education: 25-26 credit hours

Foreign Language: 0-12 credit hours

#### B. Electives, including at least one writing intensive course: 34 total credit hours

#### C. Foundation Art Requirements: 18 total credit hours

ATS 101: Drawing I (GE 4)

ATS 201: Drawing II

ATS 102: Design I (GE 4)

ATS 202: Design II

ATH 121: Art of the Ancient World (GE 4)

ATH 122: Art of the Modern World (GE 4)

#### D. New Media Design Courses: 11 total credit hours

ATS 240: Graphic Design I

ATS 241: Typography

ATH 320: History and Theory of Digital Arts (WI)

ATS 440: Portfolio Practicum

#### E. Two courses from the following in consultation with advisor: Six total credit hours

ATS 112: Photography (GE 4)

ATS 330: Artist's Books

ATS 340: Graphic Design II

ATS 342: Art and the Internet

ATS 343: Multi Media

#### F. Cognates in related areas: Six total credit hours

#### G. Additional art credit hours in consultation with advisor

**TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124**

## Minor in Art with a specialization in Art History [ART]

### CAREER POTENTIAL

- Art historian
- Museum practices: curator, archivist, researcher
- Art educator
- Art critic

#### A. Required Courses: 18 credit hours

ATH 121: Art in the Ancient World

ATH 122: Art in the Modern World

12 credit hours of additional art history and art theory courses (except ATT 480) at the 300-level or above

**TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 18**

## Minor in Art with a specialization in Studio Art [ART]

### CAREER POTENTIAL

- Art education
- Book art design, Basic design, environmental design
- Corporate art buyers
- Artists in ceramics, fiber arts, design, painting, printmaking, sculpture

#### A. Required Courses: Six credit hours

ATH 121: Art in the Ancient World  
ATH 122: Art in the Modern World

#### B. Additional Required Studio Art Courses: 12 credit hours

ATS 101: Drawing I  
ATS 102: Design I  
ATS 106: Sculpture I  
ATS 201: Drawing II

#### C. Minimum of nine additional studio art hours

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 27

### Example of the B.A. in Art (Studio) over four

First Year	Second Year
<p><i>Fall</i></p> <p>ATS 101 (GE 4) ATS 102 (GE 4) ATH 121 (GE 4) COR 101 CPN 100 or 102 GE 2 Total credit hours: 16-17</p> <p><i>Spring</i></p> <p>ATS 201 ATS 202 ATH 122 (GE 4) CPN 101 or 103 ATS 106 (GE 4) Total credit hours: 15-16</p>	<p><i>Fall</i></p> <p>ATS 103 ATS 107, 112 or 204 (GE 4) GE 3 GE 6 ATH 357 (WI) Foreign language 101 Total credit hours: 18</p> <p><i>Spring</i></p> <p>Foreign language 102 ATS 105 or 111 (GE 4) ATS 104 (GE 4) GE 7 GE 1 Total credit hours: 15</p>
Third Year	Fourth Year
<p><i>Fall</i></p> <p>Foreign language 201 GE 8a ATS req. concentration ATH 340 (WI) GE 5 Total credit hours: 16</p> <p><i>Spring</i></p> <p>Foreign language 202 GE 8b ATS req. concentration GE 6 Free elective Total credit hours: 15</p>	<p><i>Fall</i></p> <p>MAT (Quantitative Skills) ATS 301 ATS elective ATH elective Two free electives Total credit hours: 18</p> <p><i>Spring</i></p> <p>ATT 490 ATT 491 ATS 429 Three free electives Total credit hours: 18</p>

# Art and Art History

## COURSE DESCRIPTIONS

### Art History Courses

#### ATH 120: Backgrounds in Art

(A) Art principles and concepts, with their historical development, shown through design in visual art forms. (3 cr. hr.) ■

#### ATH 121: Art in the Ancient World

(A) Art prior to Renaissance: Architecture, sculpture, and painting of Egypt, Near East, Greece, Rome, medieval Europe. (3 cr. hr.) ■

#### ATH 122: Art in the Modern World

(A) Developments in Western Europe and the Americas from Renaissance culture through 20th century art. (3 cr. hr.) ■

#### ATH 129, 229, 329, 429, 529: Special Topics in Art and Art History

Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

#### ATH 223: Art History III

(O) Introduction to arts of Africa, Oceania and the Americas. (3 cr. hr.) ■

#### ATH 254: Art of the Middle Ages

(O) Art from A.D. 300 through 1400, beginning with Christianization of the Roman Empire, formation of new Christian states in Europe and Byzantium, and influence of Islamic art, through international styles of Romanesque and Gothic art in Europe. Prerequisite: ATH 121 or 122. (3 cr. hr.) ■

#### ATH 320: History and Theory of Digital Arts

(C) An exploration of the artist's role in both using and analyzing the new media. A critical historical review of the impact of the digital revolution. Prerequisites: ATH 121, 122. (3 cr. hr.) ■

#### ATH 321: Seminar in Art History

(C) Specialized area of Western tradition of history of art. Reports based on independent research and study of related topic chosen in consultation with instructor required. Prerequisite: Consent of instructor. (3 cr. hr.) ■

#### ATH 323: North American Art: Colonial Period to World War II

(C) From 1620 to 1940 with emphasis not only on art and architecture from what is now the U.S., but also from Canada. Prerequisite: ATH 121 or 122. (3 cr. hr.) ■

#### ATH 324: Spanish and Spanish American Art and Architecture

(O) Survey of art and architecture produced in Spain and Latin America from 1492 to present. A major concern is not only Spanish Colonial Art, including the contribution of indigenous peoples to it, but also contemporary art from Latin America. Prerequisites: Consent of instructor or ATH 121 or 122. (3 cr. hr.) ■

#### ATH 326: Art of Greece and Rome

(O) Sculpture, painting, architecture from Bronze Age civilizations of Aegean through Greece and Rome to fall of the Empire; Etruscan art included. Plastic visual arts related to other aspects of culture (history, literature, drama) in each period. Prerequisite: ATH 121 or 122. (3 cr. hr.) ■

**ATH 330: Far Eastern Art**

(O) Introduction to art, architecture of Far East including India, China, Japan, Central Asia, Southeast Asia from periods of early river cultures through 19th century. Differences between Eastern, Western cultures; interaction among Far Eastern cultures; influence upon modern society stressed. (3 cr. hr.) ■

**ATH 340: The Early Renaissance in Italy**

(C) Architecture, sculpture, and painting from the late 13th through 15th centuries. Works by Giotto, Brunelleschi, Donatello, Masaccio, Fra Angelico, Botticelli, etc., studied in their social and cultural contexts. Prerequisite: ATH 120, 121 or 122, or permission of instructor. (3 cr. hr.) ■

**ATH 341: 15th, 16th-Century Painting in Northern Europe**

(C) Development of Flemish, Dutch, German and French painting of 15th and 16th centuries: works by Hubert and Jan van Eyck, Rogier van Weyden, Bosch, Dürer, Grünewald, the elder Bruegel. Prerequisite: ATH 120, 121, 122 or permission of instructor. (3 cr. hr.) ■

**ATH 344: Renaissance, Mannerism, Baroque**

(C) Analysis of High Renaissance art in Italy, 16th-century Italian Mannerism, and 17th-century Baroque art in Italy, France, Spain, England, Flanders, and Holland. Works by Leonardo da Vinci, Michelangelo, Raphael, Titian, Bernini, Velázquez, Rubens, Rembrandt, etc., studied in their social and historical contexts. Prerequisite: ATH 120, 121, 122, or permission of instructor. (3 cr. hr.) ■

**ATH 355: Rococo Through Impressionism – 18th and 19th Centuries**

(C) Value structures in painting, sculpture, architecture in 18th and 19th centuries in relation to political and industrial revolutions, changes in class structure, religious revivals and atheism. Prerequisite: ATH 121 or 122. (3 cr. hr.) ■

**ATH 357: Modern Art**

(C) This course is a survey of significant activity and ideas in the visual arts from ca. 1880-1945. Focus is on the art of Western Europe with attention to changing critical perspectives. In addition, a number of themes such as gender, visibility, technology, and mass media will be considered within the chronological framework. Prerequisite: ATH 120, 121, 122, or permission of instructor. (3 cr. hr.) ■

**ATH 385: History of Prints**

(O) Technical and artistic developments in printmaking from beginning in 15th century to present. Prerequisite: ATH 121 or 122. (3 cr. hr.) ■

**ATH 420: Aesthetics**

(O) Analysis of nature and function of art. Aesthetic theories from ancient Greece to modern period. Prerequisites: ATH 121 or 122. (3 cr. hr.)

**ATH 457: Contemporary Art**

(C) This course is intended to provide an introductory overview of the visual forms, media, and theories of contemporary art, with particular focus upon how art is defined and how the role of the artist is understood. Prerequisite: ATH 120, 121, 122, or permission of instructor. (3 cr. hr.) ■

**Studio Art Courses**

The State University of New York College at Cortland reserves the right to select and retain indefinitely any student art work done in connection with course work completed at the College.

**ATS 101: Drawing I**

(A) Lectures, demonstrations, critiques in methods and techniques of drawing. Series of basic graphic problems designed to develop visual perception. (3 cr. hr.) ■

**ATS 102: Design I**

(A) Basic principles of two-dimensional design. Aesthetic, perceptive relationships of forms, colors explored with emphasis on development of visual perception through lectures, problems, critiques, outside reading. (3 cr. hr.) ■

**ATS 103: Painting I**

(A) Introduction to oil painting. A survey of basic concepts and methods, including observation, invention, color, shape, composition, paint application and development of content. Painted work, group critiques, written preparatory assignments. (3 cr. hr.) ■

**ATS 104: Ceramics I**

(A) Forming processes aimed at discovering creative, structural, plastic potentials inherent in ceramics materials. Frequent technical lectures, demonstrations, group critiques and outside reading in historical, technical aspects of pottery design and construction. (3 cr. hr.) ■

**ATS 105: Weaving I**

(A) Weaving processes, including loom preparation. Emphasis on development of structural elements and color relationships used in the design of woven fabrics. Creative use of materials encouraged. Introduction of computer graphics software used to design textiles. Weekly lectures, critiques and discussions of historic and contemporary fabrics. (3 cr. hr.) ■

**ATS 106: Sculpture I**

(A) Concepts of form. Various media, techniques explored as preparation for further study in sculpture. Weekly lectures, critiques, discussions of historical aspects of sculpture. (3 cr. hr.) ■

**ATS 107: Printmaking I**

(A) Basic concepts of graphic image. Techniques of etching, block printing, silk screen, lithography explored as they relate to basic graphic concepts. Weekly illustrated lectures, critiques, discussion of historical aspects of printmaking. (3 cr. hr.) ■

**ATS 111: Fabric Design I**

(A) Introduction of silk screen processes on fabric, open screen, cut stencil and photo silk screen. Batik, stitchery, applique and quilt-making techniques also explored. Emphasis on creative use of alternative materials. Introduction of graphics intensive textile design programs used in this medium. Frequent lectures, critiques and discussions of historic and contemporary textiles. (3 cr. hr.) ■

**ATS 112: Photography I**

(B) Introduction to black and white photography as creative form of expression. Emphasis on camera use, darkroom techniques, aesthetics of the print and presentation of completed work of art. (3 cr. hr.) ■

**ATS 113: Three-Dimensional Design**

(A) Basic principles of three-dimensional design. Aesthetic and analytical exploration of form through problems, lectures, critiques and readings designed to strengthen visual perception. (3 cr. hr.) ■

**ATS 129, 229, 329, 429, 529: Special Topics in Studio Art**

Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

**ATS 201: Drawing II**

(A) Drawing from nature, the figure, landscape, still life. Experimentation with various media. Frequent lectures, critiques, museum visits. Prerequisite: ATS 101. (3 cr. hr.) ■

**ATS 202: Design II**

(B) Continuation of Design I. Class meetings include critiques of assignments. Lectures, visiting critics, films. Prerequisite: ATS 102. (3 cr. hr.) ■

**ATS 203: Painting II**

(A) Further study of painting concepts, techniques and historic context. Development of series work through individual experimentation and research. Group discussion, critique and written documentation of process. Prerequisite: ATS 103 (3 cr. hr.) ■

**ATS 204: Ceramics II**

(A) Development of ceramic processes. Creative exploration of materials emphasized. Frequent technical lectures, demonstrations, group critiques, outside reading in historical and technical aspects of pottery design and construction. Prerequisite: ATS 104. (3 cr. hr.) ■

**ATS 205: Weaving II**

(A) Emphasis on designing more advanced weave structures using graphics software for textiles. Introduction of synthetic dye techniques and various fabric finishing processes. Independent and group projects designed to extend personal expression. Introduction of additional weaving techniques. Frequent lectures, critiques, museum visits. Prerequisite: ATS 105. (3 cr. hr.) ■

**ATS 206: Sculpture II**

(A) Human figure, other subjects related to nature. Emphasis on personal investigation of form. Continued exploration of various media, techniques related to sculpture. Frequent lectures, critiques, museum visits. Prerequisite: ATS 106. (3 cr. hr.) ■

**ATS 207: Printmaking II**

(A) Intensified study of specific graphic techniques. Personal investigation of particular technique emphasized. Frequent lectures, critiques, museum visits. Prerequisite: ATS 107. (3 cr. hr.) ■

**ATS 209: Lithography I**

(B) Introduction to fine art lithography from aluminum plates. Intention is to acquaint students with fundamentals of black and white lithographic printing with emphasis on hand drawn and manipulated imagery. Techniques of image formation will include crayon application, wash drawing or lithotint, transfer from paper and Xerox, photo mechanically applied image. Prerequisite: ATS 101 or 102 or 107. (3 cr. hr.) ■

**ATS 211: Fabric Design II**

(A) Investigation of more advanced fabric design techniques including work in three-dimensional, sculptural fabric forms. Experimentation encouraged of other materials used in fabric design techniques. Continued use of various textile design and 3-D animation graphics programs. Frequent lectures, critiques, museum visits. Prerequisite: ATS 111. (3 cr. hr.) ■

**ATS 212: Computers in the Visual Arts**

(S) An introduction to a variety of computer programs which deal with Computer Aided Design in the visual arts. Several software programs will be explored throughout the semester with the objective of teaching the student about the similarities and differences of these graphics-intensive programs as used in various areas of art and design. Prerequisite: ATS 102. (3 cr. hr.) ■

**ATS 240: Graphic Design I**

(B) An introduction to the processes, techniques, basic terminology and concepts of the graphic design profession. Students learn to apply graphic design theory to develop aesthetic expression and effective communication. Oriented to computer aided graphic and information design. Prerequisite: ATS 202. (3 cr. hr.)

**ATS 241: Typography I**

(C) An introduction to typographic form through a series of structured investigations. Course study emphasizes basic letter-form design, vocabulary, measurement systems, computer typesetting and construction, and compositional principles used with text and display type. Prerequisite: ATS 202. (3 cr. hr.)

**ATS 301: Drawing III**

(S) Emphasis on composition, media intended to develop understanding of possibilities in drawing and student's own subjective approach. Lectures, critiques, reading assignments, wide variety of media used to expose students to more intellectual, technical possibilities. Prerequisite: ATS 201. (3 cr. hr.) ■

**ATS 302: Design III**

(B) Experimental two-, three-dimensional design concepts explored as they relate to contemporary situations. Individual, group problems designed to develop understanding, control of aesthetic and perceptual design variables. Independent research, problems, critiques, lectures, field trips. Prerequisite: ATS 202. (3 cr. hr.) ■

**ATS 303: Painting III**

(A) Intensified study of painting concepts, techniques and historic context. Development of series work through individual experimentation and research with greater emphasis on cohesive output and exhibition. Group discussion, critique and written documentation of process. Prerequisite: ATS 203 (3 cr. hr.) ■

**ATS 304: Ceramics III**

(A) Practical experience in advanced technical aspects of firing and glaze chemistry; body formulations emphasized. Frequent lectures, reading assignments, group critiques. Prerequisite: ATS 204. (3 cr. hr.) ■

**ATS 305: Weaving III**

(A) Prerequisite: ATS 205. (3 cr. hr.) ■

**ATS 306: Sculpture III**

(A) Prerequisite: ATS 206. (3 cr. hr.) ■

**ATS 307: Printmaking III**

(A) Prerequisite: ATS 207. (3 cr. hr.) ■

**ATS 309: Lithography II**

(B) Continuation of Lithography I; intended to encourage experimental uses of mechanical process in advanced multiple image formation. Technical problems involving use of color in lithography introduced; registration methods will demand that student has command over basic techniques of Lithography I. Prerequisite: ATS 209. (3 cr. hr.) ■

**ATS 311: Fabric Design III**

(A) Prerequisite: ATS 211. (3 cr. hr.) ■

**ATS 314: Figure Drawing I**

(O) Study of human figure using various media. Historical research emphasized through lectures; gallery, museum visits. Prerequisite: ATS 101. (3 cr. hr.) ■

**ATS 315: Figure Drawing II**

(O) Continued study of the figure emphasizing individual problems, research, museum, gallery visits required. Prerequisite: ATS 314. (3 cr. hr.) ■

**ATS 316: Silk Screen Printing**

(C) Creating of fine prints by silk screen process. Various types of stencils explored, i.e. paper, cut film, tusche-glue, etc. Prerequisite: ATS 101, 102 or 107. (3 cr. hr.) ■

**ATS 330 Artist's Books**

(C) Introduction to the use of the book as an object of artistic expression. Students learn to design and apply methods of binding, box making, and print media as they produce personal statements. Historical and contemporary usage of the codex format will be explored in lectures and critiques and with visits to local collections in museums and libraries. Prerequisite: ATS 101 or 102. (3 cr. hr.) ■

**ATS 340: Graphic Design II**

(B) An extension of the Graphic Design I course, stressing three objectives: craftsmanship, composition, and concept of aesthetic form as communication. Practical design problem solving within a professionally oriented studio environment. Prerequisites: ATS 101, 240 and 241. (3 cr. hr.) ■

**ATS 342: Art and The Internet**

(C) Introduction to the history and practical application of the use of the Internet as a communicative and artistic tool. Students will learn a wide range of HTML and multimedia content authoring tools in the production of individual projects sites. Prerequisites: ATS 102 and 202. (3 cr. hr.)

**ATS 343: Multi-Media I**

(C) Introduction to time-based and interactive digital media. Audio and visual media are explored and refined into personal aesthetic statements. Prerequisites: ATS 101, 240 and 241. (3 cr. hr.)

**ATS 401: Drawing IV**

(A) Individual study, experimentation with various media. Portfolio of drawings required before completion of course. Frequent lectures, critiques, museum visits. Prerequisite: ATS 301. (3 cr. hr.) ■

**ATS 403: Painting IV**

(A) Intensified study of painting concepts, techniques and historic context. Development of series work through individual experimentation and research with greater emphasis on unique solutions pertaining to student's personal creative interests. Group discussion, critique and written documentation of process. Prerequisite: ATS 303. (3 cr. hr.) ■

**ATS 404: Ceramics IV**

(A) Self-directed study expanding on earlier course work. Advanced glaze chemistry, other technical and aesthetic aspects of pottery design and execution. Independent research, group critiques, lectures. Prerequisite: ATS 304. (3 cr. hr.) ■

**ATS 405: Weaving IV**

(A) Self-directed study in selected area of interest. Further development of weaving techniques as expressed through different processes and/or research involving historic methods, procedures. Expanded use of computer graphics applications for textile design solutions. Independent research, experimentation. Group lectures, critiques, seminars, museum visits. Prerequisite: ATS 305. (3 cr. hr.) ■

**ATS 406: Sculpture IV**

(A) Self-directed study in selected area of interest. Further development of sculptural ideas as expressed through various media and techniques. Research into historical aspects of sculpture. Group lectures, critiques, seminars, museum visits. Prerequisite: ATS 306. (3 cr. hr.) ■

**ATS 407: Printmaking IV**

(A) Self-directed study in selected area of interest. Further development of graphic concepts as expressed through various media of student's choice. Research into historical aspects of graphic form relating to other intellectual, artistic activity. Group lectures, critiques, personal criticism, museum visits; print collection at Cornell Museum utilized. Prerequisite: ATS 307. (3 cr. hr.) ■

**ATS 440: Portfolio Practicum**

(C) An intensive studio class open to senior-level students. This course is the final culmination of the methods and practices investigated throughout the New Media Design Program. Topics to be explored include business practices and visual portfolio presentation. Prerequisites: ATS 340 and 343. (2 cr. hr.)

**Art Theory Courses****ATT 129, 229, 329, 429, 529: Special Topics in Art Theory**

Selected topics. May be taken more than once as subtitle changes. Prerequisites: Designated by department as appropriate for content and academic level of credit. (1-4 cr. hr.)

**ATT 470: Junior/Senior Seminar**

(B) Addresses traditional problems as well as contemporary issues and guidance needs of the advanced art major. Demonstrations, critiques, portfolio preparation, visiting artists, informal discussions and field trips. Prerequisites: art majors/minors only, junior standing; portfolio review and department permission required. Graded on H, S, U. system only. (0 cr. hr.)

**ATT 480: Art and the Child**

(A) Covers competencies needed to develop and conduct art activities program at elementary school level. Available generally only to upperclass and graduate elementary education majors. (3 cr. hr.)

**ATT 490: Individual Problems in Art I**

(A) Research or experimentation in area of visual arts or art history. Prerequisite: Consent of instructor. (3-6 cr. hr.) ■

**ATT 491: Individual Problems in Art II**

(A) Continuation of ATT 490. Prerequisite: Consent of instructor. (3-6 cr. hr.) ■

**ATT 495: Historical and Technical Research**

(A) Advanced problems, experimentation stressing research, involvement with theoretical, technical, historical aspects of a discipline as they relate to student's work. May be repeated when subtitle changes for maximum of 12 hours. Prerequisite: Consent of department. (3 cr. hr.) ■

# Asian/Middle Eastern Studies

## INTERDISCIPLINARY MINOR

### SCHOOL

Arts and Sciences

### FACULTY

Tiantian Zheng (Coordinator)

### MINOR OFFERED

Asian/Middle Eastern Studies

### DESCRIPTION

The Asian/Middle Eastern Studies minor is an interdisciplinary program designed to serve the needs of students majoring in any subject area who desire more knowledge regarding Asia, Middle Eastern and Asian American concerns. The minor consists of 15 credit hours including ANT 201: World Cultures and an additional 12 credits of upper level course work that will be drawn from at least two (and preferably three) different departments.

In addition to the following courses, other courses with a very substantial Asian/Middle Eastern or Asian American focus may also meet the requirements, with the approval of the Asian studies minor coordinator. Such courses might include independent studies, special topics, and other appropriate courses.

### SPECIAL FEATURES

Overseas opportunities

### Minor in Asian/Middle Eastern Studies [AMES]

#### CAREER POTENTIAL

- Education
- International business
- International communications
- Tourism
- Policy research
- Government

#### A. Required Course: Three credit hours

ANT 201: World Cultures

#### B. Elective courses with Middle East or Asia focus. Choose 12 credit hours with at least nine hours at the 300/400 level and at least three hours from each category.

##### 1. Middle East elective courses:

ANT 312: Peoples of the Middle East \*

HIS 461: Arab-Israeli Conflict \*

POL 456: International Politics of the Middle East \*

*\* course requires additional prerequisites*

##### 2. Asia elective courses

AST 200: Introduction to Asia

ANT 310: Peoples of South and Southeast Asia \*

ANT 311: Peoples of East Asia \*

ANT 330: Religions of Asia \*

ATH 330: Far Eastern Art

ECO 313: Economic Development of Asia \*

GRY 486: Monsoon Asia

HIS 383: Chinese Civilization \*

HIS 384: Modern China \*

HIS 385: History of Japan \*

Cornish Hall, Room D-322  
(607) 753-2478  
E-mail: zhenegt@cortland.edu

HIS 386: Modern Pacific Asia \*

HIS 435: East Asian-American Relations \*

POL 262: Comparative Politics: Asia

POL 376: Asian Political Thought

POL 454: International Politics in Asia \*

POL 462: Political Culture and Behavior in Asian Societies \*

*\* course requires additional prerequisites*

#### 3. Culture, Economics, Politics elective courses

ANT 322: Sociocultural Study of AIDS \*

ANT 326: Archaeology of Religion \*

ECO 304: Comparative Economic Systems \*

ECO 441: International Trade \*

IST 210: The Making of the Modern World

POL 350: American Foreign Policy

POL 362: Politics of Developing Nation States

RLS 200: World Religions

*\* course requires additional prerequisites*

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 15

# Asian/Middle Eastern Studies

## COURSE DESCRIPTION

### AST 200: Introduction to Asia

(C) Basic knowledge and understanding of the diverse societies and cultures of Asia. Study of the geography, nations, religions, cultural traditions, economic, social, and political developments including the circumstances leading to emigration from Asian countries to the United States and the Asian American experience. (3 cr. hr.)

# Athletics

## DEPARTMENT

Park Center, Room 222  
(607) 753-4953  
E-mail: [athletics@cortland.edu](mailto:athletics@cortland.edu)  
[www.cortland.edu/athletics/](http://www.cortland.edu/athletics/)

A

ATHLETICS

### FACULTY/STAFF

Joan Sitterly (Director), Mike Urtz (Associate Director), Tara Derbick (Assistant Director for Management and Marketing), Gary Babjack, Steve Beville, Joe Brown, Brad Bruhn, Tom Cranfield, Larry Czarnecki, Kory David, Pamela Hoerup, Dwight Hornibrook, Jennifer Kroleski, Julie Lenhart, Dan Lounsbury, Dan MacNeill, Matt Moran, Tom Spanbauer, Brian Tobin, Cynthia Wetmore, Shawn Wilbourn, Heidi Woodcock, Jeannette Yeoman

### ADJUNCT FACULTY

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

### DESCRIPTION

The Athletics Department conducts a broad-based NCAA Division III sports program for men and women including 11 varsity sports for men and 14 varsity sports for women. The athletic program is considered an integral part of the College's mission as recognized by the allocation of academic credit for participation.

Most coaches lecture in their areas of specialty within the Physical Education Department, therefore affording SUNY Cortland students the best instruction in activities and sports from faculty who are also practitioners.

The overall development of each student-athlete is of paramount importance. The department will provide the necessary vision and leadership for student-athletes to participate at the highest level of their ability while pursuing a quality education. Participation on an intercollegiate team will provide student-athletes with the opportunity to learn and develop values that foster self-discipline, teamwork, leadership skills and fair play in an equitable and diverse environment.

### COURSES OFFERED

#### Fall Sports

PED 202: Intercollegiate Cross Country: Men/Women  
PED 203: Intercollegiate Field Hockey: Women  
PED 204: Intercollegiate Football: Men  
PED 206: Intercollegiate Soccer: Men  
PED 207: Intercollegiate Soccer: Women  
PED 208: Intercollegiate Tennis: Women  
PED 209: Intercollegiate Volleyball: Women

#### Winter Sports

PED 210: Intercollegiate Basketball: Men  
PED 211: Intercollegiate Basketball: Women  
PED 212: Intercollegiate Gymnastics: Women  
PED 213: Intercollegiate Ice Hockey: Men  
PED 214: Intercollegiate Ice Hockey: Women  
PED 215: Intercollegiate Swimming: Men/Women  
PED 216: Intercollegiate Indoor Track and Field: Men  
PED 217: Intercollegiate Indoor Track and Field: Women  
PED 218: Intercollegiate Wrestling: Men

#### Spring Sports

PED 205: Intercollegiate Golf: Women  
PED 233: Intercollegiate Baseball: Men  
PED 234: Intercollegiate Lacrosse: Men  
PED 235: Intercollegiate Lacrosse: Women  
PED 236: Intercollegiate Softball: Women  
PED 237: Intercollegiate Outdoor Track and Field: Men  
PED 238: Intercollegiate Outdoor Track and Field: Women

# Biological Sciences

## DEPARTMENT

Bowers Hall, Room 240  
(607) 753-2715  
E-mail: [sweetl@cortland.edu](mailto:sweetl@cortland.edu)  
[www.cortland.edu/biology/](http://www.cortland.edu/biology/)

### SCHOOL

Arts and Sciences

### FACULTY

Louis A. Gatto (Chair), Timothy J. Baroni, Barry L. Batzing, Steven B. Broyles, Patricia L. Conklin, Peter K. Ducey, Terrence D. Fitzgerald, Aaron Fried, Rena C. Janke, R. Lawrence Klotz, Angela Pagano, Brian R. Rivest, John M. Sternfeld, John E. Straneva, Sarah Umphress, Mary Beth Voltura

### ADJUNCT FACULTY

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

### PROGRAMS OFFERED

Bachelor of Arts in Biology  
Bachelor of Science in Biology  
Bachelor of Science in Biomedical Sciences  
Bachelor of Arts in Conservation Biology  
Bachelor of Science in Conservation Biology  
Bachelor of Science in Adolescence Education: Biology (7-12)

### MAJORS OFFERED

Adolescence Education: Biology (7-12)  
Biology  
Biomedical Sciences  
Conservation Biology

### CONCENTRATIONS OFFERED

Environmental Science

### MINORS OFFERED

Biology

### DESCRIPTION

The biology program at SUNY Cortland is designed to ensure that majors obtain a strong, comprehensive foundation in the central areas of biology and related sciences. The program also offers specialized study in many areas. The Biological Sciences Department offers more than 30 courses in diverse areas of biology. Together with a faculty advisor, a biology major can design a course of study suited to his/her interests, whether it is at the level of molecular, cellular, organismal or environmental biology. Biology majors can become certified to teach in grades 7-12, prepare to pursue health-related careers such as medicine or dentistry or concentrate in environmental science.

### SPECIAL FEATURES

- Well-equipped on-campus facilities, including two greenhouses, a molecular biology laboratory and a scanning electron microscope
- Outstanding field facilities at Hoxie Gorge near campus and the Outdoor Education Center at Raquette Lake
- Opportunities to participate in research projects with faculty
- Opportunities for off-campus internships
- An active Biology Club and a chapter of Beta Beta Beta, the national honor society for biology
- Cooperative programs with the SUNY College of Environmental Science and Forestry, the SUNY Upstate Medical University, Duke University and the New York Chiropractic College

### Requirements

1. Degree Requirements listed on pages 38-48 of this catalog apply to the following majors.
2. Liberal Arts Requirements: B.A. – 90 credit hours;  
B.S. – 75 credit hours

### Major in Biology [BIO]

This major provides a solid foundation in biology yet retains considerable flexibility. Students in this major can prepare for a variety of biology-related employment opportunities or for entry into graduate or professional schools.

### CAREER POTENTIAL

- Health professions
- Environmental biologist
- Research scientist
- Laboratory technologist

### A. Biology Courses: 36 credit hours

BIO 201: Biological Sciences I  
BIO 202: Biological Sciences II  
BIO 210: Cellular Biology  
BIO 312: Genetics  
BIO 319: Biological Literature  
BIO 412: General Ecology  
Biology Elective Courses

### B. Related Science and Math Courses: 26 credit hours

CHE 221: General Chemistry I  
CHE 222: General Chemistry II  
CHE 301: Organic Chemistry I  
MAT 121: Calculus A  
MAT 122: Calculus B *or*  
MAT 201: Statistical Methods *or*  
GLY 281: Data Analysis in Natural Science  
PHY 105: Elementary Mechanics and Heat *and*  
PHY 106: Elementary Electricity, Light and Sound *or*  
PHY 201: Principles of Physics I *and*  
PHY 202: Principles of Physics II

### C. Additional Requirements for the B.A.: 62 credit hours

Composition and General Education Courses: 27 credit hours  
Foreign Language Courses: 0-12 credit hours  
Free Elective Courses: 22-35 credit hours

### D. Additional Requirements for the B.S.: 62 credit hours

Composition and General Education Courses: 27 credit hours  
Foreign Language Courses: 0-3 credit hours  
Additional Science or Math: 10 credit hours  
Free Elective Courses: 21-25 credit hours

**TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124**

## Major in Biology with a concentration in Environmental Science [BIO/ENVS]

This major provides a focused exposure to environmentally related areas of biology.

### CAREER POTENTIAL

- Environmental consultant
- Conservation biologist
- Fish and wildlife biologist
- Ecologist

#### A. Biology Courses: 36 credit hours

BIO 201: Biological Sciences I  
 BIO 202: Biological Sciences II  
 BIO 210: Cellular Biology  
 BIO 310: Field Biology  
 BIO 312: Genetics  
 BIO 319: Biological Literature  
 BIO 412: General Ecology  
 Biology Elective Courses

#### B. Related Science and Math Courses: 33 credit hours

CHE 221: General Chemistry I  
 CHE 222: General Chemistry II  
 CHE 301: Organic Chemistry I  
 GLY 261: Physical Geology  
 GLY 410: Hydrogeology  
 MAT 121: Calculus A  
 MAT 122: Calculus B *or*  
 MAT 201: Statistical Methods *or*  
 GLY 281: Data Analysis in Natural Science  
 PHY 105: Elementary Mechanics and Heat *and*  
 PHY 106: Elementary Electricity, Light and Sound *or*  
 PHY 201: Principles of Physics I *and*  
 PHY 202: Principles of Physics II

#### C. Environmental Courses: 12 or 13 credit hours

EST 100: Introduction to Environmental Studies\*  
 ENS 486: Seminar in Environmental Science  
 ENS 487: Environmental Science Internship

And one course from the following:

GLY 292: Land Use and Planning  
 GLY 367: Geomorphology  
 GLY 396: Aqueous Geochemistry  
 GRY 327: Computer Mapping  
 GRY 328: Geographic Information Systems

\*A student entering the program in the sophomore year or later may apply to the department chair for an exemption from EST 100, based on a comparable course or courses the student has taken or will take.

#### D. Additional Requirements for the B.A.: 42-43 credit hours

Composition and General Education Courses: 27 credit hours  
 Foreign Language Courses: 0-12 credit hours  
 Free Elective Courses: 2-16 credit hours

#### E. Additional Requirements for the B.S.: 42-43 credit hours

Composition and General Education Courses: 27 credit hours  
 Foreign Language Courses: 0-3 credit hours  
 Free Elective Courses: 11-16 credit hours

*Note: It is highly recommended that students in the environmental science concentration take or become proficient in public speaking, computer applications and computer graphics.*

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

## Major in Biomedical Sciences [BMS]

This interdisciplinary major provides the knowledge base and the physical and cognitive skills to successfully pursue professional careers or graduate programs in biomedical fields.

### CAREER POTENTIAL

- Medical professional
- Medical technologist
- Molecular biologist
- Geneticist
- Pharmacist

#### A. Core courses in the major: 34 credit hours

BIO 201: Biological Sciences I  
 BIO 202: Biological Sciences II  
 BIO 210: Cell Biology  
 BIO 312: Genetics  
 BIO 319: Biological Literature  
 BMS 260: Biomedical Sciences Freshman Seminar  
 BMS 460: Biomedical Sciences Senior Seminar  
 CHE 221: General Chemistry I  
 CHE 222: General Chemistry II  
 CHE 301: Organic Chemistry I

#### B. Cognate Requirements: 24-27 credit hours

BIO 412: Ecology *or*  
 BIO 422: Evolution  
 BMS 461: Biomedical Sciences Internship  
 CHE 302 and 304: Organic Chemistry II *or*  
 CHE 451: Biochemistry  
 MAT 121: Calculus A *and*  
 MAT 122: Calculus B *or*  
 MAT 201: Statistics (or equivalent)  
 PHY 105: Elementary Mechanics and Heat *and*  
 PHY 106: Elementary Electricity, Light and Sound *or*  
 PHY 201: Principles of Physics I *and*  
 PHY 202: Principles of Physics II

#### C. Biology Electives: 15 credit hours

BIO 304: Microbiology  
 BIO 305: Histology  
 BIO 324: Mammalian Anatomy  
 BIO 437: Directed Study  
 BIO 438: Research in Biology  
 BIO 502: Comparative Functional Morphology  
 BIO 514: Mammalian Physiology  
 BIO 521: Molecular Genetics  
 BIO 525: Developmental Biology

#### D. Interdisciplinary Electives: Six credit hours

Choose from the following:  
 PSY 101: General Psychology  
 PSY 411: Behavioral Neuroscience  
 HLH 391: Epidemiology and Biostatistics  
 HLH 492: Chronic and Communicable Diseases  
 EXS 387: Biomechanics  
 EXS 397: Exercise Physiology I

#### E. Additional Requirements for the B.S.: 38-45 credit hours

Composition and General Education Courses: 27 credit hours  
 Foreign Language Courses: 0-3 credit hours  
 Free Elective Courses: 11-18 credit hours

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

**Major in Conservation Biology [CON]**

This major provides a multidisciplinary approach to understanding and preserving Earth's planet and animal species and the ecosystems on which they depend. Students in this major can prepare for entry into a variety of environmental professions directly or following graduate school.

**CAREER POTENTIAL**

- Ecologist
- Environmental Educator
- Naturalist
- Wildlife Ecologist
- Field biologist

**A. Biology Courses: 36 credit hours**

## 1. Introductory Biology

BIO 110: Principles of Biology I *and*BIO 111: Principles of Biology II *or*BIO 201: Biological Sciences I *and*

BIO 202: Biological Sciences II

## 2. Conservation Biology Requirement:

BIO 405: Conservation Biology

## 3. Group A: Cell/Molecular Biology, Genetics and Physiology

Required courses:

BIO 210: Cellular Biology

BIO 312: Genetics

Additional courses:

BIO 521: Molecular Genetics

BIO 524: Physiological Ecology

## 4. Group B: Populations and Ecosystems

Required course:

BIO 412: Ecology

Additional courses:

BIO 310: Field Biology

BIO 315: Marine Biology

BIO 422: Biological Evolution

BIO 512: Limnology

## 5. Group C: Organismal Biology

Choose one from the following:

BIO 304: Microbiology

BIO 313: Taxonomy of Vascular Plants

BIO 323: Field Herpetology

BIO 401: Invertebrate Zoology

BIO 402: Biology of Vertebrates

BIO 408: Biology of Insects

BIO 411: Ornithology

BIO 418: Fungi

## 6. Additional Biology:

Select additional courses from at least two of the above groups — A, B and C — to total at least 36 credit hours in biology.

**B. Supporting Areas: 33-37 credit hours**

## 1. Required Courses: Science and Math

CHE 221: General Chemistry I

CHE 222: General Chemistry II

CHE 301: Organic Chemistry

GLY 281: Data Analysis in Natural Science *or*

MAT 201: Statistical Methods (or equivalent course)

## 2. Elective courses: three courses from the following:

MAT 121: Calculus A *and*

MAT 122: Calculus B

PHY 105: Elementary Mechanics and Heat *and*PHY 106: Elementary Electricity, Light and Sound *or*PHY 201: Principles of Physics I *and*

PHY 202: Principles of Physics II

CHE 302: Organic Chemistry II

Students interested in seeking a research graduate degree are advised to take one year of physics, one year of calculus and CHE 302.

**C. Skills Requirement: Four credit hours**GRY 327: Computer Mapping *or*

GRY 328: Geographic Information Systems

**D. Policy and Social Sciences: Nine credit hours**

Choose at least three courses from the following:

EST 100: Introduction to Environmental Studies

POL 240: Introduction to Public Administration and Public Policy

POL 242: Environmental Policy

POL 308: Environmental Law

GRY/REC 315: Ecotourism

GRY 370: Will the World Provide?

ECO 335: Resource and Environmental Economics

PHI 320: Environmental Ethics

REC 310: Wilderness and American Culture

REC 402: Management of Recreation Resources

SOC 340: Environmental Sociology

**E. Conservation Applications: Five credit hours**

CON 460: Conservation Seminar

CON 461: Conservation Internship

**F. Additional Requirements for the B.A.**

Composition and General Education courses: 27 credit hours

Foreign language: completion through the intermediate, 202 level

Free elective courses: to complete 124 total credit hours

**G. Additional Requirements for the B.S.**

Composition and General Education courses: 27 credit hours

Foreign Language courses: 0-3 credit hours

Completion of a total of 75 hours of mathematics, science, and computer applications courses (excluding CAP 100 and CHE 133).

Free Elective courses: to complete 124 total credit hours

**TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124**

## Major in Adolescence Education: Biology (7-12) [ABI]

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

### CAREER POTENTIAL

- Biology teacher (grades 7-12)

#### A. Biology Courses: 30 credit hours

BIO 201: Biological Sciences I  
 BIO 202: Biological Sciences II  
 BIO 210: Cellular Biology  
 BIO 310: Field Biology  
 BIO 312: Genetics  
 BIO 319: Biological Literature  
 BIO 412: General Ecology  
 Biology Elective Courses

#### B. Related Science and Math Courses: 27 credit hours

CHE 221: General Chemistry I  
 CHE 222: General Chemistry II  
 CHE 301: Organic Chemistry I  
 GLY 261: Physical Geology  
 MAT 121: Calculus A *or*  
 MAT 201: Statistical Methods *or*  
 GLY 281: Data Analysis in Natural Science  
 PHY 105: Elementary Mechanics and Heat *and*  
 PHY 106: Elementary Electricity, Light and Sound *or*  
 PHY 201: Principles of Physics I *and*  
 PHY 202: Principles of Physics II

#### C. Professional Preparation Courses: 38 credit hours

PSY 101: General Psychology I  
 PSY 232: Adolescent Psychology  
 PSY 350: Psychology of Language *or*  
 SHH 300: Normal Language Development  
 AED 391: Introduction to Adolescence Education  
 AED 442: Methods I: Teaching the Sciences in the Middle and Secondary Schools  
 AED 443: Methods II: Teaching the Sciences in the Middle and Secondary Schools  
 AED 444: Laboratory Practicum  
 AED 445: Student Teaching: Adolescence Education – Science  
 LIT 449: Literacy in the Middle and Secondary School  
 HLH 199: Critical School Health Issues

#### D. Additional Requirements for the B.S.: 29-34 credit hours

Composition and General Education Courses: 27 credit hours  
 Foreign Language Courses: 0-6 credit hours  
 Free Elective Courses: 0-2 credit hours

#### E. Admission to the Major

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

#### F. Eligibility for Student Teaching

To be eligible for AED 445: Student Teaching, a minimum overall grade point average of 2.5 is required. Additionally, a minimum grade point average of 2.5 is required in each of

areas A, B and C above. A minimum of 24 credit hours in biology courses and 22 credit hours in related science and math courses is needed. BIO 201, 202, 210, 312; CHE 221, 222; GLY 261; PHY 105 or 201; PSY 101, 232; and AED 391, 442, 443, 444 must be completed before the student teaching experience. Additionally, each teacher candidate will be required to submit a professional portfolio.

#### G. Other

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

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 124

## Minor in Biology [BIO]

BIO 110: Principles of Biology I *and*  
 BIO 111: Principles of Biology II *or*  
 BIO 201: Biological Sciences I *and*  
 BIO 202: Biological Sciences II  
 BIO 306: Human Genetics *or*  
 BIO 312: Genetics

A biology course at the BIO 210 level or above of at least three credit hours that is open to biology majors for major credit  
 Additional biology courses to reach a total of 21 credit hours

TOTAL CREDIT HOURS REQUIRED FOR THE MINOR: 21

## Cooperative Programs

### 2+2 Cooperative Program with the SUNY College of Environmental Science and Forestry [ESF]

This program leads to the award of the bachelor's degree from the SUNY College of Environmental Science and Forestry. Possible areas of study include environmental studies, environmental and forest biology, forest engineering, landscape architecture, paper science and wood products engineering. Students spend the first two years of this program at SUNY Cortland and the remaining years at the SUNY College of Environmental Science and Forestry, from which they receive the degree.

### 2+2 Cooperative Program in Cytotechnology or Medical Technology with the SUNY Upstate Medical University

This program leads to the award of the bachelor's degree in cytotechnology or in medical technology from the SUNY Upstate Medical University. A student spends the first two years of this program at SUNY Cortland and the final two years at the SUNY Upstate Medical University.

### 3+2 Cooperative Program in Forestry or Environmental Management with Duke University [BS\_BIO]

This program leads to the award of the B.S. in biology from SUNY Cortland and the master of forestry or master of environmental management degree from Duke University. A student spends the first three years of this program at SUNY Cortland and the final two years at Duke University.

### Cooperative Program with the New York Chiropractic College

This program leads to the award of the B.S. in biology from SUNY Cortland and the doctor of chiropractic degree from the New York Chiropractic College. A student spends the first three years of this program at SUNY Cortland and the remaining years at the New York Chiropractic College. After completing one year at the New York Chiropractic College, the student is awarded a B.S. in biology from SUNY Cortland.

## Example of the B.S. in Biology over four years

First Year	Second Year
<p><i>Fall</i></p> <p>BIO 201 CHE 221 CHE 224 CPN 100 or 102 COR 101 Foreign language or GE course</p> <p>Total credit hours: 16-17</p> <p><i>Spring</i></p> <p>BIO 202 CHE 222 CHE 225 CPN 101 or 103 Foreign language or GE course</p> <p>Total credit hours: 15-16</p>	<p><i>Fall</i></p> <p>BIO 210 CHE 301 GLY 281 GE course GE course or free elective</p> <p>Total credit hours: 17</p> <p><i>Spring</i></p> <p>BIO 312 MAT 121 GE course Free elective GE course or free elective</p> <p>Total credit hours: 16</p>
Third Year	Fourth Year
<p><i>Fall</i></p> <p>BIO 319 PHY 105 Science or math elective GE course Free elective</p> <p>Total credit hours: 14-15</p> <p><i>Spring</i></p> <p>Biology elective PHY 106 Science or math elective GE course</p> <p>Total credit hours: 13-15</p>	<p><i>Fall</i></p> <p>BIO 412 Biology elective Science or math elective Free elective Free elective</p> <p>Total credit hours: 16-18</p> <p><i>Spring</i></p> <p>Biology elective Biology elective GE course Free elective Free elective</p> <p>Total credit hours: 15-17</p>

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

### BIO 201: Biological Sciences I

(A) Principles of biology from a botanical perspective, emphasizing structure, function, ecology, and the evolutionary diversity of the moneran, protistan, fungal and plant kingdoms. For biology majors. Not open to students with credit for both BIO 110 and 111. Three lectures, one three-hour laboratory. (4 cr. hr.) ■

### BIO 202: Biological Sciences II

(A) Principles of biology from a zoological perspective emphasizing genetics, evolution, animal structure and function, development, and diversity of the animal kingdom. For biology majors. Not open to students with credit for both BIO 110 and 111. Three lectures, one three-hour laboratory. (4 cr. hr.) ■

### BIO 205: Methods in Laboratory Biology

(O) Introduction to some basic methods of laboratory biology including microscopy, spectrophotometry, chromatography and cell culture. Emphasis is placed on helping students improve quantitative skills. Not open to students with credit for BIO 210. Two lectures, one three-hour laboratory. (2 cr. hr.) ■

### BIO 210: Cellular Biology

(A) Examination of the molecular and biochemical systems central to cellular structures and processes including organelles and some specialized cell types. Three lectures, one three-hour laboratory. Prerequisites: BIO 201-202, CHE 221-222. (4 cr. hr.) ■

### BIO 301: Human Anatomy and Physiology I

(F) Structure, function of human body; cells, tissues; skeletal, muscular, nervous systems. Primarily for health, physical education majors. May be applied toward biology major only by dual majors in biology and physical education, biology and health, or biology and athletic training. Two lectures, one two-hour laboratory. (3 cr. hr.) ■

### BIO 302: Human Anatomy and Physiology II

(S) Structure, function of human body; urinary, digestive, respiratory, cardiovascular, endocrine, and reproductive systems. Primarily for health, physical education majors. May be applied toward biology major only by dual majors in biology and physical education, biology and health, or biology and athletic training. Two lectures, one two-hour laboratory. (3 cr. hr.) ■

### BIO 303: Microbiology and Human Disease

(A) Introduction to microorganisms and microbiological laboratory techniques. Emphasis on roles of microorganisms in disease, mechanisms of immunity. Primarily for students majoring in health; not open to biology majors. Two lectures, one three-hour laboratory, one two-hour laboratory. (4 cr. hr.) ■

### BIO 304: Microbiology

(S) Introduction to microorganisms and their laboratory study. Major topics include microbial metabolism, genetics, immunology, medical microbiology, microbial ecology. Three lectures, one three-hour laboratory. Prerequisite: BIO 210. (4 cr. hr.) ■

### BIO 305: Histology

(S) Microscopic study of fundamental tissues and organs with emphasis on the human body. Three lectures, one three-hour laboratory. Prerequisite: One year of biology. (4 cr. hr.) ■

# Biological Sciences

## COURSE DESCRIPTIONS

### BIO 110: Principles of Biology I

(F) Origin, evolution and diversity of life; molecular, cellular and genetic basis of life, with emphasis on scientific method. Not open to those having credit for BIO 201 or 202 (or equivalent) or to biology majors. Three lectures, one two-hour laboratory. (4 cr. hr.) ■

### BIO 111: Principles of Biology II

(S) Physiology and ecological concepts of biology as related to higher animals and plants. Not open to those having college credit for BIO 201 and 202 (or equivalent) or to biology majors. Two lectures, one two-hour laboratory. (3 cr. hr.) ■

**BIO 306: Human Genetics**

(F, C) Introduction to inheritance of similarities and differences in humans. Emphasis on genetic causes of diseases and defects. Not open to biology majors. Three lectures. (3 cr. hr.) ■

**BIO 307: Field Natural History**

(F) Natural history of plants and animals with emphasis on ecosystems of New York State. Collections of flora and fauna required. Two lectures, one three-hour field trip. Not open to biology majors. (3 cr. hr.) ■

**BIO 310: Field Biology**

(M) Examination of biological diversity and ecology in terrestrial and aquatic communities of New York. The course is taught during August at Cortland's Outdoor Education Center in Adirondack State Park. Daily and evening classes include field trips, laboratories, and lectures. Students are assessed a fee for room and board. Required of biology majors in programs for adolescence science certification and environmental science concentration. Prerequisites: BIO 110-111 or BIO 201-202. (3 cr. hr.) ■

**BIO 312: Genetics**

(S) Genetic, cytogenetic, biochemical aspects of inheritance. Three lectures, one three-hour laboratory. To be taken by biology majors before the end of the junior year. Prerequisite: BIO 210. (4 cr. hr.) ■

**BIO 313: Taxonomy of Vascular Plants**

(F) Identification of vascular plant families, taxonomy history, classification, nomenclature, economic importance, and natural history. Herbarium collection of vascular plants flora required. Two lectures, one three-hour laboratory. Prerequisite: BIO 110-111 or BIO 201. (3 cr. hr.) ■

**BIO 315: Marine Biology**

(F-C) Living organisms in marine environments; ocean habitats, ecological relationships, utilization. Two lectures, one recitation; one ten-day field trip to the Caribbean in January. Prerequisites: BIO 110-111 or 201-202, consent of instructor (4 cr. hr.) ■

**BIO 319: Biological Literature**

(F) Techniques in use of library resources resulting in a comprehensive technical bibliography and oral presentation. Recommended before second semester of junior year. (1 cr. hr.) ■

**BIO 323: Field Herpetology**

(C) Functional ecology, behavior, classification and conservation biology of reptiles and amphibians with emphasis on field investigation of New York species. Involves extensive fieldwork. Prerequisite: one year of biology. (3 cr. hr.) ■

**BIO 324: Mammalian Anatomy**

(S) Structural organization of mammalian organ systems with emphasis on detailed dissections of the integumentary, skeletal, muscular, respiratory, digestive, urinary, reproductive, circulatory, endocrine and nervous systems. Not open to students with credit for both BIO 301 and 302. Two three-hour lecture/laboratories. Prerequisites: BIO 110 and 111 or 201 and 202. (4 cr. hr.) ■

**BIO 401: Invertebrate Zoology**

(F-O) Functional morphology, life histories and evolutionary relationships of selected invertebrate phyla. Not open to students with credit for BIO 501. Three lectures, one three-hour laboratory. Prerequisite: BIO 111 or 202. (4 cr. hr.) ■

**BIO 402: Biology of Vertebrates**

(F-C) Evolution, functional morphology, and behavioral ecology of extinct and living vertebrate taxa. Three lectures, one three-hour laboratory. Prerequisites: BIO 110 and 111 or 201 and 202. (4 cr. hr.) ■

**BIO 405: Conservation Biology**

(S) Origin and preservation of biotic diversity, including species diversity, genetic variation, and ecosystem variety. Not open to students with credit for BIO 505. Two lectures, one three-hour laboratory/field trip. Prerequisite: BIO 110-111 or 201-202. (3 cr. hr.) ■

**BIO 408: Biology of Insects**

(S) Ecological, behavioral, and physiological adaptations of insects to their environment. Insect morphology, systematics and applied entomology. Not open to students with credit for BIO 508. Three lectures. Prerequisites: BIO 110-111 or 202. (3 cr. hr.) ■

**BIO 409: Animal Behavior**

(S) External stimuli, hormones, biological rhythms, orientation mechanisms, learning and behavioral ecology as related to maintenance of natural populations. Behavior in the natural context. Two lectures, one three-hour laboratory. Prerequisite: BIO 111 or 202. (3 cr. hr.) ■

**BIO 410: Plant Physiology**

(O) Physiological studies of plants, including plant hormones, photosynthesis, water and mineral relations, influence of environmental stimuli, and plants in tissue culture. Two lectures, one three-hour laboratory. Prerequisite: BIO 210. (3 cr. hr.) ■

**BIO 411: Ornithology**

(S) Behavior, environmental relationships, classification and identification of birds, especially those of Central New York. Early morning field trips. Two lectures, one three-hour laboratory. Prerequisite: BIO 111 or 202. (3 cr. hr.) ■

**BIO 412: General Ecology**

(F) Interrelations of living organisms and their environment. Investigations of quantitative, qualitative aspects of environments. Three lectures, one three-hour laboratory. Prerequisite: BIO 110-111 or 201-202. (4 cr. hr.) ■

**BIO 415: Radiation Biology**

(O) Effects of ionizing radiation on biological systems at molecule, cellular, organ and organism levels. Two lectures, one three-hour laboratory. Prerequisites: BIO 111 or 201 and 202; CHE 122 or 222. (3 cr. hr.) ■

**BIO 418: Fungi**

(F-C) Structure, classification, economic importance, methods of isolating, culturing and identifying the major groups of fungi. Three lectures and one three-hour laboratory. Prerequisite: BIO 201. (4 cr. hr.) ■

**BIO 419: Plant Cell and Tissue Culture**

(O) Theory, practice of isolation and cloning of plant cells, tissues, protoplasts. One lecture, one three-hour laboratory. Prerequisites: BIO 201, 210. (2 cr. hr.) ■

**BIO 420: Plant Morphology**

(O) Structure, life histories of vascular and non-vascular plants. Comparative morphology, evolution. Three lectures, one three-hour laboratory. Prerequisite: BIO 110 or 201. (4 cr. hr.) ■

**BIO 421: Plant Anatomy**

(F-C) Structure of cells, tissues and organs of seed plants. Introduction to microtechniques and methods of preparing plant material for microscopic study. Two lectures, one three-hour laboratory. Prerequisite: BIO 201. (3 cr. hr.)

**BIO 422: Biological Evolution**

(F) Analysis of the mechanisms of organic evolution, with emphasis on the investigative approaches employed in its study. Two two-hour lecture/discussions. Prerequisite: BIO 210, 306 or 312. (3 cr. hr.)

**BIO 426: Plant Systematics**

(O) Processes and mechanisms of variation in plants with emphasis on biochemical evolution, breeding systems, cytology, hybridization, pollination biology and polyploidy. Students will have the opportunity to learn modern laboratory techniques used in plant systematics. Three lectures, one three-hour laboratory. Prerequisites: BIO 110-111 or 201-202. (4 cr. hr.)

**BIO 427: Scientific Photography**

(S-C) Develop technical skills and learn basic theory for producing highly resolved images with bright field, phase and differential interference compound light microscopes. Students will learn photographic darkroom techniques, image digitizing, and must prepare poster/oral presentations of projects. One hour lecture, two hours laboratory per week. Prerequisites: BIO 110-111 or 201-202 and permission of instructor. (2 cr. hr.)

**BIO 428: Scanning Electron Microscopy**

(S-C) Theory and practice of scanning electron microscopy. Training in specimen preparation and use of the scanning electron microscope to produce highly magnified and resolved images of biological samples. Students will also learn photographic darkroom techniques. Project and paper required. Three hours of lectures/demonstrations and three hours of laboratory each week. Prerequisites: BIO 201-202, 210; CHE 221-222; recommended PHY 106 or 202. Permission of instructor. (4 cr. hr.)

**BIO 434: Advanced Laboratory Experience**

(A) Students serve as assistants in laboratory sections of a biology course. Includes advanced preparation for lab meetings, weekly attendance in the laboratory section while serving as instructional assistant in laboratory activities, and meetings with course instructor. May be taken twice. Not open to secondary education majors. H, S, U grades are assigned. Prerequisite: Grade B or better in the host course and permission of instructor. (1 cr. hr.)

**BIO 436: Research Seminar**

(O) Literature research and project design under the sponsorship of a faculty member. Fulfills prerequisite for BIO 438. Not open to second-semester seniors. May be substituted for BIO 319 but credit for both not permitted. Prerequisite: Junior biology major or consent of chair. (1 cr. hr.)

**BIO 437: Directed Study**

(A) Development of technical skills or preliminary investigation of a biological problem. May be taken twice, with different subtitle, for maximum of two credit hours. H, S, U grades are assigned. Prerequisite: Consent of department. (1-2 cr. hr.)

**BIO 438: Research in Biology**

(A) Investigation, under faculty supervision, terminated by report written in scientific format. Presentation of final results to be made in BIO 436 (Research Seminar). May be repeated for maximum of six credit hours. H, S, U grades are assigned. Prerequisite: BIO 437. (2-3 cr. hr.)

**BIO 439: Special Studies in Biology**

(O) Special off-campus studies in biology by individual student. H, S, U grades are assigned. Prerequisite: Consent of department. (1-15 cr. hr.)

**BIO 501: Advanced Invertebrate Biology**

(F-O) Structure and function, evolution, and life histories of major invertebrate phyla. Three lectures, one three-hour laboratory. Prerequisite: Four semesters of college-level biology or permission of instructor. Not open to students with credit for BIO 401. (4 cr. hr.)

**BIO 502: Comparative Functional Morphology**

(O) An examination of the principles and breadth of vertebrate functional morphology. Emphasis on the linkage of structure and function from the comparative and phylogenetic perspectives. Students may not receive credit for both BIO 402 and 502. Prerequisite: Four semesters of biology or permission of the instructor. (3 cr. hr.)

**BIO 505: Case Studies in Conservation Biology**

(M-C) Selected case studies in conservation biology, including conservation of species and genetic diversity, endangered species reintroductions, and the application of geographic information systems and computer models to the discipline. Not open to students with credit for BIO 405. Oral presentation, discussions and investigative laboratories/field trips. Prerequisites: One year of introductory biology. (3 cr. hr.)

**BIO 508: Entomology**

(C) An overview of insect biology including behavior, ecology, systematics, physiology, morphology, and the economic/medical impact of insects on human societies. Not open to students with credit for BIO 408. Prerequisites: A minimum of four semesters of biology courses or permission of the instructor. (3 cr. hr.)

**BIO 510: Advanced Field Biology**

(M) Examination of biological diversity and ecology in terrestrial and aquatic communities of New York. The course is taught during August at Cortland's Outdoor Education Center in Adirondack State Park. Daily and evening classes include field trips, laboratories and lectures. Students are assessed a fee for room and board. Students will be expected to lead one planned activity and discussion for graduate credit. Prerequisites: BIO 110 and 111, or 201 and 202. Not open to students with credit for BIO 307 or 310. (3 cr. hr.)

**BIO 512: Limnology**

(F) Aquatic biology covering thermal, physical, chemical attributes of fresh water and their effect on composition of an aquatic ecosystem. Two lectures, one three-hour laboratory. Prerequisites: BIO 110 and 111 or 201 and 202; CHE 222. (3 cr. hr.)

**BIO 514: Mammalian Physiology**

(F) Functions of mammalian organ systems, including the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Three lectures, one three-hour laboratory. Prerequisite: A course in cell biology or equivalent or permission of instructor. (4 cr. hr.) ■

**BIO 516: Controversies in Evolutionary Biology**

(O) Advanced investigations of current areas of debate within modern evolutionary biology. Hypotheses addressed range from levels of selection to evolutionary medicine, with additional topics suggested by students. Includes critical evaluations of readings from the current literature (primary, secondary and popular). Primarily in a seminar format. Prerequisite: At least four semesters of biology courses or permission of the instructor. (3 cr. hr.)

**BIO 521: Molecular Genetics**

(F-C) Modern genetic and molecular biological techniques applied to a study of genes, their structure, function, mutagenesis, and regulation. Three lectures, one three-hour laboratory. Prerequisites: BIO 312, CHE 301. (4 cr. hr.)

**BIO 522: Evolutionary Analysis**

(O) Analysis of the mechanisms and patterns of biological evolution. Includes consideration of the historical development of ideas, the integration of examples from across the biological sciences and an emphasis on the modern understanding of evolutionary processes. Not open to students with credit for BIO 422 or BIO 516. Prerequisites: Four semesters of biology including a course in genetics. (3 cr. hr.)

**BIO 523: Field Mycology**

(M-C) Emphasis on field and laboratory techniques used in identifying macrofungi (mushrooms, polypores, stinkhorns, coral fungi, jelly fungi, cup fungi, etc.). Skills involving microscopic preparations and interpretation of cells and tissues, microchemical reactions, and tissue sectioning will be developed. Lecture and laboratory topics will cover morphology, taxonomy, ecology, and economic importance of macrofungi. Project and paper required. Prerequisite: Year of college-level biology. (3 cr. hr.)

**BIO 524: Physiological Ecology**

(S-C) Physiological responses and adaptation of organisms to environmental factors. Prerequisite: Four semesters of undergraduate biology or permission of instructor. (3 cr. hr.) ■

**BIO 525: Developmental Biology**

(S) Examination of embryology, molecular aspects of development, differentiation, regeneration and pattern formation. Three lectures, one three-hour laboratory. Prerequisite or corequisite: A course in cell biology or equivalent. (4 cr. hr.) ■

**BIO 533: Biology Seminar**

(O) Selected topics dealing with current issues in biology. May be taken more than once as subtitle changes. Prerequisite: Consent of instructor. (1-3 cr. hr.)

**Biomedical Sciences****BMS 260: Biomedical Sciences Freshman Seminar**

(S) Introduction to the biomedical sciences. Discussion of specific research topics through examination of the work of Nobel laureates. Focus on the scientific research in the social and political context. Exact topics vary depending on current events and instructors. H, S, U grades assigned. Prerequisite: Permission of department. (2 cr. hr.)

**BMS 460: Biomedical Sciences Seminar**

(S) An interdisciplinary course discussing current topics in the biomedical sciences. Includes directed library research and reading. Emphasis on the conception, design and interpretation of results of research experiments. A variety of current issues will be addressed from molecular and cellular to anatomical, physiological and psychological to organismal. Open only to juniors and seniors. Prerequisite: Permission of department. (3 cr. hr.)

**BMS 461: Biomedical Sciences Internship**

(A) Internship at a biomedical facility such as an established health clinic, hospital, pharmaceutical company or biomedical research laboratory. Internship includes specialized training focused on a particular project. Open only to juniors and seniors. Prerequisite: Permission of department. (4-15 cr. hr.)

**Conservation Biology****CON 460: Conservation Biology Seminar**

(S) Contemporary issues in conservation biology emphasizing their scientific and social aspects. Directed readings, library research, oral reports and discussion of the current literature and conservation internships. Only open to juniors and seniors. Prerequisite: Permission of the instructor required. (2 cr. hr.)

**CON 461: Conservation Biology Internship**

(A) Project-oriented internship with a government agency, non-governmental organization (NGO), or faculty member emphasizing the social and scientific aspects of conservation biology practice. Alternatively, completion of a suitable study abroad program or course exploring conservation issues. Open only to juniors and seniors. Prerequisite: Consent of instructor. (3-15 cr. hr.)

**Related Education Courses****AED 391: Introduction to Adolescence Education**

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

**AED 442: Methods I: Teaching the Sciences in the Middle and Secondary Schools**

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

**AED 443: Methods II: Teaching the Sciences in the Middle and Secondary Schools**

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

**AED 444: Laboratory Practicum**

(A) Opportunity to work with an experienced teacher in the planning, preparation, and implementation of laboratory exercises in an introductory, college-level lab course through one-on-one and small group activities. Fulfills 25 hours of field experience requirement. Corequisite: AED 443. (1 cr. hr.)

**AED 445: Student Teaching: Adolescence Education — Science**

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

**LIT 449: Literacy in the Middle and Secondary School**

(A) Methods, materials and assessment for fostering literacy at the middle and secondary levels. (3 cr. hr.)