

Chapter VII

Academic Departments and Programs

Course Listings: An Explanation	83
Course Designation Codes	84
Departments and Programs—Alphabetical Listing	
African and Afro-American Studies	85
Anthropology	89
Art	95
Arts for Children—Interdisciplinary Major	104
Arts Management—Interdisciplinary Minor/CLAM Program	109
Biological Sciences	110
Board of Study for the Teaching of Science and Mathematics	119
Business Administration and Economics	120
Chemistry	141
Communication	146
Communications Meteorology—Interdisciplinary Minor	157
Computational Science	158
Computer Science	161
Counselor Education	170
Criminal Justice	171
Dance	176
Developmental Disabilities—A Certificate Program	185
Earth Sciences	186
Education and Human Development	196
English	209
Environmental Science	218
Film Studies—Interdisciplinary Minor	220
Foreign Languages and Literatures	221
Gerontology (Studies in Aging)—Interdisciplinary Minor	233
Health Science	233
History	242
Interdisciplinary Arts Course Offerings	248
Interdisciplinary Minor—Asian Studies	249
Interdisciplinary Minor—Canadian Studies	249
Interdisciplinary Minor—Jewish Studies	250
Interdisciplinary Minor—Latin American Studies	251
Mathematics	251
Military Science—United States Army ROTC	256
Modern War and Society—Interdisciplinary Minor	259
Military Training—United States Air Force ROTC	259
Music	260
Nursing	263
Philosophy	268
Physical Education and Sport	271
Physics	289
Political Science and International Studies	293
Professions	302
Psychology	303
Recreation and Leisure Studies	309
Social Work	319
Sociology	324
Theatre	328
Women's Studies—Interdisciplinary Program	335

Course Listings: An Explanation

Courses in this catalog are listed first by the discipline code, three letters that indicate the academic discipline (HST for history, for example), followed by three digits. The first of these digits refers to the level of the course; the next two indicate the specific course. Thus ENL 165 is an English course designed for the lower-division student, and the 65 indicates the specific course offering, which is International Short Story. These numbers are followed by the actual course title, and this in turn is followed by letters within parentheses that tell whether the course is liberal arts (A) or professional (B) in nature, and whether it may be used to fulfill one or more of the General Education requirements. A legend for the letters and numbers used in course listings is given below. An example of a course listing follows:

Explanation	Course Codes
WMS 101 (A,S,W,D) Introduction to Women's Studies	Complete Listing WMS
Women's Studies discipline code	
First digit indicates course level (undergraduate will be 1, 2, 3, or 4)	1
Second two digits indicate specific course	01
Official course title	Introduction to Women's Studies
Liberal Arts credit code	A
Social Sciences Knowledge Area	S
Perspective on Women General Education code	W
Diversity General Education code	D

Following the course description is further information regarding course credits and semesters when the course will be offered. An explanation of these abbreviations follows:

Key to Course Listings in this Publication

Cr.	Credits earned by successfully completing the course.
Fall	Course is usually offered only in the fall semester.
Spring	Course is usually offered only in the spring semester.
Summer	Course is usually offered only in the summer sessions.
No Semester Indicated	Course is offered irregularly or to be announced.

Course Listing Legend

Course Level Numbers

0–99	Non-credit course
100–199	Lower-division undergraduate course; no prerequisites
200–299	Lower-division undergraduate credit course; may have prerequisites
300–499	Upper-division credit course; normally requires junior status or above
500–599	Introductory-level graduate courses that may be available to undergraduates as 400–499 listings

Course Designation Codes

- A Liberal Arts courses
- B Non-liberal Arts

General Education Codes:

- C Comparative Perspective courses
- D Diversity
- E Science and Technology
- F Fine Arts without performance
- G Western Civilization
- H Humanities
- I Contemporary Issues
- J Contemporary Issues and Upper-level Writing
- L Natural Science with lab
- N Natural Science without lab
- O Other World Civilizations (Non-Western)
- P Fine Arts with performance
- S Social Sciences
- T Computer Literacy
- U Upper-level Writing
- V American History
- W Perspectives on Women

Department of African and Afro-American Studies

**112 Faculty Office Building
(716) 395-2470**

Chairperson: John K. Marah; *Associate Professor:* Marah; *Professor(s):* F. Nwabueze Okoye; *Professor Emeritus:* Ena L. Farley.

The Department of African and Afro-American Studies (AAS) articulates, in intellectual terms, the actual life experiences of Africans and people of African descent in North and South America and the Caribbean. Thus, students may utilize studies in AAS for any purpose in order to satisfy personal, educational and professional goals. The AAS major or minor offers students the sensitivity to minority issues and concerns that will stand the graduate in good stead when seeking private- or public-sector employment. Indeed, students who take AAS courses can capitalize on the increasing interest of private sector employers in recruiting personnel who are aware of minority issues and concerns.

AAS majors go into graduate school; into appointments at federal, state and local levels; into the various United Nations agencies; and into fields as diverse as banking, business, counseling, teaching, international studies, journalism, and labor relations.

Major Program

Basic components of the program, consisting of the core area as well as the supplementary fields within the major, are organized around the liberal arts disciplines. The core area subjects are selected from topics on Africa, on African-Americans in the United States, on the Caribbean and on other parts of the Third World.

Majors must complete 36 credits. These 36 credits must include 12 credits from the basic core and 24 credits from upper-division work offered by the department. After successfully completing 12 credits of introductory work, students are encouraged to select a liberal arts discipline in which to specialize. At least 12 of the 24 credits of required upper-division work must be in the chosen area of specialization.

Required Basic Core (12 credits):

Complete four of the following five courses:

AAS 104	Institutional Racism
AAS 113	Introduction to Afro-American History
AAS 204	African Politics & Society
AAS 235	Introduction to Afro-American Literature
AAS 278	Afro-American Music and Culture

Required Upper-division Courses (24 credits):

1. In the area of specialization, at least 12 credits.
2. Electives, by advisement, to complete 24 credits. These remaining 12 credits are selected from the Department of African and Afro-American Studies or, where necessary, from other departments by advisement from the Department of African and Afro-American Studies.

Minor Program

Minors must complete 18 credits in courses offered by the department. These must include six credits of basic core courses and 12 additional upper-division credits of department courses.

African and Afro-American Courses

AAS 104 Institutional Racism (A,D). Pursues three major goals designed to enhance students' intellectual understanding of racism. Familiarizes students with the history and development of racist institutions in America. Engages students in an examination of the structure, or "anatomy" of contemporary race relations in its interconnections with racial stereotypes and prejudice. Explores the psychological dimensions of racism, that is, how racism manifests itself in individual and group contexts. *3 Cr. Every Semester.*

AAS 113 Introduction to Afro-American History (A,D). *Cross-listed as HST 113.* Examines the historical experience and conditions of persons of African descent within the American historical milieu. *3 Cr. Every Semester.*

AAS 203 Africa: Ancient and Precolonial (A). Explores the diversity of people and cultures in Africa from the earliest period of human history; Africa's historical foundation and historical development. *3 Cr.*

AAS 204 African Politics and Society (A). Introduces students to the basic problems confronting Africa as a continent in the contemporary world. *3 Cr. Spring.*

AAS 213 African Legacy (A). Provides a detailed examination of the nature of Africa's past, with specific attention to the manner in which song, dance, storytelling and history become interwoven into one aspect of life. *3 Cr.*

AAS 232 African Music and Drumming for Dance (A,P). *Cross-listed as DNS 232.* Provides a study of selected traditional musical instruments for dance accompaniment and the development of performance skills and techniques through studio and live performance applications. Explores traditional styles and their social and artistic needs for formal religious and recreational application, as well as modern educational and cultural usages in African schools and colleges. *3 Cr. Every Semester.*

AAS 235 Introduction to Afro-American Literature (A,H). *Cross-listed as ENL 235.* Provides an introductory survey of the literature of people of African ancestry in the Americas. Acquaints students with major literary figures and significant historical periods through a discussion of issues regarding the relationship between the writers and socio-political and cultural movements, and of questions concerning the socio-cultural function that the black writer serves for his/her community. *3 Cr. Every Semester.*

AAS 278 Afro-American Music and Culture (A). *Cross-listed as FA 278.* Provides a basic history

of black American music and related aspects of theatre, dance and literature from the 17th century to today. *3 Cr.*

AAS 301 Brockport Career Exploration Course (BCEC) (A). Encourages sophomores, juniors and seniors to investigate a specific career area through a placement in an area of human service agency, governmental office or classroom. Allows students to work under the guidance of an immediate supervisor and College faculty sponsor, and participate in workshops through the Career Services Office. *3 Cr. Every Semester.*

AAS 302 History of South Africa (A,S). Examines several milestones in South African history, including the Mfecane, the Union Act, the formation of the African National Congress, the rise of the National Party, the Sharpeville massacre, the black consciousness movement, and the Soweto and Sebokeng uprisings. *3 Cr.*

AAS 307 Writing About the Black Experience (A). Explores the black experience through writing with a detailed examination of African peoples' social, cultural, and literary responses to the modern zeitgeist. Aims to increase students' response repertoire and writing abilities about African peoples' social, cultural and literary traditions. *3 Cr.*

AAS 310 Urban Black Politics (A,S). Provides a study of the historical processes leading to larger urban black populations: forces permitting and restraining the exercise of political power in the urban black context; position of various black leaders and groups and their relationship with urban government; and the need for alternative strategies for the exercise of power. *3 Cr.*

AAS 313 Slavery in the Antebellum South (A,U,D). *Cross-listed as HST 313.* Provides a study of some of the dynamics of slavery in the South between 1800 and 1860. Examines first-hand accounts of observers and the political, economic and racial implications of this system. Compares U.S. plantation slavery to other slave systems in the Americas. Encourages students to borrow from the disciplines of anthropology, sociology, literature, economics, as well as from political and intellectual history. *3 Cr.*

AAS 314 The Black Family (A). *Cross-listed as SOC 314.* Provides a study of the socio-cultural, political and economic conditions that afflict black family life. Confronts the pejorative tradition as the primary modality for examining black family life; and explores the African antecedents and continuities that have influenced the black family in the U.S. *3 Cr. Fall.*

AAS 315 Contemporary Black Woman (A,I,W,D). *Cross-listed as WMS 315.* Eclectically

explores the various positions and roles played by black women in contemporary times against their historical backdrop. Focuses on the roles of black women in traditional and contemporary contexts in Africa; black women in rural and urban areas and in the Caribbean; and professional black women and their characteristics. *3 Cr. Every Semester.*

AAS 317 Prejudice, Personality and Culture (A). *Cross-listed as SOC 317.* Explores the historical and social conditions in which prejudice arises; social functions of prejudice and its psycho-social manifestations; the impact of prejudice and discrimination upon social and race relations in mass societies; and theories of prejudice. *3 Cr. Every Semester.*

AAS 322 Gospel Music I (A). *Cross-listed as MUS 322.* Provides history of Black American Gospel Music and its relationship to contemporary music forms; includes performances of gospel music. *1 Cr.*

AAS 330 African Dance II (A). *Cross-listed as DNS 330. Prerequisite: AAS 232 or DNS 200.* Provides for a study of rhythm through movement games; use of the materials of dance as an introduction to formal dances; African dance in the service of specific social needs; and the background of the dances. Requires performances. *3 Cr.*

AAS 332 Urban Economic Problems (A). *Cross-listed as ECN 332.* Examines important urban economic issues, such as the location of economic activity, the ghetto and poverty, land use, suburbanization, housing, urban renewal, transportation, education, crime, public finance, growth and planning. Evaluates local and national policies. *3 Cr. Fall.*

AAS 339 Writings by Afro-American Women (A,U,W,D). *Cross-listed as ENL 339 and WMS 339.* Explores literary representations of women in Afro-American fiction from the Harlem Renaissance to today. Examines the degree to which sexism, cultural stereotypes and racism influence the portrayals and functions of women in black American literature. To what extent is the author concerned with women's issues? How has the emergence of the feminist movement influenced contemporary authors? *3 Cr.*

AAS 359 Black Church (A). *Cross-listed as SOC 359.* Provides for an extended definition of the soul (essence) of the black church, and a critical analysis of the works of exponents of the theology of liberation in the light of the historical experience of black people. *3 Cr.*

AAS 360 Africa Today (A,J,W,D). Seeks to deepen students' understanding of contemporary

Africa. Gives attention to issues which have profoundly affected the lives of multitudes on the second largest continent. Includes issues such as slavery, racism, colonialism and neocolonialism, desertification, hunger and malnutrition, civil wars, the problem of refugees, development and underdevelopment, and the reality of winds of change in Mozambique, Angola, Zimbabwe, Namibia and South Africa. *3 Cr. Every Semester.*

AAS 367 The African Novel (A). *Cross-listed as ENL 367.* Examines major authors and movements in the development of the novel in Africa. Primary emphasis is on the texts themselves, but with attention to their social and historical contexts. *3 Cr.*

AAS 370 Leadership Development I (A). *Cross-listed as EDI 370.* Introduces basic leadership concepts and emphasizes effective leadership development. Also introduces theories of group process, problem-solving, communication, goal setting and organizational management. Includes topics such as motivation, team building, time management and decision making. Studies Afro-American, Hispanic and other ethnic group members in relationship to their leadership role in society. Involves students in directed community projects. *3 Cr. Fall.*

AAS 371 Leadership Development II (A). *Cross-listed as EDI 371.* Focuses on major leadership/motivational theories and models that apply to contemporary issues in minority communities. Requires students to analyze and evaluate the theories and models. Expects students to design and apply a leadership/motivational model to a community project. *3 Cr. Spring.*

AAS 404 Cultures of Sub-Saharan Africa (A). *Cross-listed as ANT 404/504.* Explores the rich African heritage by means of a critical review of selected African ethnographic studies with particular focus on topics such as: subsistence agriculture, trade, kinship, political systems, urban life, and religion. Serves a broad spectrum of students to contribute to the need to understand the increasing global interdependence and cultural diversity of the present age. *3 Cr.*

AAS 408 Pan-Africanism (A). Historians of this global movement have tended to represent it as a 20th-century phenomenon. This is an erroneous view since the essentials of the ideology of Pan-Africanism existed years before the word entered dictionaries in 1900. Seeks to grapple with Pan-Africanism ideologically and practically. *3 Cr. Fall.*

AAS 410 Apartheid (A,J,D). Attempts to use certain realities of post-1948 South Africa to cast light on a racial conflict that has raged for more than 500 years over the broad issues of hegemony

and economic resources. Grapples with issues such as human rights, the role of international capitalism in development and underdevelopment, Balkanization, Pax Africana and human survival. 3 Cr. Spring.

AAS 416 Twentieth-Century Afro-American Issues (A,J,D). Deals with the continuing problem of what place black Americans should have in the socio-political scheme, a problem of dramatic contemporary importance because compromise solutions during this century have been short-lived, and because American policies have global implications which could influence foreign policy outcomes in Africa. Requires students to use scholarly articles, monographs and contemporary newspapers as the bases for discussion. 3 Cr. Spring.

AAS 417 Cultural Heritage and the African-American Child (A). Explores African-American creativity, as well as the despair African-Americans have and continue to exhibit in response to discrimination and opportunity. Contrasts children's game songs with the black English controversy. Examines the influence of social and educational policies on the behavior of African-Americans. 3 Cr. Spring.

AAS 419 Civil War and Reconstruction (A). Cross-listed as HST 419. Provides an intensive study of the Civil War era (1848–1877). Includes an analysis of the slavery controversy in America and the military clash and national tragedy that followed. Assesses during the final weeks the impact of the war on America's social, political, economic and legal structure. 3 Cr.

AAS 420 Overseas Seminar in Africa (A). Consists of lectures, discussions, on-site field trips and opportunities to interact with Africans. Introduces students to various aspects of life in Africa as seen in the history, economy, culture, arts, social change and political development of the country visited. 6 Cr.

AAS 428 Racial and Ethnic Relations (A,D). Cross listed as SOC 428. Studies the role of race and ethnicity in social relations. Examines major theoretical orientations toward racial and ethnic stratification, as well as the consequences of inequality for both majority and minority groups. 3 Cr.

AAS 429 The Civil Rights Years (A). Explores the theme that the Civil Rights Movement (WW II to today) is one of the most significant in our history, one that made America a more democratic society, gave rise to other movements which transformed the face of American culture, changed those who participated in it, and influenced and

created a new generation of American leadership. Entails telecourse instruction with print, video and audio materials. 3 Cr.

AAS 433 African Dance III (A). Cross-listed as DNS 433. Prerequisite: AAS 330 or instructor's permission. Covers advanced dance for recreation and ceremonial dance, including festival, war, court and ritual forms. Enables students to develop a mental, emotional and aesthetic awareness of the performance of an African dance. Examines the role of the African dance in the service of society in campus and off-campus performances. 3 Cr.

AAS 435 Legal Rights of the Disadvantaged (A,I,W,D). Cross-listed as PLS 435 and WMS 435. Gives students an understanding of how the U.S. legal system can improve the status of underprivileged persons, such as blacks, Latins, women, prisoners, the poor, students, American Indians, homosexuals, and those with mental and physical disabilities. 3 Cr. Fall.

AAS 460 Modern Africa (A,J). Cross-listed as HST 460. Explores the major patterns in Africa's pre-modern history, the changes associated with colonial rule, the struggle for independence, and efforts to cope with the problems of development. Focuses on historical roots of contemporary African problems, including poverty, hunger, economic developments, political instability, Apartheid and others. 3 Cr.

AAS 476 Harlem Renaissance (A). Cross-listed as ARH 476. Surveys painting, sculpture, photography and ceramics from the Harlem Renaissance of the 1920s. Provides an overview of the period including literature, music and dance. 3 Cr.

AAS 485 The Jamaica Seminars (A). Focuses on Caribbean society, and the area's cultural, sociological, economic, and political aspects. Entails field study in Jamaica. 3 Cr.

AAS 494 African Dance Ensemble (A). Cross-listed as DNS 494. Prerequisites: AAS 232 and 433. Provides a study of advanced techniques in solo, duet and ensemble experience to explore special areas of drumming and dance; costuming and relationships to dances; and acquaintance with another dance culture and production methods. Entails class studies for lectures, demonstrations and performances. Includes video studies for discussion and examples of performance. 3 Cr.

AAS 499 Independent Study in AAS (A). Arranged in consultation with the instructor/sponsor and in accordance with procedures of the Office of Academic Advisement prior to registration. 3 Cr.

Department of Anthropology

B-4 Cooper
(716) 395-2682

Chairperson: Charles R. Edwards; *Professors:* Margaret B. Blackman, Jack R. Rollwagen; *Associate Professor:* Charles R. Edwards; *Assistant Professor:* LouAnn Wurst.

What is Anthropology?

Anthropology is the systematic study of humans. Its primary concerns are to:

- understand the origins of human behavior and culture over 60 million years of primate evolution and four million years of human evolution;
- explain the diversity of adaptive strategies, ways of life and value systems developed by humans as they confront the world's diverse natural, social and artificial environments; and
- put this understanding to practical use in analyzing and solving modern societal problems.

Career Options:

The anthropology major and minor provide excellent preparation for postgraduate training and/or careers in applied anthropology, museum work, public and contractual archaeology, education, forensic science, law, health/medicine, international business, marketing, human services, tourism and other fields that require an understanding of human diversity and human adaptability.

Programs and Courses:

The program in anthropology at Brockport is geared toward a core of motivated majors and minors. It stresses interaction between students and faculty; hands-on laboratory, field and career experience; training in research methodology; and mastery of analytical and communication skills. The anthropology major offers two options, one with 37 credits and the other with 40 credits. The department also offers an 18-credit Personalized Applied Minor in Anthropology (PAMA) and a general minor. Courses cover four areas:

1. Physical (biological) anthropology: reconstructing human and primate evolution, and understanding contemporary human adaptation;
2. Archaeology: studying culture through material remains with the aim of ordering and describing the events of the past and explaining the meaning of those events;
3. Cultural anthropology: understanding cultural diversity and contemporary sociocultural processes; and
4. Applied anthropology: putting these perspectives to work in identifying, analyzing and solving contemporary human societal problems in such fields as medicine, international development, preservation of cultural and environmental resources, and human services.

Major in Anthropology

The Department of Anthropology offers a major that gives students an opportunity to choose between two options depending on their curricula and career needs. Details of the two options are described below.

Major requirements:

Option I. Liberal Arts Anthropology Option (37 credits):

A traditional "stand-alone" major for students who are interested in anthropology but who will probably not enter anthropology as a career, *per se*. Such students might include those with another major outside of anthropology or students in pre-professional programs such as pre-law, pre-medical, elementary and secondary education certification. Option I provides students with a broad perspective on anthropology by including within it courses in each of the three sub-disciplines (Socio/Cultural Anthropology, Physical/Biological Anthropology and Archaeology).

Option I Major Requirements: (37 credits)		Credits
A. Introductory courses:		
ANT 100	Introduction to Cultural Anthropology	3
ANT 110	Introduction to Archaeology	3
ANT 120	Introduction to Human Evolution	3
B. Intermediate core courses:		
ANT 200	Ethnographic Experience	3
ANT 370	Anthropological Literature	3
ANT 395	Anthropology and Careers	1
C. Three sub discipline upper-division courses: (9 credits)		
ANT 3/400	Physical Anthropology Course	3
ANT 3/400	Archaeology Course	3
ANT 3/400	Cultural Anthropology Course	3
D. Anthropological methods: (3 credits)		
ANT 394	Research Methods in Cultural Anthropology	3
E. Additional courses:		
	Chosen in consultation with advisor to complete total credits	9
Option II. Anthropology as a Profession/Pre-Graduate School Option (40 credits)		
<p>An expanded major for students who will probably (1) enter the work force directly as practitioner/applied anthropologists, Cultural Resources Management (CRM) staff, CRM archaeologists, museum staff, Peace Corps volunteers, etc. and/or (2) attend graduate programs in anthropology. This option is founded on the assumption that potential employers and graduate schools seek superior students with a work ethic, research and communication skills, and practical experience that they can translate immediately into the job or graduate school. Option II differs from Option I in requiring that students complete additional collateral courses and a senior thesis project or practicum. In addition, this option requires that students have a cumulative GPA of 3.25 in anthropology courses in order to register for the Senior Thesis.</p>		
Option II Major Requirements: (40 credits) Credits		
A. Introductory courses:		
ANT 100	Introduction to Cultural Anthropology	3
ANT 110	Introduction to Archaeology	3
ANT 120	Introduction to Human Evolution	3
B. Intermediate core courses:		
ANT 200	Ethnographic Experience	3
ANT 370	Anthropological Literature	3
ANT 395	Anthropology and Careers	1
C. Three sub-discipline upper-division courses: (9 credits)		
ANT 3/400	Physical Anthropology Course	3
ANT 3/400	Archaeology Course	3
ANT 3/400	Cultural Anthropology Course	3
D. Anthropological methods: (3 credits)		
ANT 394	Research Methods in Cultural Anthropology	3
E. Senior Thesis:		
ANT 496	Senior Thesis Project	3
F. Required collateral course:		
SOC 200	Social Statistics, PSH 202 Introduction to Statistics for Psychology, or equivalent course in computer applications	3

G. Additional courses:

Chosen in consultation with advisor to complete total credits

9

Strongly recommended for Options I and II:

Courses in foreign language (four semesters), statistics, computer applications, advanced writing, semester abroad program, internship or co-op (ANT 461 or BCE 322). For students in Option II, courses ancillary to anthropology may be suggested by advisor if these are relevant to career or graduate school goals. For example, anthropology majors intending to pursue careers and/or graduate work in areas such as museum work, physical anthropology, paleontology, archaeology, conservancy/conservation, medicine, and law will be advised to take additional courses in disciplinary areas relevant to their career goals. Majors may increase chances for a successful career by:

- combining anthropology with a professional or pre-professional program such as teacher certification, pre-law, pre-medical;
- minoring in a field that complements anthropology (art, communications, psychology, etc.);
- developing skills in areas outside of, but relevant to, anthropology, such as computer science, foreign languages, technical writing or advanced composition;
- completing an internship, field project or service in an area relevant to anthropology; and/or
- experiencing another culture through a credit-bearing semester abroad.

Minor Programs in Anthropology

The Personalized Applied Minor in Anthropology (PAMA) is a contractual program that allows students to relate anthropology to their major or career interests outside of anthropology. PAMA students are assigned a faculty sponsor in anthropology with interests and training relevant to the concerns of the student's major field. The student and faculty member then develop a contractual minor of 18 credits which must include an integrative ANT 499 Independent Study course taken in the senior year.

The department also offers a general minor for students who have not chosen a career concentration or major, or who simply want a broad exposure to anthropology. The general minor consists of 18 credits in anthropology distributed as follows:

1. ANT 100;
2. One of the following: ANT 110 or 120; and
3. Four electives selected in consultation with the departmental advisor. (Up to two courses relevant to anthropology, but offered by other departments [for example, art history, biology, history, African and Afro-American Studies, etc.], may be included in the minor with approval of the anthropology departmental advisor.)

Anthropology Courses

ANT 100 Introduction to Cultural Anthropology (A,S,C). Introduces basic concepts of cultural anthropology by relating them to pressing local and worldwide problems. Includes topics such as the relationships between people and their environments; the impact of technological modernization on traditional cultures; and the practical applications of anthropology in cross-cultural communication, health, economic development and ecology. *3 Cr. Every Semester.*

ANT 110 Introduction to Archeology (A,S,C). Explores the development of cultural traditions and human cultural achievements in various world areas, with particular attention to methods and techniques used in studying the past. *3 Cr. Every Semester.*

ANT 120 Introduction to Human Evolution (A,N,W). Surveys ecological, biological and behavioral processes underlying human evolution and shaping human behavior. *3 Cr. Every Semester.*

ANT 200 Ethnographic Experience (A,C). An introduction to the study of cultures through selected case studies, or ethnographies. Provides an in-depth view of specific cultures and the anthropological analysis of them; introduces students to theories and methodologies that frame ethnographic studies, and present a sample of the best in contemporary ethnographic writing. *3 Cr. Fall Semester.*

ANT 262 Female: Myth and Reality (A). *Cross-listed as WMS 262.* Explores the roles and status of females from a cross-cultural perspective; how females perceive themselves and how they are perceived by others in different societies; and biological differences between males and females as these are used to arrive at socially significant distinctions. *3 Cr.*

ANT 301 Native Americans (A,I,C,D). Explores the major issues facing Native Americans (Indians and Eskimos) in the United States today. Emphasizes understanding the varied perspectives of the major parties involved in each issue with particular attention to the Native American position. *3 Cr. Fall Semester.*

ANT 312 Culture and Health (A,J,W,E). Explores the implications of cultural and ethnic diversity for understanding and dealing with health problems in America and around the globe. Emphasizes the importance of cross-cultural understanding and communication for health care, nutrition, education and cultural change. *3 Cr. Spring.*

ANT 313 Culture and Disability (A,J,W). Examines "disability" as a cultural construct whose meaning is changing in light of greater public

awareness of disability, activism on the part of people labeled as "disabled," and technological changes. Looks at disability as a reflection of cultural diversity in America, and assesses ways to understand how this diversity can help us maximize all our potentials in a multicultural society. *3 Cr. Fall.*

ANT 314 Cross-cultural Perspectives on Aging (A,J,C). Examines cultural factors underlying diverse ways of growing old and living as an aged person; myths and stereotypes about the elderly; theories relevant to age and aging; the impact of gender, class and ethnicity on aging; and issues in the U.S. relevant to aging. *3 Cr.*

ANT 315 The Migration Experience (A,J,W). Economic change, war and political upheaval have created an increasing number of voluntary and involuntary migrants in the contemporary world. Using the holistic approach and cultural insight of anthropology, looks at the migration experience and the role of gender within it, from the decision to leave through adaptation and the resettlement. Considers reproductive, household and extradomestic roles and shifting power relations. *3 Cr. Spring.*

ANT 321 Culture Change (A,J,W,E). Studies modern world cultures and societies in conflict. Gives particular attention to how the economic, political and social interests of major international powers produce conflict and change throughout the developing world. *3 Cr. Spring.*

ANT 322 Culture and Power (A). Explores how powerlessness is experienced by many people in society today. Requires students to study cases from different cultures, develop conceptual frameworks for analyzing them, and then apply principles derived from the case studies to situations where the exercise of power becomes a problem for them as individuals or as members of groups to which they belong. *3 Cr.*

BCE 322 Brockport Career Exploration Course. Encourages sophomores, juniors, and seniors to investigate a specific career area through a placement in an area human service agency, government office, or classroom. Allows students to work under the guidance of an immediate supervisor and College faculty sponsor and participate in workshops through the Career Services Office. *3 Cr. Every Semester.*

ANT 330 World Poverty and Economic Underdevelopment (A,J,C). Investigates the systemic nature of underdevelopment as a process; and its causes and its implications for people in all of the world's sociocultural systems. Uses a number of issues to examine the systemic nature of underdevelopment. *3 Cr. Fall.*

ANT 332 China in Transition (A,J,C). This course explores the social, cultural, political and economic changes that have taken place in China in the 20th century. It examines how these changes have affected traditional Chinese society and discusses their continuing impact on social life, cultural values and social behavior in contemporary China. *3 Cr. Fall and Spring.*

ANT 342 North American Archaeology (A,C). Provides a culture history of the native peoples of North America from their earliest occupation through the recent historical period. Canvasses cross-cultural variables associated with culture change, adaptation, the origins of agriculture, socio-cultural complexity, and ideology. *3 Cr. Spring.*

ANT 350 Primate Behavior and Adaptation (A). An exploration of the evolution, behavior, and adaptations of living non-human primates, with particular emphasis on (1) field studies of free ranging primates; (2) social and protocultural behavior in primates; and (3) relevance of primates for understanding the roots of animal behavior in general and human behavior in specific. *3 Cr.*

ANT 356 Forensic Anthropology (A). Forensic anthropology applies skeletal analysis in a variety of settings from criminal investigation to reconstructing what really happened at the Battle of the Little Bighorn. ANT 356 uses case studies, laboratory exercises and field simulations to explore the roles and techniques of forensic anthropology. This course complements interests in anthropology, criminal justice, pre-law, pre-medical, psychology and biology. *4 Cr.*

ANT 363 Witchcraft and Magic (A). Examines anthropological perspectives on the witchcraft phenomenon. Studies witchcraft beliefs and practices in England, Europe and Colonial America in the 16th and 17th centuries from an ethnohistorical perspective. Provides a cross-cultural comparison of witchcraft beliefs and practices in past and present societies. *3 Cr. Fall.*

ANT 370 Anthropological Literature (A). *Prerequisite: ANT 100.* This course is designed to give students an understanding of the major American, British, and French theoretical schools which influenced and emerged from ethnographic fieldwork over the course of the twentieth century and to discuss the intellectual traditions which have shaped the discipline of anthropology and which continue to shape the discipline as anthropology prepares to enter the 21st century. *3 Cr. Spring.*

Note regarding Topics Courses (ANT 380, 381, 382, 480, 481 and 482):

Topics courses are intended to provide breadth in the anthropology program through courses that are not offered on a regular basis but which meet certain needs and interests. These include special courses offered at the request of anthropology majors, one-time courses offered by regular or visiting faculty, etc.

Topics courses are offered in each of the three subfields of anthropology: Cultural Anthropology, Physical Anthropology and Archaeology. Students may take more than one topics course for credit. When topics courses are offered they will carry a descriptive title (Eg: ANT 482/582—Controversies in Human Evolution or ANT 380—The Food and Culture, etc.). Descriptions of topics courses offered in a particular semester can be obtained from the Anthropology Web page during academic advisement and registration.

ANT 380 Intermediate Topics in Cultural Anthropology. *May or may not have prerequisites.* Topic will vary from semester to semester and cover such areas as nutrition, art, religion, the ethnography of specific regions or ethnic groups, etc. *1–6 Cr.*

ANT 381 Intermediate Topics in Archaeology. *May or may not have prerequisites.* Topic will vary from semester to semester and may cover such areas as museum studies, the archaeology of specific geographical regions, etc. *1–6 Cr.*

ANT 382 Intermediate Topics in Physical Anthropology. *May or may not have prerequisites.* Topic will vary from semester to semester and might include such areas as the human adaptation, primatology, the paleontology of specific geographic regions, etc. *1–6 Cr.*

ANT 394 Research Methods in Cultural Anthropology (A). An introduction to the art and science of field research in cultural anthropology. Provides hands-on experience with selected research techniques and analysis of data. *3 Cr. Spring.*

ANT 395 Anthropology and Careers (A). Explores career selection directly relevant to the major as well as the application of anthropological training to a broad range of careers. Students explore career possibilities through use of the Career Services Center and other local resources, personal contacts with alumni and others, and guest lectures by practicing anthropologists. Develops skills in curriculum planning, resume writing, job searching. *1 Cr. Fall.*

ANT 401 Native American Art and Culture (A).

Prerequisite: ANT 100 or ARH 201 or permission of instructor. Native American visual arts (North of Mexico) viewed within the context of Native American cultures and the frame work of anthropology. Explores Native American arts by culture areas—their roots, traditional expressions, changes with European contact, and contemporary expressions. 3 Cr. Spring.

ANT 405 Applied Anthropology (A).

Prerequisite: ANT 100. A subfield using anthropological perspectives to analyze and provide solutions for societal problems in the U.S. and globally. Using case studies and “hands-on” projects, explores the theoretical, practical and ethical implications of applied anthropology. Intended primarily for students who will ultimately address a variety of applied problems in multicultural or non-Western settings. 3 Cr.

ANT 441 Archaeological Analysis (A).

Prerequisite: ANT 110 or ANT 442 or permission of the instructor. Presents contemporary laboratory methods used to identify patterns in artifacts and field data recovered from archaeological site surveys and excavations. Students learn to analyze, interpret, manage, and conserve artifacts and field data. 3 Cr. Spring.

ANT 442 Field Methods in Archaeology (A).

This field-based course studies the principal methods and theories of contemporary archaeology. Students will survey and excavate an archaeological site, expose and document prehistoric artifacts,

and use their distribution to interpret patterns in human behavior and cultural adaptation. 6 Cr. Summer.

ANT 461 Anthropology Practicum (B).

Prerequisite: Prior departmental approval. Allows qualified anthropology majors or minors to earn credit through internships, cooperative education programs, etc. that involve applying anthropological perspectives in work settings (see also BCE 322 listed above). 3–6 Cr. TBA.

See note on topics courses, above.

ANT 480 Advanced Topics in Cultural Anthropology.

Similar to ANT 380 except usually has prerequisites or requires instructor’s permission to enroll. 1–6 Cr.

ANT 481 Advanced Topics in Archaeology.

Similar to ANT 381 except usually has prerequisites or requires instructor’s permission to enroll. 1–6 Cr.

ANT 482 Advanced Topics in Physical Anthropology.

Similar to ANT 382 except that ANT 482/582 usually has prerequisites or requires instructor’s permission to enroll. 1–6 Cr.

ANT 496 Senior Thesis Project (A).

Requires students to design, carry out, write and defend a field, laboratory or library research project in collaboration with or under the supervision of an anthropology faculty member. 3 Cr. Spring.

ANT 499 Independent Study in Anthropology (A).

Established in consultation between student and instructor/sponsor. 1–6 Cr. Every Semester.

Department of Art

**204 Tower Fine Arts Building
(716) 395-2209**

Chairperson and Associate Professor: Jennifer Hecker; *Professor:* Nathan Lyons; *Assistant Professors:* Debra Fisher, J. S. Xiaobird and Lori Mills

I still can find no better definition for the word art than this: nature, reality, truth; but with a significance, a conception, a character which the artist brings out in it, and to which he gives expression; which he disentangles and makes free and clears up.

—Vincent Van Gogh

Art has been defined as many things: ability, process and product. The Department of Art at SUNY Brockport offers courses and programs which integrate the formal, technical, conceptual, and historical aspects of the visual arts.

Programs: The Department of Art offers a Bachelor of Fine Arts (BFA) in Studio Art, and a Bachelor of Arts (BA) or a Bachelor of Science (BS) in Studio Art, and a minor in Art History. In addition, the School of Arts and Performance offers an Interdisciplinary Arts for Children Program, in which studio art is one of the specialties. Once a student declares a major, a faculty member in the appropriate area will be assigned as academic advisor.

Resources and Facilities: The Department of Art, located in the Tower Fine Arts Center, has well-equipped studios, two galleries (one student-run), and a Visual Resource Center which houses over 112,000 slides and videotapes. An active Art Students' Association organizes critiques, visiting artist programs, field trips, and exhibitions. SUNY Brockport students benefit from an affiliation with the internationally known Visual Studies Workshop in Rochester, which offers a variety of courses in photography, video, film, and book arts. Visual Studies Workshop also offers many exciting seminars and workshops that may be taken for college credit during its Summer Institute. Students at SUNY Brockport have an opportunity to study ceramics in the summer program in Faenza, Italy. In addition, students have the opportunity to study the visual arts from a non-Western perspective at the University of Science and Technology, Kumasi, Ghana.

Transfer students: A maximum of 18 transfer credits in art will be accepted by the department toward the studio art major; and a maximum of 39 transfer credits in art will be accepted toward the BFA. Other credits may be used as electives. Credits that correspond to the required courses within the major program may be accepted, as may certain related transfer courses not included in our curriculum. All transfer grades must be "C" or higher to be used to fulfill major requirements.

Studio Art Major (BA/BS)

The studio art major is designed to provide a well-rounded art experience, encompassing two-dimensional and three-dimensional media, art history courses, and a specialty (three levels) in one area. Students majoring in art are encouraged to expand their understanding of art as it relates to other disciplines, cultures, and global concerns.

Studio Art Major Requirements:

In addition to meeting all general College requirements, studio art majors must complete a total of 36 credits in art and art history as listed below. No more than 54 credits in studio art (or any other single discipline) can be used to satisfy the 120-credit requirement for the BA or BS degree.

A minimum grade of "C" must be attained in all courses in the major.

Required Courses (18 credits)		Credits
ARH 201	Survey of World Art I	3
ARH 202	Survey of World Art II	3
ART 210	2-D Design or ART 212 3-D Design	3
ART 221	Drawing I	3

ARH 420	20th-century Art	3
ART 401	Senior Seminar	3

Any two-dimensional courses from the following: (6 credits) 6

- Painting
- Photography
- Printmaking
- Visual Studies (book arts, film/video, or electronic imaging)
- Drawing (excluding ART 221)
- 2-Dimensional Design (if not taken in the above required courses)

Any two three-dimensional courses from the following: (6 credits) 6

- Ceramics
- Sculpture
- Metal/Jewelry
- 3-Dimensional Design (if not taken in the above required courses)

A three-course sequence (specialty) in one of the following areas: (6 credits) 6

- Ceramics
- Sculpture
- Metal/Jewelry
- Painting
- Photography
- Printmaking
- Book Arts
- Film/video
- Electronic Imaging

Total:

36

The BFA Degree

The BFA is an intensive degree program in studio art, intended for students who plan to pursue a professional career in art or to prepare for graduate study. Offering concentrations in ten different areas, the BFA also allows students to pursue their interests in installation art, performance art, public art, Web Page design, and other nontraditional art forms. BFA students work closely with a professor/mentor in their area of concentration, as well as interact with the entire art faculty through the required courses and semester BFA Reviews. BFA students are encouraged to be active in the Art Students Association, which runs Rainbow Gallery, where BFA senior exhibitions take place. BFA students are also encouraged to take DCE 323: Career Explorations in Art, in which they may receive credit for apprenticeships or internships in artists' studios, galleries, or alternative spaces.

Students are admitted to the program by a portfolio review. Those who do not have a portfolio may enroll in the BA or BS program in studio art, and begin work on foundation courses to assemble a portfolio. BFA candidates are reviewed each semester and are expected to maintain a 2.5 minimum overall cumulative SUNY Brockport GPA and a 3.0 GPA in art. If advised to discontinue the program, a student may continue as a studio art major in the BA or BS degree program. A minimum grade of "C" must be attained in all courses in the major.

BFA Degree Requirements

Candidates for the BFA degree must meet all general College requirements and complete a total of 81 credits in art and art history as indicated below.

Required ART Courses (36 credits)		Credits
ART 210	2-Dimensional Design	3
ART 212	3-Dimensional Design	3
ART 221	Drawing I	3
ART 322	Drawing II	3
ART 331	Photography I	3

ART 341	Painting I	3
ART 351	Printmaking I	3
ART 361	Sculpture I	3
ART 371	Ceramics I	3
ART 381	Metal/Jewelry I	3
ART XXX	Visual Studies (book arts, film/video, or electronic imaging)	3
ART 401	Senior Seminar	3
ART 402	BFA Senior Exhibition	3
Required ARH Courses (12 credits)		12
ARH 201	Survey of World Art I	3
ARH 202	Survey of World Art II	3
ARH 420	20th-century Art	3
ARH XXX	Art history elective	3
Electives in ART, ARH, or related discipline (9 credits)		9
The following courses are approved electives in the BFA:		
ANT 401	Native American Art and Culture	3
DNS 115	Introduction to Dance	3
PSH 352	Sensation /Perception	3
MUS 276	Arts & Humanity	3
MUS 278	African-American Music and Culture	3
PHL 308	The Arts in Society	3
PHL 428	Philosophy of Art	3
THE 202	Stagecraft	3
THE 235	Stage Lighting I	3
THE 244	Costume Construction	3
Concentration in one of the following (21 credits)		21
Ceramics		
Painting/Drawing		
Metal/Jewelry		
Sculpture		
Visual Studies (photography, electronic imaging, film/video book arts)		
Still Arts (photography, painting, printmaking, drawing, electronic imaging, visual books)		
Time-based Arts (film/video, photography, sculpture, book arts)		
Printmaking/Drawing		
Dimensional Arts (sculpture, ceramics, metal/jewelry and selected courses from the Department of Theatre)		
Interactive (studio, dance, theatre, literature)		
Total:		81

Interdisciplinary Arts for Children: Art Specialty

Students seeking an interdisciplinary major in Arts for Children with a specialty in art are required to complete a 48-credit program consisting of: (1) two interdisciplinary courses, IAC 280 Introduction to Related Arts for Children, and IAC 491 Seminar in Arts for Children; (2) an art specialty of 21 credits; and (3) a 21-credit block consisting of two courses in each of the other three arts and one approved elective. Students wishing to major in Arts for Children with an art specialty should present a portfolio of their art work for review by the art specialty advisor. A minimum of "C" must be maintained in all required courses. Specific requirements are listed below:

¹ This course must be taken after taking introductory courses in art, dance, music, and theatre.

² This course must be taken by all IARC majors at the conclusion of program of study.

Core Courses: (6 credits)		Credits
IAC 280	Introduction to Related Arts for Children (fall only) ¹	3
IAC 491	Seminar in Arts for Children (spring only) ²	3
Interdisciplinary Core:		6
Art Specialty Courses: (21 credits)		
ARH 201	Survey of World Art I	3
ARH 202	Survey of World Art II	3
ART 221	Drawing I	3
ART 417	Methods of Teaching Art on Elementary Level and three courses in any studio art ³	3
		9
Art Specialty:		21
Arts Block: (21 credits)		
Dance:		
DNS 115	Intro to Dance	3
DNS 483	Children's Dance I	3
Students with previous experience can take DNS 483 and DNS 484 in this sequence.		
Music:		
MUS 105	Intro to Music	3
MUS 487	Music and the Child ⁴	3
Theatre:		
THE 281	Creative Drama	3
THE 353	Children's Theatre	3
Elective:		
THE 365	Puppet Theatre OR	
ENL 482	Children's Literature	3
Arts Block:		21
Total:		48
Minors in Studio Art		
Studio Art: 18 credits, including the following:		
ARH	201 Survey of World Art I	3
ARH	202 Survey of World Art II	3
ART	221 Drawing I	3
Nine additional credits of art studio electives		

³ Prerequisite: An introductory art course or instructor's permission.

⁴ Prerequisite: MUS 105 or instructor's permission.

Studio and Theory Courses

Please note: Students are expected to spend at least three hours a week in the studio for every credit taken. Arrangements for the use of studios at unscheduled times must be made with appropriate instructor. There is a mandatory materials fee charged in most studio art courses to help cover the expense of supplies for students.

ART 101 Visual Art Experience (A, P). An introductory course for students with little or no art experience, designed to broaden their visual vocabulary. Explores the basic elements and principles of art through a sequence of problems to be solved by the execution of original works in various media. *3 Cr. Every Semester.*

ART 110 Art and Aesthetics Across Time (A,F). Basic introduction to the relationship between peoples and visual art throughout history, emphasizing art from across cultural and historical boundaries. Also explores the basic forms of artistic production and the study of aesthetic principles of visual art, and how those principles reveal cultural meaning. This relationship is explored via lectures, slides and films, sketchbook design projects, student-teacher dialogues, written assignments and tests. *3 Cr. Fall and Spring.*

ART 210 2-Dimensional Design (A,P). Explores concepts of creating 2-dimensional images through various methods including line, shape, color, composition, texture, etc. Includes lectures, written assignments, projects, demonstrations, and critiques. Assigns problems involving the production of 2-dimensional images using various media. *3 Cr.*

ART 212 3-Dimensional Design (A,P). Examines the theory and application of 3-dimensional design. Explores design concepts such as volume, positive and negative space, texture, color, etc. through the manipulation of a variety of materials. *3 Cr. Spring.*

ART 221 Drawing I (A,P). An introduction to the basic elements of drawing and two dimensional imagery; including drawing from natural forms; aesthetic elements, such as line, value, composition, space, perspective, and mark making; and a basic understanding of the development of content in a work of art. *3 Cr.*

ART 311 Video I (A). (Taught at Visual Studies Workshop, lab hours weekdays at VSW.) An introduction to the use of video as a medium for individual expression and creativity. Basic video skills (i.e., the operation of the video camera and editing deck) and fundamental procedures in planning and producing a videotape are presented through demonstrations, lectures, and practice sessions. Screenings and artists' presentations are

used to illustrate contemporary work in video. *3 Cr.*

ART 313 Macintosh Computer for Artists I (A). (Taught at Visual Studies Workshop.) Focusing on the computer as a design tool, this course for beginning Macintosh users places special emphasis on desktop publishing, typographic design, and page layout. Word processing, drawing, and page layout programs are introduced through a series of individual design projects. Applications to be covered include Microsoft Word, Quark Xpress, and Photoshop. *3 Cr.*

ART 314 Macintosh Computer for Artists II (A). (Taught at Visual Studies Workshop.) Designed for people with some Macintosh experience, this class focuses on digital publishing for both pre-press and the Internet. The first part of the semester will be based on creative page layout, typographic solutions, and layout/manipulation of images using Quark Xpress and Photoshop. The second part consists of an introduction to web publishing, using basic HTML, Web Editor, and the creation of digital imagery. Based on individual projects, the main purpose of this course is to experiment creatively and to become comfortable with the fundamentals of digital media. *3 Cr.*

ART 322 Drawing II (A). *Prerequisite: ART 221.* Provides studio experience using a variety of drawing materials. Learn drawing skills and acquire the necessary background for further study. *3 Cr.*

ART 331 Introduction to Photography (A). (Two sections: SUNY Brockport campus and Visual Studies Workshop.) Photography's creative potential for personal expression is explored in this introductory studio course. 35mm camera operation, processing and developing film, and printing black and white photographs in the darkroom will be covered. The first half of this class will focus on technical skills. The second half will focus on the use of the students' newly found skills and their creative potential. Students should have access to an adjustable 35mm camera. *3 Cr.*

ART 332 Photography II (A). (Taught at Visual Studies Workshop.) Expands on the basic darkroom skills covered in introductory photography courses, with an emphasis on the conceptual aspects of image making. Students will be prompted to experiment with infrared film and to try hand-applied photo emulsions, such as Liquid Light and Luminos. Students will learn how to test equipment accuracy to ensure proper exposures. A variety of assignments will employ technical tools learned as applied to conceptual themes. Lectures and field trips will supplement the studio aspect of this course. *3 Cr.*

ART 333 Introduction to Color Photography (A). *Prerequisite:* ART 331. (Taught at Visual Studies Workshop.) Provides an introduction to color photography. Addresses technical and aesthetic concerns with an emphasis placed on developing a personal color vocabulary. Upon completion of this course, allows the student to be able to expose, process, and print both color negatives and slides properly; have an understanding of color theory and history; and see the possibilities for expression in color photography. 3 Cr.

ART 341 Painting I (A). *Prerequisite:* ART 221. Provides an introduction to painting and design theory. Emphasizes such design elements as form, texture, line, tone, and the spatial and structural aspects of color through the application of various painting techniques. Principal media are oil and acrylics. 3 Cr.

ART 342 Painting II (A). *Prerequisite:* ART 341. Provides a continuation of ART 341 with emphasis on composition, structure of space, and the human figure. Principal media are oil and acrylic paints. 3 Cr.

ART 351 Printmaking I (A). *Prerequisite:* ART 221. Entails an introduction to printmaking stressing the theory of design and composition as applied to fundamentals of relief printing. 3 Cr.

ART 352 Printmaking II (A). *Prerequisite:* ART 351. Provides a continuation of ART 351 with added emphasis on composition and expression. 3 Cr.

ART 358 Making Visual Books (A). (Taught at Visual Studies Workshop.) Bookworks, which combine text, images, unexpected materials and unusual bindings, will be introduced through examples, discussions and demonstrations, including access to outstanding collections. Students will work on individual projects including one-of-a-kind books, and small editions. Emphasis will be on developing books that integrate word, image, and structure. 3 Cr.

ART 361 Sculpture I (A). Familiarizes students with the conceptual, technical, and visual vocabulary of sculpture well enough to create dimensional works of artistic merit and personal expression. Expects students to gain basic skills with materials as well as understanding of sculptural concepts. Designs problems to distinguish between technique and idea in sculpture, and how materials are used to express concepts. 3 Cr.

ART 362 Sculpture II (B). Expands student's knowledge of sculptural materials and techniques, with an emphasis on metal-working through both direct and indirect methods. In addition, allows students to further explore sculptural concepts

and 3-dimensional spatial organization as they apply to the completion of class projects. 3 Cr.

ART 371 Ceramics I (A). Covers fundamental problems dealing with 3-dimensional design theory conditioned by the technical and aesthetic aspects of clay; creation of hand-built forms or objects; and basic glazing theories and techniques. 3 Cr.

ART 372 Ceramics II (A). *Prerequisite:* ART 371. Provides a continuation of ART 371. Introduces glaze calculation, oxidation and reduction firing, and formulation of clay bodies. 3 Cr.

ART 381 Metalwork and Jewelry I (A). Introduces 3-dimensional design concepts using basic jewelry disciplines. Emphasizes the study of design form through metal-working techniques, using and integrating various materials, metal, wood, plastic, glass, stone and synthetic materials. 3 Cr.

ART 382 Metalwork and Jewelry II (A). *Prerequisite:* ART 381. Provides a continuation of ART 381. Focuses on intermediate design and studio procedure. 3 Cr.

ART 383 Metalwork and Jewelry III (A). *Prerequisite:* ART 382. Covers advanced design theory and studio procedures in metal-working techniques. 3 Cr.

ART 399 Independent Study in Art (A or B). *Prerequisite:* Instructor's permission. Arranged in consultation with the instructor/sponsor and in accordance with the procedures of the Office of Academic Advisement prior to registration. May be repeated for credit. 1–6 Cr.

ART 401 Senior Seminar (A). *Prerequisites:* ARH 201, ARH 202, and ART 221. Class to be taken in the senior year. Requires readings, portfolio development, exhibition preparation, advanced studio problems and a discussion of the theory and criticism of art. 3 Cr.

ART 402 Senior Exhibition (A). A Senior Exhibition required of all BFA students prior to graduation. Students will work with the professor in their area of specialization to produce an exhibition of quality that represents their accomplishments in the program. Exhibition design, installation, and advertising as well as other pertinent responsibilities and information relative to a successful exhibition will be covered. 3 Cr. *Every Semester.*

ART 412 Video II: Advanced Video Production (A). (Taught at Visual Studies Workshop, lab hours weekdays during Media Center hours.) Designed for people with prior experience in video, this course presents advanced techniques for those who wish to further explore the ideas

and meaning behind their work in video. Students combine the elements of performance, scripting, sound, computer graphics, and special effects within individual projects. Class time is spent studying film, computer, and video techniques, as well as in-group discussions about the tapes created during the course. *3 Cr.*

ART 414 Advanced Problems in Visual Studies

(A). Provides for reading, advanced projects, and discussion of theory and criticism applied to electronic imaging, visual books or film/video. *3 Cr. May be repeated for credit.*

ART 415 16 mm Film I (A). (Taught at Visual Studies Workshop, lab hours weekdays during Media Center hours.) An introduction to independent 16 mm film production, this course focuses on individual expression through script writing, film production and post-production. Sessions cover topics such as the history of film, camera operation, the use of light meters, lighting, composition, directing actors, and the principles and techniques of editing. Students are expected to demonstrate competence with equipment as a prerequisite for working on individual projects. *3 Cr.*

ART 416 Introduction to 16 mm Film II (A). Prerequisite: ART 315 or instructor's per mission. (Taught at Visual Studies Workshop.) Provides a follow-up to basic filmmaking, with a more in-depth analysis of sound production including sync recording mixing of complex tracks, working with ensemble acting and dialogue. Highlights animation techniques, titling, and counterpoint in editing. Requires students to ready film projects for final post-production and distribution. *3 Cr.*

ART 417 Methods of Teaching Art on the Elementary Level (B). Prerequisite: *An introductory art course or instructor's permission.* Explores the philosophical and psychological basis for teaching art. Investigates problems of artistic and creative development. Examines methods of teaching art through practice and observation. Includes teaching of art to children. *3 Cr.*

ART 418 Documentary Film/Video (A). (Taught at Visual Studies Workshop, lab hours weekdays during Media Center hours.) This course provides insight into the practice of documentary film/video making. Basic tools and the principles of film narration and montage, as they apply to documentary film/video making, will be introduced and discussed in the workshop. In hands-on exercises, participants will explore the creative process of interpreting "the world out there" by means of the moving image. *3 Cr.*

ART 419 Practices of Teaching Art on the Elementary Level (A). Prerequisite: 417. Explores

important concepts related to art history, art aesthetics, and art criticism. Examines advanced methods of teaching art and classroom management techniques. Familiarizes with national and New York state standards of art curriculum in grades K–6. Allows students to work with a classroom teacher in developing syllabus and teaching art. *3 Cr.*

ART 423 Drawing III (A). Prerequisite: ART 322.

Provides a continuation of ART 322. Allows for in-depth studio experience, concentrating on drawing the humane, the nature of space, individual exploration of imagery and further experimentation with a variety of media. *3 Cr.*

ART 424 Advanced Problems in Drawing (A).

Prerequisite: ART 423. Provides for intensive drawing, research on concepts, readings, advanced projects, and discussion of theory and criticism as applied to creative drawing. May be repeated for credit. *3 Cr.*

ART 433 Photography III (A). (Taught at Visual Studies Workshop.)

Independent creative projects are explored throughout the semester, emphasizing a continued development of a project. Paper quality, issues of presentation and sequencing will be an important aspect of the course, as demonstrated in the work of other photographers and through class discussion. Advanced darkroom skills will be taught. *3 Cr.*

ART 434 Advanced Problems in Photography

(A). (Taught at Visual Studies Workshop.) Structured for students to gain independence in their working methods. Students are expected to locate an area of interest and create a substantial project that reflects a thoughtful and developed investigation. Conceptual and technical readings will supplement their work. *3 Cr.*

ART 443 Painting III (A). Prerequisite: ART 342.

Covers advanced painting, painting from life, and the human figure. Emphasizes creative forms of self expression. Intensive painting and research on imagery begins in the second half of the semester. *3 Cr.*

ART 444 Advanced Problems in Painting (A).

Prerequisite: ART 443. Emphasizes personal solutions related to content in the work as well as technical issues in painting, advanced projects, and discussion of theory and criticism applied to creative painting. May be repeated for credit. *3 Cr.*

ART 453 Printmaking III (A). Prerequisite: ART 352.

Covers advanced printmaking based on individual problems. *3 Cr.*

ART 454 Advanced Problems in Printmaking

(A). Prerequisite: ART 453. Provides for reading, advanced projects, and discussion of theory and

criticism applied to the art of printmaking. May be repeated for credit. 3 Cr.

ART 463 Sculpture III (A). *Prerequisite:* ART 362. Students will expand their knowledge of materials and techniques used in the production of sculpture. Assignments address contemporary concerns in working three-dimensionally, such as permanence, process and site-specificity. Students gain knowledge and experience with public art, installation art, and performance art. Readings supplement class demonstrations, critiques, slide lectures, and videos on contemporary sculpture. 3 Cr. *Every Semester.*

ART 464 Advanced Problems in Sculpture (A). *Prerequisite:* ART 463. Students will expand their knowledge of sculptural materials and techniques while working toward the development of their own vision. Individual explorations into various approaches to art-making will be encouraged. Information and guidance will be given on documentation and presentation of sculpture for portfolios. May be repeated for credit. 3 Cr. *Every Semester.*

ART 473 Ceramics III (A). *Prerequisite:* ART 372. Provides a continuation of ART 372. 3 Cr.

ART 474 Advanced Problems in Ceramics (A). *Prerequisite:* ART 473. Provides for reading, advanced projects, and discussion of theory and criticism applied to the art of ceramics. May be repeated for credit. 3 Cr.

ART 484 Advanced Problems in Metal/Jewelry (A). *Prerequisite:* ART 483. Provides for reading, advanced projects, and discussion of theory and criticism applied to the metalwork and jewelry arts. May be repeated for credit. 3 Cr.

ART 491 Topics in Art-Studio (A). Provides an upper-division art studio experience. Allows students to earn credit for a special offering not normally a part of regular department curriculum. 1–3 Cr.

ART 499 Independent Study in Art (A or B). *Prerequisite:* *Instructor's permission.* Arranged in consultation with the instructor-sponsor and in accordance with the procedures of the Office of Academic Advisement prior to registration. May be repeated for credit. 1–6 Cr.

Art History

Art History Minor

Art history minors must complete a total of 18 credits in the courses listed below. A minimum grade of “C” must be attained in all courses taken for the minor.

Required Courses (6 credits)

ARH 201	Survey of World Art I
ARH 202	Survey of World Art II

Electives (12 Credits)

Twelve credits of art history electives are required. It is recommended that art history minors take at least one non-western art course.

Art History Courses

ARH 201 Survey of World Art I: Ancient to Renaissance (A,F,C). Provides an integrated chronological study of world art from Prehistory to the 14th century. Covers western art along with the ancient arts of Asia, Islamic arts, and pre Columbian arts. Students will learn to identify cross-cultural influences and regional stylistic features. 3 Cr. *Fall.*

ARH 202 Survey of World Art II: Renaissance to Modern (A,F,C). Provides an integrated chronological study of world art from the 15th century to present. Covers Renaissance art to Modern art, along with later Islamic and Asian arts, Latin American arts, African, Oceanian, and Native American arts. Aims at illustrating the growing interdependence of the arts of major

civilizations and cultures, and their respective contribution to the visual arts. 3 Cr. *Spring.*

ARH 215 Art in the Making (A,F,C). Studies the elements of art, the artists' process, and selected works of painting and sculpture to give an appreciation of diverse art creativity throughout the world. Artists and artworks of selected non-western cultures will also be discussed and used to illustrate elements of art. 3 Cr.

ARH 310 Women in Art (A,U,W,C). Studies women artists and the role played by women in the visual arts through the ages. 3 Cr.

ARH 391 Seminar in Art History (A). Intended to explore research methods in fine arts and learn to write about art. The seminar will focus each time on a different subject. May be repeated for credit. 3 Cr.

ARH 410 Contemporary Art Criticism (A). Examines the relationship between the critic, the artist, and the art market. 3 Cr.

ARH 419 19th-Century Art (A). Covers the fine and minor arts of 19th-century Europe and America, with emphasis on patronage and the artistic movements that dominated the century. 3 Cr.

ARH 420 20th-Century Art (A). Emphasizes the main artistic movements of the late 19th and the 20th century to present, with focus on artists, patronage, styles, and trends in the decorative arts. 3 Cr. *Spring*.

ARH 424 Medieval Art (A). Covers the art and architecture of Europe from the early Christian period to the Fall of Constantinople. The course includes an overview of Byzantine Art. 3 Cr.

ARH 425 Italian Renaissance Art (A). Examines works of art and architecture from the 15th and 16th centuries in Italy. 3 Cr.

ARH 431 American Art (A). Surveys painting, sculpture, architecture, and the decorative arts from colonial times to present. 3 Cr.

ARH 441 Art Worldwide (A). Field trips abroad focusing on selected topics in art history. Could be repeated for credit. 3 Cr.

ARH 450 Egyptian Art (A). Studies the art and civilizations of pharaonic Egypt and the ancient Near East from the late fourth millennium B.C. to the conquest of Alexander the Great, with emphasis on pharaonic Egypt, Phoenicia, and Mesopotamia. 3 Cr.

ARH 451 Art of the Classical World (A). Traces the development of Minoan, Mycenaean, Greek and Roman art and architecture from the second millennium BCE to the 4th century CE. 3 Cr.

ARH 461 History of Photography (A). (Taught at Visual Studies Workshop). Surveys the development of photographic processes and the movements and artists that have influenced photography. 3 Cr.

ARH 470 Asian Art (A). Studies Indian, Chinese, and Japanese arts from Prehistory to the 19th century, with emphasis on painting, sculpture, and the minor arts. 3 Cr.

ARH 474 Islamic Art (A). Studies Islamic art from the origins to the 19th century with emphasis on the evolution of main regional styles, and Chinese influence on the minor arts. 3 Cr.

ARH 490 Topics in Art History (A). Reserved for different topics not listed in this catalog. May be repeated for credit. 3 Cr.

ARH 491 Senior Seminar in Art History (A). *Prerequisite: ARH 201 and 202, or instructor's permission.* Examines in detail selected topics in art history with the emphasis on the exploration of research methodologies in fine arts, and writing papers and sharing them in the class. 3 Cr.

ARH 499 Independent Study in Art History (A). Special project in art history arranged in consultation with the instructor/sponsor in accordance with the procedures of the Office of Academic Advisement before registration. May be repeated for credit. 1–6 Cr.

Arts for Children—Interdisciplinary Major

(716) 395-5262

Interdisciplinary Arts for Children Faculty: Professor: Oh-Kon Cho; *Associate Professors:* Jacqueline Davis, William Hullfish; *Assistant Professors:* Cynthia Gott, Juanita Suarez.

The bachelor's degree in Arts for Children, an interdisciplinary major, can be combined with certification in elementary education. In collaboration with the Department of Education and Human Development, a master's degree in Elementary Education with an interdisciplinary arts for children specialization is also offered. For more information about the graduate program, please refer to the graduate catalog.

Arts for Children, which is recognized as a unique program in the SUNY, incorporates the knowledge and skills of art, dance, music, and theatre, with an in-depth study of one of these arts. The curriculum emphasizes philosophical and theoretical concepts of arts education, as well as the skills required for creative expression. The program serves a diverse student population, ranging widely in age, background and needs. They are trained to work creatively with young children in a variety of situations, such as elementary schools, arts institutions and community centers in rural and urban environments. The Arts for Children faculty promotes an approach to arts education that fosters aesthetic perception, creative endeavors and the study of history and culture.

Interdisciplinary Arts for children majors are required to complete a 48-credit program consisting of: (1) two interdisciplinary courses, IAC 280 Introduction to Related Arts for Children and IAC 491 Seminar in Arts for Children; (2) a 21-credit core in one specialty: art, dance, music or theatre; (3) a 21-credit block consisting of two courses in each of the other three arts and one approved elective. A minimum grade of "C" must be attained in all required courses. Students are accepted into the major only after they have completed IAC 280, or while taking this course.

Students are urged to take advantage of service-learning opportunities through voluntary work, and earn one extra credit while enrolled for IAC 280 and/or IAC 491. Students interested in an in-depth study of any of the arts are advised to pursue a major, minor, or take more courses (maximum 54 credits) in that discipline. Students are encouraged to participate in study abroad and learning-study programs to enhance their knowledge and abilities of arts in education.

Interdisciplinary Arts for Children: Art Specialty

Interdisciplinary Core Courses: (6 credits)		Credits
IAC 280 (A)	Introduction to Related Arts for Children (fall only) ¹	3
IAC 491 (A)	Seminar in Arts for Children (spring only) ²	3
Interdisciplinary Core:		6
Art Specialty Courses: (21 Credits)		
ARH 201 (A)	Survey of World Art I	3
ARH 202 (A)	Survey of World Art II	3
ART 221 (A,P)	Drawing I	3
ART 417 (B)	Methods of Teaching Art on Elementary Level ³	3
	and three courses in any studio art	9
Art Specialty:		21

¹ This course must be taken after taking introductory courses in art, dance, music, and theatre.

² This course must be taken by all IARC majors at the conclusion of program of study.

³ Prerequisite: An introductory art course or instructor's permission.

Arts Block Courses: (21 Credits)

Dance

DNS 115 (A,P) Introduction to Dance	3
DNS 483 (A) Children's Dance I	3

Students with previous experience can take DNS 483 and DNS 484 in this sequence.

Music

MUS 105 (A,P) Introduction to Music	3
MUS 487 (A) Music and the Child ⁴	3

Theatre

THE 281 (B) Creative Drama	3
THE 353 (A) Children's Theatre	3

Elective

THE 365 (A) Puppet Theatre OR	
ENL 482 (A) Children's Literature	3

Arts Block: 21

Total: 48

Interdisciplinary Arts for Children: Dance Specialty

Students wishing to major in Arts for Children with a dance specialty should contact the Department of Dance for information about the required entrance audition.

Interdisciplinary Core Courses: (6 Credits)

IAC 280 (A) Introduction to Related Arts for Children (fall only) ⁵	3
IAC 491 (A) Seminar in Arts for Children (spring only) ⁶	3

Interdisciplinary Core: 6

Dance Specialty Courses: (21 Credits)

DNS 204 (B) Dance Conditioning Lab	2
DNS 205 (A) Beginning Technique and Survey of Dance	3
DNS 364 (A) Dance Improvisation: Technique and Theory (spring only) ⁷	2
DNS 454 (B) Dance Styles ⁸	2
DNS 483 (A) Children's Dance I (fall only)	3
DNS 484 (B) Children's Dance II (spring only) ⁹	3

One of the following: (3 credits)

DNS 302 (A) Social Forms of the Dance OR	3
DNS 330 (A) African Dance ¹⁰ OR	
DNS 316 (A) History and Development of Dance	

One of the following:

DNS 306 (A) Beginning Dance Composition ¹¹	
DNS 375 (A) Introduction to Laban Movement Analysis (spring only) ¹²	3

Dance Specialty: 21

⁴ Prerequisite: MUS 105 or instructor's permission.

⁵ This course must be taken after taking introductory courses in art, dance, music, and theatre.

⁶ This course must be taken by all IARC majors at the conclusion of program of study.

⁷ Prerequisite: DNS 205 or MUS 300.

⁸ Prerequisite: DNS 205 or instructor's permission.

⁹ Prerequisite: Instructor's permission.

¹⁰ Prerequisite: DNS 106 or instructor's permission.

¹¹ Prerequisite: DNS 205 or instructor's permission.

¹² Prerequisite: DNS 205 or instructor's permission.

Arts Block Courses: (21 Credits)

Art

ART 101 (A,P)	Visual Art Experience	3
ART 417 (B)	Methods of Teaching Art on Elementary Level ¹³	3

Music

MUS 300 (A)	Music for Dance	3
MUS 487 (A)	Music and the Child ¹⁴	3

Theatre

THE 281 (B)	Creative Drama	3
THE 353 (A)	Children's Theatre	3

Elective

THE 365 (A)	Puppet Theatre OR	
ENL 482 (A)	Children's Literature	3

Arts Block:**21****Total:****48****Interdisciplinary Arts for Children: Music Specialty**

Students wishing to major in Arts for Children with a music specialty should contact the Department of Interdisciplinary Arts about the required entrance audition. The students should be able to perform on voice or instrument at NYSSMA level IV.

Interdisciplinary Core Courses: (6 Credits)

IAC 280 (A)	Introduction to Related Arts for Children (fall only) ¹⁵	3
IAC 491 (A)	Seminar in Arts for Children (spring only) ¹⁶	3

Interdisciplinary Core:**6****Music Specialty Courses: (21 Credits)**

MUS 105 (A,P)	Introduction to Music	3
MUS 112 (A,F,C,W)	World Music	3
MUS 487 (A)	Music and the Child ¹⁷	3
MUS 488 (B)	Music Practicum ¹⁸	3

From the following: (9 Credits)

DNS 232 (A,P)	African Music and Drumming for Dance (3)	
MUS 130 (B)	Beginning Piano Class (2)	
MUS 230 (B)	Advanced Piano Class (2)	
MUS 139 (B)	Beginning Voice Class (2)	
MUS 239 (B)	Advanced Voice Class (2)	
MUS 300 (A)	Music for Dance ¹⁹ (3)	
MUS 399 (A)	Independent Study in Music (1–3)	
MUS 413 (A)	American Music ²⁰ (3)	
MUS 414 (A)	American Musical Theatre (3)	
MUS 485 (A)	American Folk Music ²¹ (3)	
MUS 499 (A)	Advanced Independent Study in Music (1–3)	9

Music Specialty:**21**

¹³ Prerequisite: MUS 105 or instructor's permission.

¹⁴ Prerequisite: MUS 105 or instructor's permission.

¹⁵ This course must be taken after introductory courses in art, dance, music, and theatre.

¹⁶ This course must be taken by all IARC majors at the conclusion of program of study.

¹⁷ Prerequisite: MUS 105 or instructor's permission.

¹⁸ Prerequisite: MUS 487.

¹⁹ Prerequisite: MUS 100.

²⁰ Prerequisite: Instructor's permission.

²¹ Prerequisite: Instructor's permission.

Arts Block Courses: (21 Credits)

Art

ART 101 (A,P)	Visual Art Experience	3
ART 417 (B)	Methods of Teaching Art on the Elementary Level ²²	3

Dance

DNS 115 (A,P)	Introduction to Dance	3
DNS 483 (A)	Children's Dance I	3

Students with previous experience can take DNS 483 and 484 in this sequence.

Theatre

THE 281 (B)	Creative Drama	3
THE 353 (A)	Children's Theatre	3

Elective

THE 365 (A)	Puppet Theatre OR	
ENL 482 (A)	Children's Literature	3

Arts Block: 21

Total: 48

Interdisciplinary Arts for Children: Theatre Specialty**Interdisciplinary Core Courses: (6 Credits)**

IAC 280 (A)	Introduction to Related Arts for Children (fall only) ²³	3
IAC 491 (A)	Seminar in Arts for Children (spring only) ²⁴	3

Interdisciplinary Core: 6

Theatre Specialty Courses: (21 Credits)**Technical**

THE 201 (A,P)	Theatre Arts	
	OR	
THE 202 (B)	Stagecraft	3

Performance

THE 221 (A)	Acting I	3
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Child Drama

THE 281 (B)	Creative Drama	3
THE 353 (A)	Children's Theatre	3
THE 365 (A)	Puppet Theatre	3
THE 483 (B)	Creative Drama Practicum ²⁵	3

History (choose one of the following)

THE 314 (A,C)	History of Theatre I: Classical through Renaissance	
THE 315 (A)	History of Theatre II: Romanticism through Modern	
THE 319 (A,U,W)	Play Analysis	3

Theatre Specialty: 21

²² Prerequisite: An introductory art course or instructor's permission.

²³ This course must be taken after taking introductory courses in art, dance, music, and theatre.

²⁴ This course must be taken by all IARC majors at the conclusion or program of study.

²⁵ Prerequisite: THE 281.

Arts Block Courses: (21 Credits)

Art

ART 101 (A,P) Visual Art Experience	3
ART 417 (B) Methods of Teaching Art on Elementary Level ²⁶	3

Dance

DNS 115 (A,P) Introduction to Dance	3
DNS 483 (A) Children's Dance I	3

Students with previous experience can take DNS 483 and DNS 484 in this sequence.

Music

MUS 105 (A,P) Introduction to Music	3
MUS 487 (A) Music and the Child ²⁷	3

Elective

ENL 482 (A) Children's Literature	3
Arts Block:	21
Total:	48

1. All Interdisciplinary Arts for Children—theatre specialty students must participate in the production program of the department.
2. All Interdisciplinary Arts for Children—theatre specialty students are required to participate in auditions for faculty-directed productions based on departmental guidelines.

Interdisciplinary Courses: For All Interdisciplinary Arts for Children Specialties

IAC 280 Introduction to Related Arts for Children (A). Covers the unique aspects of art, dance, music, and theatre, and relationships among these arts: theory, discussion, teacher-directed arts activities and creative art experiences for children. Must be taken before declaring a major in interdisciplinary arts for children. *3 Cr. Fall.*

IAC 399 Independent Study in Art for Children (A). *Prerequisite: Instructor's permission.* Arranged in consultation with instructor/sponsor in accordance with procedures of Office of Academic Advisement prior to registration. *1–3 Cr.*

IAC 450 Performances for Young Audiences (A). *Prerequisite: Instructor's permission.* Explores performance and staging techniques for young audiences; develops skills in improvisation and ensemble playing; prepares shows involving art, dance, music, and theatre; tours and performs for and with young audiences. *4 Cr.*

IAC 490 Arts for Children Special Topics (A). *Prerequisite: Instructor's permission.* Provides opportunities for arts for children students to focus for a full semester on meaningful current topics which cannot be developed fully in other curricular offerings. Both theory and/or art making may serve as content. *2–6 Cr.*

IAC 491 Seminar in Arts for Children (A). *Prerequisites: Completion of required arts for children courses.* Examines issues and representative theories, program development and evaluation, and the development of leadership skills and ability to utilize arts resources. *3 Cr. Spring.*

IAC 499 Independent Study in Arts for Children (A). *Prerequisite: Instructor's permission.* Arranged in consultation with instructor/sponsor in accordance with procedures of Office of Academic Advisement prior to registration. *1–3 Cr.*

All other course descriptions can be found in the Departments of Art, Dance, Music and Theatre sections of this catalog.

²⁶ Prerequisite: An introductory art course or instructor's permission.

²⁷ Prerequisite: MUS 105 or instructor's permission.

Arts Management— Interdisciplinary Minor/CLAM Program

Note: Currently students are not being accepted into this program. For information, contact the Dean of the School of Arts and Performance at (716) 395-2358.

The Arts Management program provides students with theoretical knowledge and practical experience in several aspects of arts management. This training enables students to manage their own artistic endeavors, seek entry-level positions in a variety of arts management jobs, or pursue graduate studies in arts administration. Students can major in Arts Management through a CLAM program which is devised individually for interested students according to the guidelines described in the *Your Right to Know & Academic Policies and Procedures Handbook*. At present, a minor in Arts Management is offered.

Arts Management Minor Requirements (21–24 Credits)	Credits
AMT 210 (B,T) Arts Organization and Information Management	3
BUS 280 (B) Intro to Accounting	3
BUS 335 (A) Principles of Marketing	3
CMC 332 (A) Public Relations Principles and Practices	3
THE 201 (A,P) Theatre Arts	3
AMT 451 (B) Internship in Arts Management	3–6
One of the following:	3
ART 470 (B) Gallery Management and Exhibition Design	
ARH 210 (A) Decorative Arts	
AMT 365 (A) Art, Law, and Appraisal	
Total:	21–24

As a prerequisite to AMT 451 Internship in Arts Management, students are required to take at least one course in the area of their specialization (courses taken as part of a major, General Education, or electives may apply). AMT 210 Arts Organizations and Information Management and ARH 480 Studio and Gallery Studies fulfill the computer literacy component of the General Education requirement. Students also are strongly urged to take at least one studio course in each of the four arts: art, dance, music, and theatre.

Arts Management Courses

AMT 210 Arts Organizations and Information Management (B,T). Introduces the principles and techniques of forming arts organizations; and studies concepts and systems, including practical experience of managing information through computers. *3 Cr. Fall.*

AMT 350 Arts Management (B). Studies management: techniques, organization, planning and programming; development and fund raising; facilities management; audience development, public relations and promotion. Requires students to work on independent research projects. *3 Cr.*

AMT 352 Managing Arts (B). Provides a study of technique for managing arts organizations and events; organizing, planning, and programming; personnel requirements; legal and financial management; box office and house management; and facilities supervision. Explores appropriate software for personal computers. *3 Cr.*

AMT 353 Promoting Arts (B). Provides a study of principles and practices for promoting arts

organizations and events: marketing, audience development, public relations, advertising and publicity, fund raising, and grant securing. Explores the use of appropriate software for personal computers. *3 Cr.*

AMT 365 Art, Law, and Appraisal (A). Examines the federal and local laws and practices related to the Visual Arts and Personal Property, with emphasis on appraisals, auctions and copyrights. Also discusses insurance, trusts and estates, divorce settlements, taxes, charitable donations, forger y and fraud, cultural property, and international trade laws as they relate to art and personal property. *3 Cr.*

AMT 451 Internship in Arts Management (B). *Prerequisites: AMT 210, instructor's permission and one course in the area of specialization.* Provides placement in an arts organization to provide theoretical and practical experience in exploring solutions to arts management problems. Includes projects such as box office; fund raising; audience development; and gallery, music, or dance management. *3–6 Cr. Every Semester and Summers.*

Asian Studies—See International Studies

Department of Biological Sciences

103 Lennon Hall

(716) 395-2193

Fax (716)395-2741

Email: lkline@brockport.edu

Chairperson: Larry K. Kline; *Professors:* Thomas Bonner, James Haynes, Joseph Makarewicz, Delmont Smith; *Associate Professors:* David Brannigan, Steven Chan, P. Michael Fox, Larry Kline, Craig Lending; *Assistant Professors:* Patricia Harris, John Hunter, Kathleen Moody, Christopher Norment, Sara Silverstone; *Research Associate:* Theodore Lewis. *Visiting Professor:* M. Tomkiewicz. *Visiting Assistant Professor:* Nancy Mitchell.

The Department of Biological Sciences offers two majors and two minors, and a variety of tracks in the major. Both majors and minors are designed for students with an interest in one or several of the many aspects of the life sciences and provide excellent preparation for post-graduate training and careers in the biomedical, health, ecological and environmental sciences, teaching, and other fields that require an understanding and practice of scientific reasoning and methods.

Through courses taken during the freshman and sophomore years, students build a scientific foundation for understanding how biological systems function. In the junior and senior years, students may concentrate in several areas of departmental strength: pre-medicine, biotechnology, environmental biology (terrestrial and aquatic ecology), or an individualized program. Internships and cooperative programs with public and private organizations afford students the opportunity to apply their skills outside the classroom. Because of complex biological and ecological issues that face modern society, we encourage non-majors to take selected courses in biological sciences. Upon declaring a major in biological sciences, it is imperative that the student seek a faculty advisor by contacting the department secretary, Room 103 Lennon Hall.

Students majoring in Biological Sciences, Medical Technology, and [Environmental Sciences] are required to obtain a minimum grade of “C” in BIO 201, BIO 202 (and/or BIO 111) before they are allowed to take further courses in the major.

Students may transfer the above courses from other regionally accredited institutions to satisfy this requirement provided that the courses have been approved as equivalent and that the students have earned a grade of “C” or higher in the courses transferred.

Major in Biological Sciences

Biology requirements

(38 credits; 30 credits at the 300 and 400 level)

	Credits
BIO 201	4
BIO 202	4
BIO 302	4
BIO 303	4
BIO 300-level electives (one or two courses by advisement)	4–8
BIO 411	3
BIO 498	1
BIO 400-level courses (by advisement)	10–14
Minimum Total:	38

Elective credits at the 300 level must be selected from the following:

BIO 301	Cell Biology	4
BIO 305	Comparative Physiology	4
BIO 321	Anatomy and Physiology I	4
BIO 322	Anatomy and Physiology II	4
or		
BIO 323	Microbiology	4

Chemistry requirements:

CHM 205–206	College Chemistry I & II	8
CHM 305	Organic Chemistry I	4

Recommended: Those students considering graduate or medical school are strongly advised to take the following:

CHM 306	Organic Chemistry II	4
MTH 201–202	Calculus I & II	6
PHS 201–202	College Physics I & II	8

Those students in other biology tracks are advised to consider courses in computer science, statistics and general physics to support their career goals. Handbooks that list recommended courses for each track are available from the department secretary.

NOTE: In normal progress toward the degree, BIO 201, 202, CHM 205, 206, and the recommended mathematics courses are taken in the freshman year. BIO 302, 303, CHM 305, and the recommended CHM 306 courses are taken in the sophomore year. The recommended PHS 201 and 202 courses are taken in the junior year and 400-level biology courses in the junior and senior years. Only three credits of BIO 499 Independent Study, may be included in the 38 credits required for the major.

Transfer Students

Transfer students must complete a minimum of 18 credits of upper-division courses in the Department of Biological Sciences at SUNY Brockport regardless of the numbers of credits transferred.

Advisement: To assure proper advisement in particular tracks, students should declare a major as early as possible, preferably in the freshman year. Majors are declared with the department secretary, Room 103, Lennon Hall.

Concentration Areas

Pre-medicine, Pre-dentistry, Pre-veterinary, Health Careers

Students from SUNY Brockport annually apply for admission to medical, dental, osteopathic, optometry, podiatry, chiropractic, and physical therapy schools. Although at Brockport most “pre-med” professional students have majored in the biological sciences, there is no special major for pre-professional health care, and the requirements for admission can be met through a variety of majors available at the College. The program in biological sciences is well-established and our graduates successfully compete for positions in professional programs. We do arrange programs with local health care facilities, such as the Oak Orchard Community Health Center, to provide “pre-med” students with the experiential component necessary for successful application to medical school. On your arrival at Brockport, please contact the department for further information on this program.

Pre-professional Advisory Committee

The Pre-professional Advisory Committee assists students interested in entering the medically related professions through formal meetings, counseling, and a library of materials; by providing application materials for the MCAT, DAT, and OAT exams (the admissions tests for medical, podiatric, dental and optometry schools); and by preparing a committee evaluation prior to application based on a formal interview with the applicant as well as test scores and

GPA. This committee consists of two faculty members from biological sciences and a faculty member from chemistry.

Resource materials, admission statistics, suggested courses of study, admission test applications, and procedural information are available for SUNY Brockport students in the Biology Club room of the Department of Biological Sciences, Lennon Hall.

Biotechnology: The department is well-equipped to provide skills in cell and tissue culture, immunology, nucleic acid separations and electron microscopy. A substantial percentage of graduates who have obtained these skills have successfully entered jobs in government and industrial laboratories.

Environmental-Aquatic: A large variety of courses in limnology, fish biology, freshwater invertebrates, aquaculture and water chemistry develop skills and factual knowledge for successful admission to graduate school and application to private and government jobs. The College boat is berthed on nearby Lake Ontario.

Environmental-Terrestrial: Field and lab training is available in animal, plant, and ecological sciences. Included are courses in field biology, mammalogy, botany, herpetology, ornithology and behavior. Several natural areas are adjacent to the campus (New York State Barge Canal, Hamlin Beach State Park) that are extensively used for courses.

Certification in Secondary Education (7–12): Biology and General Science Students who intend to become secondary school biology teachers qualify for New York state provisional certification by completing the requirement of Bachelor of Science degree and the requisite courses toward certification in secondary education as arranged with the Department of Education and Human Development.

Because the certification requirements are extensive and changeable, the student should meet with an advisor as soon as possible.

Pre-environmental Science & Forestry (3/2 programs)

Students completing the five-year 3/2 program receive the Bachelor of Science degree in biological sciences from SUNY Brockport and the master's degree in a specialization area from SUNY College of Environmental Science and Forestry (ESF). Those pursuing this program must satisfy the College requirements for four-year programs. Appropriate courses at ESF may be used to fulfill some SUNY Brockport requirements. The College of Environmental Science and Forestry at Syracuse has four schools, each of which has specific requirements. Brockport students plan their academic work under the direction of Dr. James Haynes, our pre-environmental science and forestry liaison, to assure selection of appropriate courses for the curriculum to be followed at Syracuse. SUNY Brockport also offers a Master of Science in Biological Sciences with an opportunity to concentrate in environmental sciences.

Major in Medical Technology

The major in medical technology enables a student to obtain the BS degree in Medical Technology from SUNY Brockport at the end of a four-year program, including three academic years here and a fourth calendar year at a school of medical technology approved by the College. During the first three years each student fulfills the general education requirements and the major requirements. The fourth year at a school of medical technology includes both theoretical and practical work in a medical lab. The BS degree is awarded upon the satisfactory completion of the requirements of both institutions. Upon completion of the internship, the student is eligible to take the National Registry Examination which must be passed in order to be qualified as a Registered Medical Technologist. The program is currently offered in affiliation with Rochester General Hospital.

To enter this program, students declare a major in biological sciences in the freshman year to assure proper advisement. Majors are declared with the department secretary, Room 103, Lennon Hall. A formal application to the School of Medical Technology is made by the middle of the fall semester of the junior year. Based on the academic record for the freshmen, sophomore years and mid-semester grades of the fall semester of the junior year and an interview, the

decision is made as to which applicants will be formally admitted into the clinical year. This decision is competitive and made by the school of Medical Technology. Those students accepted into the clinical year are accepted into the major in medical technology at SUNY Brockport.

Suggested Program for SUNY Brockport courses—Medical Technology

Semester 1	Credits	Semester 2	Credits
BIO 201 Biology I*	4	BIO 202 Biology II*	4
CHM 205 College Chem I*	4	CHM 206 College Chem II*	4
GEP 100 APS	1	MTH 121 or higher*	3
ENL 112 College Composition Breadth Component	3 3	Breadth Component	3
	15		14
Semester 3		Semester 4	
BIO 302 Genetics*	4	CHM 306 or 303*	4
CHM 305 Organic Chemistry*	4	BIO 322 Anatomy & Physiology II*	4
BIO 321 Anatomy & Physiology I*	4	BUS 365 Principles of Management	4
Breadth Component	3	Breadth Component	3
	15		15
Semester 5		Semester 6	
BIO 323 Microbiology*	4	BIO 301 Cell Biology*	4
BIO 414 Immunology*	2	PHS 116 General Physics II*	4
PHS 115 General Physics I#	4	SOC 200 Social Statistics#	3
HLS 306 Contemporary Issues in Health#	3 3	Breadth Component	3
Breadth Component	3	Elective	3
	16		17

* Required courses in Medical Technology

Recommended courses

The following courses (34 credits) are usually required in the clinical year at an approved school of medical technology: microbiology (immunology), clinical chemistry, hematology, blood bank, urinalysis/clinical microscopy, principles of disease, toxicology.

Minor in Biological Sciences

A minimum of 18 credits, of which at least 10 must be at the 300/400 level, is required for the minor. Students declaring a minor in biological sciences must earn at least nine credits of biology courses at SUNY Brockport. Since no specific courses are designated, a variety of tracks is possible and it is important that students seek advisement through the Undergraduate Coordinator (inquire in Room 103, Lennon Hall). Many students working towards teacher certification and/or majoring in other disciplines elect a minor to strengthen their degrees.

Minor in Environmental Studies in the Biological Sciences

The environmental studies minor is specifically designed for non-biology majors with an active interest in environmental problems and nature in general. The courses recommended provide a background in ecological and biological principles upon which specialty courses in ecology, field study and organismal biology are dependent.

Required Courses (8 Credits)

- BIO 201 Biology I or Biology II
 BIO 303 Ecology

Cross-disciplinary Experience (3 Credits; choose one)

- BIO 319 Biological Oceanography
 BIO 419 Limnology
 BIO 422 Population Biology
 BIO 423 Pollution Biology
 BIO 438 Conservation Biology

Field Experience (2–6 credits; choose one)

- BIO 421 Limnology Lab
 BIO 457 Oceanography Practicum
 BIO 477 Field Biology
 BIO 488 Environmental Impact Analysis
 BIO 490 Fishery Techniques/Identification

Organismal Biology Experience (3–4 credits; choose one)

- BIO 459 Mammalogy
 BIO 483 Aquatic Invertebrates
 BIO 484 Fish Ecology
 BIO 430 Ornithology
 BIO 440 Herpetology

Biological Sciences Courses

BIO 111 Principles of Biology (A,L,E). Lectures and laboratory activities examine the structure and function of living systems, from cells to the biosphere as a whole. For non-majors. Serves as prerequisite for advanced courses, including BIO 321–322. *4 Cr. Every Semester.*

BIO 201 Biology I (A). Provides an integrated exploration of the fundamentals of biology as a science, the nature and origin of life, biological chemistry, cell biology, genetics and evolution. Draws upon plants, animals and microbes to illustrate structure and function relationships. For majors. (BIO 201 and 202 are not sequential; either may be taken first.) *4 Cr. Every Semester.*

BIO 202 Biology II (A). Focuses on organismal biology by taking an evolutionary approach to examine how animals and plants adapt to the environment, to study structure and functions by examining both animal and plant physiology and to integrate this knowledge with laboratories that run parallel with the lectures. *4 Cr. Every Semester.*

BIO 221 Survey of Anatomy and Physiology (A,L,E). Surveys human anatomy and physiology, encompassing structure and function of skeletal, muscular, nervous, cardiovascular and respiratory systems. Presents development and integration of these units as a basis for understanding the anatomical and physiological aspects of humans at rest and during activity. Primarily for physical education and dance majors. Includes a lab. *3 Cr. Every Semester.*

BIO 281 Elements of Human Biology (A,N,E).

Provides an introduction for non-majors to the human organism—structure, physiology, metabolism, behavior, genetics, evolution, and ecological relationships. Addresses important issues in health and human disease as well as current societal and ethical issues in readings, lectures, and classroom discussions. *3 Cr. Every Semester.*

BIO 301 Cell Biology (A). *Prerequisites:* BIO 201 and 202; CHM 205. Covers cellular functions and structures and the interrelationship between them. Requires a lab including procedures and tools of cell biology. *4 Cr. Spring.*

BIO 302 Genetics (A). *Prerequisites:* BIO 201, 202; CHM 205 and 206. *Recommended:* One semester of organic chemistry. Covers the gene as the basis of variation and principles of heredity. Includes Mendelian genetics as well as molecular aspects including replication, transcription, and translation. Covers topics in genetic regulation, conjugation, mutation and repair, as well as population genetics. Provides experiments to illustrate the above principles. Includes computer simulations of linkage. *4 Cr. Fall.*

BIO 303 Ecology (A). *Prerequisite:* BIO 111 or 201 or 202. Covers basic ecology concerned with interrelationships among organisms and the environment. Considers energy flow, materials cycling, population dynamics, principles of animal behavior, as well as natural history in both lectures and field studies. *4 Cr. Every Semester.*

BIO 305 Comparative Physiology (A). *Prerequisites:* BIO 111 or 201 or 202; CHM 205 and 206. Takes a comparative and experimental approach to understanding how living organisms function. Examines fundamental but selective aspects of physiology, including homeostatic energy balance, metabolism, water and salt regulation, respiration, locomotion, adaptation to altitude/diving, and nervous and endocrine integration. 4 Cr. Spring.

BIO 316 Eco-Citizenship (A,J,E). *Prerequisites:* Junior or senior status. Addresses questions such as: What ecological principles determine how humans can and cannot use the environment? How can individuals live and act to protect the environment? How can citizens work together to change values and institutions in society to promote sustainable uses of the environment and natural resources? What are the critical environmental problems in the Great Lakes Basin Ecosystem and the world, and how can residents act to solve them? 3 Cr. Every Other Fall.

BIO 317 The Biology of Aging (A). Introduces the study of aging in the human and a number of other animals at the molecular, cell, tissue and organ level to understand what is meant by aging and how it is measured. Includes effects of genetic composition, sex differences and other factors. 3 Cr. Spring.

BIO 319 Biological Oceanography (A). *Cross-listed as ESC 319.* Provides a brief review of the ocean's physical, geological and chemical properties, followed by an in-depth study of the biology and life history of marine plants and animals. Concludes with discussions on the ecological roles of marine organisms in selected communities, including inter tidal, coral reef and deep sea habitats. May be taken for credit only once. 3 Cr. Every Other Fall.

BIO 321 Anatomy and Physiology I (A). *Prerequisite:* BIO 111 or 202 or 221. Studies the structures and functions of cells, tissues and organs with examples drawn from the human body. Introduces students to the anatomy and physiology of the skeletal, muscular, nervous, endocrine and integumentary systems of the body through lectures and laboratories. Recommended for nursing, health science and pre-medical students. 4 Cr. Fall.

BIO 322 Anatomy and Physiology II (A). *Prerequisite:* BIO 111 or 202 or 221. Introduces students to the anatomy and physiology of circulatory, excretory, respiratory, digestive and reproductive systems of the human body through lectures and laboratories. Recommended for nursing, health science and pre-medical students. 4 Cr. Spring.

BIO 323 Microbiology (A). *Prerequisites:* BIO 111, 201 or 202 and CHM 205. Provides lectures concerned with the structure, function, diversity, and control of microorganisms, including metabolism, growth and regulation, microbial genetics, disease, immunology, and microbial ecology. Provides lab experiences in techniques of pure culture, cultivation, enumeration, isolation and characterization of micro-organisms. 4 Cr. Spring.

BIO 333 Contemporary Issues in Life Sciences (A). What is life? When does human life begin? How do genes control life processes? Is it natural/ethical to alter the genetic makeup of species, including humans? Is genetic engineering a technology for improving the quality of life or for potentially destroying life on Earth as we know it? Vaccines may prevent human diseases, but what are the consequences of over-population and starvation? These and other questions serve as the focal point that explores some of the controversial issues raised by modern biotechnology. Provides background information for identifying, understanding, and analyzing critical issues facing the life sciences. Explores these issues from a variety of perspectives including scientific, economic, political and sociological. 3 Cr. Fall.

BIO 400 Plant Taxonomy (A). *Prerequisite:* BIO 202. The morphology, evolution, and classification of the vascular plants. Lecture topics include structure and ecological significance, reproductive biology, evolutionary history, and principles of classification. Laboratories survey the diversity of plants and teach the use of technical keys. 4 Cr.

BIO 411 Evolution (A). *Prerequisite:* BIO 302. *Corequisite:* BIO 303. Commences with a review of philosophical and factual basis of evolutionary biology. Examines the physiochemical background for the evolution of life, mechanisms of evolution, population genetics, phylogeny, speciation, and consequences of the evolution of populations of living organisms. 3 Cr. Spring.

BIO 413 Topics in Plant Biology (A). *Prerequisites:* BIO 301 and 302, or instructor's permission. Presents current topics in plant biology including photosynthesis, plant physiology, development, plant cell biology, control of gene regulation, and nitrogen fixation. Reviews the current scientific literature and examines recent experimental data. 3 Cr. Fall.

BIO 414 Introduction to Immunology (A). *Prerequisite:* BIO 202, 301 or 323. Emphasizes aspects of immunology, including the structure and function of immunoglobulins, the role of cell-mediated immunity, the protective role of the immune system, and disease and injury as related to malfunctions of the immune system. 2 Cr. Fall.

BIO 415 Molecular Biology (A). *Prerequisites:* BIO 301 and 302; and CHM 305. Covers the biosynthesis and function of macromolecules, especially nucleic acids. Includes topics in regulation, molecular virology, transposition and transformation, as well as recombinant DNA methods. 3 Cr. *Every Other Spring.*

BIO 416 Lab Techniques in Exercise Physiology (B). *Cross-listed as PES 416. Prerequisite:* BIO 111 or equivalent, PES 310, MTH 121, or instructor's permission. Complements the theoretical preparation of students in exercise physiology. Provides experiences in the measurement of acute and chronic adaptations to exercise, the use of technology in the measurement and assessment of physiological functioning during such conditions, and the maintenance and calibration of such equipment. Actively immerses students in the subject to better conceptualize, and internalize, what it means to administer tests, and analyze and interpret data in a meaningful and systematic manner. 3 Cr. *Fall.*

BIO 417 Recombinant DNA Laboratory (A). *Prerequisites:* BIO 302 or instructor's permission. Laboratory methods involved in the isolation and cloning of genetic material. Procedures utilized include bacterial and viral growth and selection techniques, gene isolation and detection, restriction analysis, use of DNA ligase and PCR methods, as well as site-specific mutagenesis. DNA "fingerprinting" methods are also introduced. Non-radioactive detection methods are utilized in the above techniques. 3 Cr. *Spring.*

BIO 419 Principles of Limnology (A). *Prerequisite:* BIO 303 or instructor's permission. Studies the chemical, physical and biological characteristics of streams and lakes. Recommended for students interested in oceanography and marine biology, as well as the study of freshwater streams and lakes. 3 Cr. *Fall.*

BIO 421 Limnology Lab (A). *Prerequisite:* BIO 303. Covers the basic methodology of sampling different types of organisms; chemical analysis of water; operation of instruments and sampling gear; and taxonomic identification of selected aquatic organisms. Includes lab and field exercises on Lake Ontario on the department boat. 2 Cr. *Fall.*

BIO 422 Population Biology (A). Considers the evolution and function of populations. Includes topics such as population genetics, reproductive isolating mechanisms, growth and limitation of populations, life tables, the exclusion principle, predator-prey theory, and species equilibrium theory. 3 Cr. *Spring.*

BIO 423 Biology of Pollution (A). *Prerequisite:* BIO 303 or instructor's permission. Focuses on water pollution problems and effects of pollution on organism physiology, behavior and ecological relationships; bioassay techniques and procedures; and analysis of pollution data. 3 Cr. *Every Other Spring.*

BIO 424 Experimental Research (A). *Prerequisites:* BIO 201, 202, 302 and 303; CHM 205 and 206; and instructor's and chairperson's permission. Under the supervision of a faculty member in biology, the student undertakes a lab or field research project in some area of biological science. The topic and methodology is established by mutual consent of the student and faculty member. All students enrolled meet together with the involved faculty once a week to discuss the background, methods, and results of their projects. Students are encouraged to present their results at Scholars Day. May be repeated; a maximum of six credits may be applied toward the major in biological sciences. Enrollment is with the department chairperson. 1-4 Cr. *Every Semester.*

BIO 425 Practical Field Biology and Lab Pedagogy (B). Required for students working toward teacher certification in secondary biology and general science. Requires students to develop preparation notes, and materials for lab and field experiments. Requires each student to develop a lesson plan, lead a class in the experiment/lab, develop a grading scheme, and do the actual grading for a selected lab. Requires a hands-on experience in the practical aspects of lab instruction. Does not satisfy the biology major requirements. Enrollment is with the department chairperson. Students work with a selected faculty member. 3 Cr. *Every Semester.*

BIO 426 Recombinant DNA (A). Considers theory and techniques in the recombinant DNA field. Topics include cloning vectors, restriction analysis, PCR methods, and expression of cloned genes in both prokaryotes and eukaryotes. Also considers examples and implications of recombinant DNA methodology in plants and agriculture as well as in medicine, human genetics and disease. 3 Cr. *Every Other Spring.*

BIO 427 Animal Behavior (A,U). *Prerequisites:* BIO 201 and 202. Explores the behavior of animals in relation to adaption and phylogenetic history. Covers methods of studying behavior, the effects of genes and environment on behavior, relationships between neural and endocrine function and behavior, foraging, mating strategies and systems, and social systems. Includes lectures, discussions, and laboratory and field exercises. 3 Cr. *Fall.*

BIO 428 Microtechnique (A). *Prerequisite:* BIO 202. Students will demonstrate competency in the preparation of tissue by paraffin sectioning and histochemistry. The theory underlying these techniques will be discussed in lecture, and their application to a hospital pathology laboratory will also be considered. 3 Cr. Spring.

BIO 429 Electron Microscopy (A). *Prerequisite:* BIO 301. Provides the theory of electron optics and skills of electron microscopy. Also includes methods of specimen preparation and skills of ultramicrotomy. Places a strong emphasis on lab. 4 Cr. Fall.

BIO 430 Ornithology. *Prerequisites:* BIO 201 and 202. The study of the form, function, ecology, and evolution of birds. Topics include anatomy, physiology, origins and biophysics of flight, migration and annual cycle, mating systems, community ecology, and population ecology of birds. Laboratory and field experiences include the study of anatomy and flight, identification techniques, census methods, and trapping and banding. 4 Cr. Spring.

BIO 433 Instrumental Methods III—Radioactivity and Enzyme Assay (A). *Prerequisites:* BIO 301 and 302, and CHM 305. Covers principles and experiments involving the use and measurement of radioactive isotopes, liquid scintillation counting, and measurement of enzyme activity using spectrophotometric and radioisotope techniques. Given third four weeks of semester only with eight, three hour lab sessions. 1 Cr. Fall.

BIO 436 Water Quality Analysis (A). *Prerequisite:* CHM 205, 206, or instructor's permission. Covers the use of a spectrophotometer, fluorometer, gas chromatograph and the atomic absorption spectrophotometer in the chemical analysis of water by standard methods. Designed for students interested in water quality analyses for water treatment plants, sewage plants and for graduate work in limnology. Although the medium for analysis is water, utilizes the instrumentation and techniques applicable to other areas of biology. 4 Cr. Spring.

BIO 437 Biological Investigation and Data Interpretation (A). Provides an introduction to experimental investigation in biology. Includes experimental design, hypothesis formulation and testing, and data interpretation. 3 Cr. Spring.

BIO 439 Conservation Biology (A). *Prerequisite:* BIO 303 or instructor's permission. Examines current theory and data from evolutionary biology, ecology, and genetics as they relate to the conservation of biological diversity. Includes topics such as cause of extinction, habitat loss and fragmentation, design of nature reserves,

landscape ecology, application of basic principles of population biology to species conservation, and restoration ecology. 3 Cr. Spring.

BIO 440 Herpetology. *Prerequisites:* BIO 201 and 202. The study of the form, function, ecology, and evolution of reptiles and amphibians. Topics include anatomy, physiology, mating systems, population and community ecology, and conservation biology of reptiles and amphibians. Lab and field experiences include the study of anatomy, identification techniques, and census methods. 4 Cr. Spring.

BIO 443 Biotechniques III—Immunoassays (RIA/ELISA) (A). *Prerequisites:* BIO 201, 202, CHM 205, 206, and CHM 305. Covers principles of radioimmunoassays (RIA) and enzyme-ligand-sorbent-immunoassays (ELISA). Provides hands on learning of either/both methods and applying them to assay biological samples. Discussions of accuracy, precision and variability and limitations of the procedures. Given second four weeks of the semester only with 8 3-hour laboratory sessions. 1 Cr. Spring.

BIO 445 Histology (A). *Prerequisite:* BIO 202. Studies the microanatomy of animal tissue and organs with emphasis on functional correlations. Includes lab examinations of prepared slides and fresh materials, as well as normal and pathological tissues. 4 Cr. Spring.

BIO 457 Marine Biology Bahamas (A). *Cross-listed with ESC 457.* A two-week, January intersession field experience in coral reef ecology on San Salvador Island, The Bahamas. Allows students to study identification, behavior and ecology of marine organisms in five different coral reef habitats, and prepare a research report on the habitats and the behavior/ecology of one organism. 3 Cr. Register in Fall.

BIO 459 Mammalogy (A). *Prerequisites:* BIO 201 and 202. The study of the form, function, ecology, and evolution of mammals. Topics include anatomy, physiology, origins, diet and feeding strategies, population and community ecology, and social systems of mammals. Laboratory and field exercises emphasize habitat selection and population biology of small mammals, anatomy, and classification. 4 Cr. Fall.

BIO 466 General Endocrinology (A). *Prerequisite:* BIO 202 or equivalent. Covers the morphology of endocrine glands; the relationship between the molecular structure of a hormone and its ability to regulate metabolism; the role of the hormones in growth, metabolic and reproductive processes; and various endocrine diseases. 3 Cr. Fall.

BIO 467 Biochemistry I (A). *Cross-listed as CHM 467. Prerequisite: CHM 306; a college course in biology is strongly recommended.* Studies proteins, lipids, carbohydrates, nucleic acids and other biomolecules with an emphasis on buffers, structures, experimental methods, main energy production pathways and biosynthesis. Applies concepts and information to experimental data and deduction of structures, functional roles and mechanisms. 3 Cr. Fall.

BIO 468 Biochemistry II (A). *Cross-listed as CHM 468. Prerequisite: BIO 467 or CHM 467.* Provides a continuation of BIO 467 with topics such as metabolic pathways, human nutrition, chromosomes and genes, protein biosynthesis, cell walls, immunoglobulins, muscle contraction, cell motility, membrane transport and excitable membranes and sensory systems. Investigates experimental evidence for the structures and functions of biomolecules. 3 Cr. Spring.

BIO 470 Biochemistry Lab (A). *Cross-listed as CHM 470. Prerequisite: BIO 467 or CHM 467; CHM 303 is helpful.* Covers biochemical analyses, including preparation, separations and characterization of products from a variety of biological sources; and experiments with enzymes and experiments designed to measure changes inherent in the dynamics of living systems. 1 Cr. Fall.

BIO 477 Field Biology (A). Covers identification of major groups and common species of plants and animals; energy flow and ecological relationships; and field skills. 4 Cr. Summer.

BIO 481 & BIO 482. Medical Technology I & II (A). Provides training through Rochester General Hospital's School of Medical Technology. Several areas are taught under this name that include: Blood Bank, Biochemistry, Hematology, Microbiology, Urinalysis, Mechanisms of Disease, and Independent Research Project. For admission into this course, students must contact the department chair or the Coordinator of Medical Technology in Lennon Hall nine months prior to the course. *BIO 481, 15 Cr. Fall; BIO 482, 15 Cr. Spring.*

BIO 483 Aquatic Invertebrates (A). *Prerequisites: BIO 419 and 421 or instructor's permission.* Explores the importance of invertebrates in the ecosystem; the taxonomy of aquatic invertebrates including insects, crustacea, mites, leeches, and molluscs; the relationship between classification and identification; and the use of dichotomous keys, sampling equipment, preservation techniques and biological indices. 3 Cr. Spring.

BIO 484 Fish Ecology (A). *Prerequisite: BIO 303 or instructor's permission.* Explores fish ecology

from the behavior of individuals through population dynamics and classification of fishes to the ordinal level. Relates anatomical, physiological, and behavioral adaptations of fishes to their ecology and how recruitment, growth, mortality, and environmental factors interact to influence fish production. 3 Cr. Every Other Spring.

BIO 487 Birds of New York (A). *Prerequisite: BIO 111 or 202 or instructor's permission.* Covers ecological relationships, avian aesthetics, ethological characteristics; evolutionary relationships among birds and their progenitors; techniques of study; skin preparation and use of museum resources; and the significance of avian studies in photoperiodicity, migration, disease and conservation. Includes field identification and optional skin preparation. 4 Cr. Summer.

BIO 488 Environmental Impact Analysis (A). Integrates a traditional field biology course with an environmental impact analysis approach. Presents students with an actual site development project (e.g. boat launching site) on or near Lake Ontario. Based on ecological theory, environmental analytical principles, aquatic/terrestrial sampling, and taxonomic skills learned in the course, allows student teams to conduct an environmental assessment of the proposed project and write an environmental impact statement. 4–6 Cr. Summer.

BIO 490 Fishery Techniques and Identification (A). Provides lab and field experience in fish collection, identification, anatomy, and fishery techniques, including netting, electrofishing and quantitative fishery analyses. 2 Cr. Fall.

BIO 491 Biological Sciences Overseas Program (A). *Prerequisite: Prior departmental approval.* Requires students to attend classes in the biological sciences and/or related areas at the participating overseas university. 1–15 Cr.

BIO 495 Topics in Biology I (A). To be defined by the instructor/sponsor in accordance with the specific topic to be covered that semester. Additional information may be obtained from the department office. 3 Cr. Every Semester.

BIO 498 Seminar in Biology (A). Requires students to research, organize, and present a seminar. Techniques of seminar speaking are fundamental. 1 Cr. Every Semester.

BIO 499 Independent Study (A). *Prerequisite: Instructor's permission.* To be defined in consultation with the instructor/sponsor and in accordance with the procedures of the Office of Academic Advisement prior to registration. *Variable Credit. Every Semester.*

Board of Study for the Teaching of Science and Mathematics

Chairperson: Richard V. Mancuso; *Members:* Betsy C. Balzano, Walter F. Brautigam, Charles Kiehl, Richard V. Mancuso, Kenneth D. Schlecht.

The Board of Study was created within SUNY Brockport's scientific, mathematics and education faculties to work for the improvement of science and mathematics teaching, especially at the elementary and secondary school levels. Its intent is to supplement departmental efforts, and to carry out functions and programs that are not within the interest of a single department nor appropriately administered through one department.

Subject matter courses emphasizing the fundamental principles of the sciences and mathematics are scheduled regularly by the Board of Study for prospective elementary school teachers. Advisement services are also available.

Natural Sciences Courses

NAS 273 Investigation in the Physical Sciences (A,L).

Corequisites: ENL 112 and QNT 111. Provides a study of fundamental aspects of physics and chemistry using processes commonly employed by scientists to probe nature. Gives particular attention to those areas of physical science from which elementary school science topics are drawn. Required for candidates for certification in elementary education unless waived by the Department of Education and Human Development. Requires three hours of lecture/discussion and one two-hour lab per week. *4 Cr. Every Semester.*

NAS 371 Investigations in the Biological Sciences (A).

Provides an activity-oriented investigation of environmental concepts and problems. Provides a basic ecological background for students with no previous experience in the area. *3 Cr.*

NAS 372 Investigation in the Earth Sciences (A).

Provides students with a variety of first-hand

experiences relating to rocks, water, air, sunlight, and other aspects of the earth sciences. Emphasizes observation, experimentation, and other fundamental processes of science, especially with simple and homemade equipment. *3 Cr.*

NAS 373 Investigations in the Physical Sciences (A). Studies the fundamental aspects of physics and chemistry by processes and procedures commonly employed by scientists to probe nature. Gives particular attention to those areas of physical science from which elementary science topics are drawn. *3 Cr.*

NAS 486 Lab Science Safety (A). *Prerequisites:* Senior status, and an academic major in one of the natural sciences. Required for students in Secondary Science Certification programs. Describes lab teaching practices for students pursuing certification to teach science courses. Emphasizes lab hazard potential, especially when working with chemicals in biology, earth science/geology, physics and chemistry. Includes three hours of lecture/lab per week. *3 Cr.*