

**ART459****Art Methods: Secondary**

Deals with teaching creativity and artistic expression to students at the secondary level. It covers the developmental levels of students and gives practical ideas for developing individual creativity. Project ideas are part of the course.

**ART495****Independent Reading/Project**

Independent study or senior exhibition and portfolio creation. Repeatable. Requirements vary.

**PHOTOGRAPHY**

See course descriptions under Photographic Imaging on p. 150.

? (3)

**BEHAVIORAL SCIENCES**

Nethery Hall, Room 123  
(616) 471-3152, FAX: (616) 471-3108  
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**Faculty**

Duane C. McBride, *Chair*  
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fulfills these aims by three principal means: (1) instruction by Christian professors; (2) course work which develops a strong liberal-arts foundation and interdisciplinary preparation leading to many different fields of Christian service; and (3) extracurricular participation by students in voluntary religious activities, community service, and research.

**TEACHER CERTIFICATION**

Students seeking teacher certification on the secondary level may enroll in the BS in Behavioral Sciences (Student Development Emphasis), the Behavioral Sciences minor in teacher certification, or the Sociology minor. Elementary certification is available only for the Behavioral Sciences minor in teacher certification. See the School of Education for full details.

**MINORS, COGNATES, AND ELECTIVES**

Majors should take advantage of the variety of undergraduate courses available at Andrews to acquire a broad education. Combining behavioral science courses with other areas such as business, health, and language provides avenues for reaching individual professional goals.

Students should counsel with advisers in selecting cognates and electives. Volunteer work is most beneficial and majors are urged to seek opportunities through the Community Service Assistantship Program (CSAP). Those planning to pursue graduate studies should seek opportunities in research.

**RESEARCH SEQUENCE**

It is strongly recommended that all BS majors take the Research Methods Sequence during their junior year.

**Undergraduate Programs****BS: Behavioral Sciences—39**

(27 credits must be selected from courses numbered 300 or above)

**Core Courses—18**

ANTH200 or SOCI119, BHSC220;  
PSYC210, 450.; PSYC/SOCI432;

Academic Programs	Credits
BS: Behavioral Sciences	39
Anthropology	40
Anthropological Archaeology Emphasis	39
Public Health	40
Student Development	40
BS: Family Studies	39
Family Studies: Life Management Education Emphasis	33
BS: Psychology	
Pre-professional Program	40
General Program	40
Health Psychology	38-39
BS: Sociology	38-39
International Community Development	38-39
Deviant Behavior	38-39
Sociology of the Family	39
Minor in Anthropology	20
Minor in Behavior Sciences	20
Minor in Behavior Sciences (with teacher certification)	24
Minor in Family Studies	20
Minor in Geography	20
Minor in Psychology	20
Minor in Sociology	20
MSA - Post Graduate Degree	
International and Community Development	34
International Development (off-campus)	34

The Department of Behavioral Sciences is organized as a consortium where faculty share expertise and research endeavors in related disciplines. The behavioral sciences are concerned with the study of how human beings think and behave as individuals, and in sociocultural and ecological systems.

**DEPARTMENT AIMS**

This department aims (1) to introduce students to the salient discoveries and procedures accumulated from research in behavioral sciences disciplines and (2) to empower students to utilize this knowledge in furthering the mission of Seventh-day Adventists: restoring men and women to the image of their Maker. The department

GEOG475; HIST400; RELG300; RELT340  
 Recommended: For students planning graduate-level training in Anthropology, foreign language is highly recommended.  
 Major Field Test: Majors are required to take the Major Field Test in either Anthropology or Sociology.

### **Anthropological Archaeology**

#### **Emphasis—39**

(27 credits must be selected from courses numbered 300 or above)

#### **Core Courses—21**

ANTH200; BHSC230, PSYC210,  
 PSYC/SOCI432; PSYC/SOCI433; PSYC450;  
 PSYC469 OR SOCI474

#### **Emphasis Courses—18**

ANTH124; ANTH205; ANTH420;  
 ANTH478; ANTH496; ANTH435

#### **Required General Education—3**

PSYC101

#### **Required Cognates—18-20**

BIOL155 or BIOL204; BIOL449; GEOG335,  
 RELT210

#### **Recommended:**

PSYC/SOCI434

Recommended: For students planning graduate-level training in Anthropology, a foreign language is highly recommended.

Major Field Test: Majors are required to take the Major Field Test in either Anthropology or Sociology.

### **Public Health Emphasis—40**

27 credits must be selected from courses numbered 300 or above)

#### **Core Courses—24**

ANTH200 or SOCI119; BHSC230,  
 PSYC210, PSYC/SOCI432; PSYC/SOCI433;  
 PSYC/SOCI434; PSYC450; PSYC469 OR  
 SOCI474

#### **Emphasis Courses—16**

BHSC450; PSYC440; PSYC319; PSYC460  
 OR PSYC471; SOCI420; SOCI415

#### **Required General Education—3**

PSYC101

**Required Cognates—18-21** (The following courses are required choices in your general education or elective program)

BIOL111,112, or BIOL165, 166;  
 CHEM111,112 or CHEM121,122, FDNT230

Major Field Test: Majors are required to take the Major Field Test in either Psychology or Sociology.

### **Student Development Emphasis—**

#### **40 (Non-Certification Program)**

#### **64 (Certification Program)**

(27 credits must be selected from courses numbered 300 or above)

#### **Core Courses—21**

ANTH200 or SOCI119; BHSC230, PSYC210,  
 PSYC/SOCI432; PSYC/SOCI433, PSYC450;  
 PSYC469 OR SOCI474

#### **Emphasis Courses**

PSYC204; 251 or 252; 420, 466; SOCI120,  
 345, 480

#### **Required General Education—3**

PSYC101

#### **Required cognates—2+**

EDPC430; EDTE389

#### **Recommended: EDPC438**

### **Secondary Teaching Certification Requirements (optional)—24**

EDCI486; EDPC302; EDTE215, 354, 417,  
 424, 459; 465

Major Field Test: Majors are required to take the Major Field Test in either Psychology or Sociology.

### **BS: Family Studies—39**

(27 credits must be selected from courses numbered 300 or above)

#### **Core Courses—30-33**

FMST115; FMST310; FMST350; FMST440;  
 FMST454; FMST456; FMST460; FMST470;  
 PSYC251; PSYC252; PSYC420

#### **Family Studies Electives—6-9**

ANTH420; PSYC319; PSYC410 or  
 SOWK320; PSYC466 or EDPC478,  
 SOCI120; SOCI430; SOCI460; COMM320;  
 EDRE438 or EDRE376; SOWK225

#### **Required General Education—3**

PSYC101

#### **Required Cognates—12**

BHSC230; COMM440; FDNT230; FNCE206

### **Life Management Education**

#### **Emphasis —33**

(27 credits must be selected from courses numbered 300 or above)

#### **Core Courses—33**

FMST310; FMST350; FMST454; FMST456;  
 FMST460; BHSC450; BHSC450; PSYC251;  
 PSYC252; PSYC420; SOCI120

#### **Required General Education—5**

PSYC101; HLED130

#### **Required Cognates—6**

FDNT230; FNCE206

### **BS: Psychology**

Three options are available—the General Program, the Pre-Professional Program, and Health Psychology Emphasis. The Pre-Professional Program is for students planning a graduate degree.

Whichever program students choose, they should consult their adviser in regard to their psychology classes, general or elective classes, and an elective minor. Classes should be chosen with occupational goals in mind. Students planning on graduate school should choose classes related to that area of specialization.

### **Pre-Professional Program—40**

(27 credits must be selected from courses numbered 300 or above)

#### **Introduction—3**

PSYC101

#### **Content Courses (Groups A, B, C)—18**

#### **A minimum of five courses from Group A & B**

#### **Group A (minimum - 2 courses from this group)**

One of the courses must come from either PSYC364 or PSYC471. The other course must come from either PSYC449 or PSYC465; PSYC364; PSYC449; PSYC465; PSYC471; ZOOL484

#### **Group B (minimum - 2 courses from this group)**

PSYC220; PSYC450; PSYC454; PSYC460

#### **Group C (minimum - 1 course)**

**Required Cognates—21-24**

BHSC230; BIOL111, 112, or BIOL165, 166;  
CHEM110 or CHEM131; FDNT230  
Major Field Test required in Psychology

**BS: Sociology—38-39**

(27 credits must be selected from courses  
numbered 300 or above)

**Core Courses—29-30**

SOCI119; SOCI345 or SOCI315; SOCI415 or  
SOCI120; SOCI420; SOCI425; SOCI430;  
SOCI432; SOCI433; SOCI434; SOCI474

**Electives—9**

(Choose 3 of the following 4 classes)

SOCI410; SOCI440; SOCI460; SOCI470

**Required General Education—9**

PSYC101; BHSC230; RELT340

**Required Cognates—15** (The following courses  
are required choices in your general education or  
elective program)

ANTH200; BHSC230; ECON225; HIST400  
or PHIL224; PSYC450

Recommended: A reading knowledge of a foreign  
language is strongly recommended for those  
planning on graduate work in Sociology.  
Major Field Test required in Sociology

\* It is expected that all majors will attend at least  
one professional conference before graduation

**International Community  
Development Emphasis—38-39**

(27 credits must be selected from courses  
numbered 300 or above)

**Core Courses—29-30**

SOCI119; SOCI345 or SOCI315; SOCI415 or  
SOCI120; SOCI420; SOCI432; SOCI433;  
SOCI434; SOCI425; SOCI430; SOCI474

**Emphasis Courses—9**

SOCI360; ANTH417; SOCI470 or ANTH420

**Required General Education**

PSYC101; BHSC220; RELT340

**Required Cognates** (The following courses are  
required choices in your general education or  
elective program)

ANTH200; BHSC230; ECON225; HIST400  
or PHIL224; PSYC450

**Required Cognates for Emphasis**

PLSC488

Recommended: A reading knowledge of a  
foreign language is strongly recommended for  
those planning on graduate work in sociology.  
Major Field Test: Majors are required to take the  
Major Field Test in Sociology

\* It is expected that all majors will attend at least  
one professional conference before graduation.

**Deviant Behavior Emphasis—38-39**

(27 credits must be selected from courses  
numbered 300 or above)

**Core Courses—29-30**

SOCI119; SOCI345; SOCI415 or SOCI120;  
SOCI420; SOCI432; SOCI433; SOCI434;  
SOCI425; SOCI430; SOCI474

**Emphasis Courses—9**

FMST454; PSYC458; SOCI315

**Required General Education—9**

PSYC101, BHSC220; RELT340

**Required Cognates—15**

(The following courses are required choices in  
your general education or elective program)

ANTH200; BHSC230; ECON225; HIST400  
or PHIL224; PSYC450

**Required Cognates for Emphasis—6**

PSYC420; PSYC460

Recommended: A reading knowledge of a  
foreign language for those planning on  
graduate work in Sociology.

Major Field Test: Majors are required to take the  
Major Field Test in Sociology.

\*It is expected that all majors will attend at least  
one professional conference before graduation.

**Sociology of the Family  
Emphasis—39**

(27 credits must be selected from courses  
numbered 300 or above)

**Core Courses—24**

SOCI119; SOCI345 or SOCI315; SOCI420;  
SOCI432; SOCI433; SOCI434; SOCI425;  
SOCI474

**Emphasis Courses—15**

FMST350; SOCI120; SOCI430; BHSC440;  
SOCI440

**Required General Education—9**

PSYC101; BHSC220; RELT340

**Required Cognates—27**

The following courses are required choices in your  
general education or elective program.

ANTH200; BHSC230; ECON225; FMST310;  
FMST454; FMST460; HIST400 or PHIL224;  
PSYC420; PSYC450

Recommended: A reading knowledge of a  
foreign language for those planning on  
graduate work in Sociology.

Major Field Test: Majors are required to take the  
Major Field Test in Sociology.

\*It is expected that all majors will attend at least  
one professional conference before graduation.

**MINORS**

All minors require that students earn at least 14  
credits in courses numbered 300 and above.

**Minor in Anthropology—20**

ANTH124 and 200. Students interested in  
emphasizing archaeology should select  
ANTH124, 205, 336, 496. Recommended  
cognates for  
students interested in archaeology include  
ARCH260; BOT468 or ZOOL458; PHTO115;  
DGME125; RELT210.

**Minor in Behavioral  
Sciences—20**

Selected from at least three of the following five  
areas: anthropology, family studies, geography,  
psychology or sociology. *Students choosing this  
minor should consult with the chair of the  
department.*

**Minor in Behavioral  
Sciences—24****Teacher certification emphasis**

PSYC101, 364, 450; SOCI119, 432; one of  
PSYC251,252; any three from BHSC220,  
PSYC454, 460, 465, 469, SOCI345, 425.

**Minor in Family Studies—20**

FDNT230, FMST115, 310, 456, 460. Additional  
credits chosen in consultation with program adviser.

**Minor in Geography—20**

GEOG110, 240, 260, 435, 475; additional credits  
to be selected from BIOL487, PHYS110, or any  
other geography course not previously taken,

including a repeat of GEOG475 (with different  
content).

**Minor in Psychology—20**

PSYC101, at least one of PSYC450, 454, 460; at  
least one of 210, 364, 432, 471

**Minor in Sociology—20**

SOCI119; one of BHSC220; SOCI120, 425 or  
430; one of SOCI315, 345 or 415; one of  
SOCI360, 420 or 470; SOCI474 or 475

# Graduate Programs

**Master of Science in  
Administration (MSA):  
Community and International  
Development**

Nethery Hall 123  
Phone: 616-471-3515  
Fax: 616-471-3108  
Email: jhopkins@andrews.edu  
www.andrews.edu/GRAD/ldp

**Administration**

James H. Hopkins, Director  
Øystein S. LaBianca, Coordinator for Planning,  
Partnerships and Research

**Concentration Advisors:**

Lionel Matthews, International Development  
Sue Murray, Family & Parent Advocacy  
Larry Ulery, Service-Learning Leadership  
Duane McBride, HIV/AIDS & Substance  
Abuse Prevention  
James Hopkins, Church-based Community  
Development  
Herb Helm, Community Development Research  
Sharon Gillespie, Community Health

The Department of Behavioral Sciences offers  
master's level education leading to the MSA with  
emphasis in Community and International  
Development. The competencies that graduates are

private voluntary organizations such as Habitat for Humanity, United Way, and the Red Cross.

Graduates who pursue international development emphases may find employment working overseas for international relief and development agencies such as ADRA, CARE, World Vision, Africare, Oxfam, Peace Core, United Nations, as well as for church-based mission programs. There are, of course, also numerous positions related to overseas development here in the United States as well, such as at the head offices of the organizations just mentioned.

But graduates are not limited by their concentration to opportunities in the humanitarian assistance field; their training makes them viable candidates for a host of positions requiring persons with skills in grant writing and not-for-profit administration, including education, health care, community arts promotion, and philanthropy. This is because graduates are prepared to assist their employing organizations to identify their goals and to facilitate the process of planning and the formation of cooperative partnerships by means of which goals are achieved.

#### ADMINISTRATION OF THE PROGRAM

The MSA in Community and International Development Program is housed in the Department of Behavioral Sciences, which is a part of the College of Arts and Sciences. The program director reports to the faculty and chair of the department and, as needed, to the faculty and deans of the College of Arts and Sciences. Informally, the on-campus MSA program enjoys a consultative and advisory relationship with the MSA Council, which administers the off-campus MSA in International Development, housed in the Office of Affiliation and Extension Programs.

#### PREREQUISITES

To be admitted to regular standing in this MSA program, students must

- Qualify for general admission into graduate studies at Andrews University (see p. 33)
- Have a four-year baccalaureate degree or its equivalent
- Have completed an undergraduate course in statistics
- Have at least one year's full-time experience in the humanitarian assistance field or equivalent
- Demonstrate computer literacy skills on the level of general word processing and internet usage
- Verify access to world wide web, the internet and fax
- Where appropriate, provide evidence of employer support for student participation in the program

## MSA: Community and International Development—34

#### Core Courses—28

##### Social Science Foundations—6

SOCI520 or MSSN627; SOCI432 or EDPC622; ANTH417 or MSSN615 or ANTH600

##### Planning/Evaluation—6

SOCI530; SOCI535; SOCI545

##### Management—6

BSAD515; BSAD530

##### Individual and Organizational

#### Accountability—5

ACCT625 or ACCT500 or ACCT635; IDSC640 or SOCI580

#### Research and Practicum Requirements

##### (Capstone Activities)—5

IDSC680, IDSC698-I and IDSC698-2 or IDSC699 (must do either Projects I & II or the Master's Thesis)

#### Development Concentration—6

(As discussed below)

**Total credits required 34**

#### CONCENTRATION IN INTERNATIONAL DEVELOPMENT

##### (normally taken off campus)

Students selecting a concentration in international development are required to complete a minimum of six semester credits in a given specialization area. Examples of concentrations being offered or proposed in collaboration with ADRA are: responding to complex emergencies; employer relations; institution strengthening, urban development; international agriculture; food security; economic development; peace and conflict resolution; AIDS and behavior; and helping refugees and displaced persons. Students should consult with the Director of the Off-Campus MSA in International Development for information about when and where these concentrations will be offered around the world.

#### CONCENTRATIONS IN COMMUNITY DEVELOPMENT

The concentrations in community development reflect the interest and strengths of the department's faculty and resources and draw on courses offered in various schools and departments here on campus. Students should consult with the Director of the on-campus MSA and with the appropriate concentration advisor for review of prerequisite requirements needed to start a given concentration and for guidance in planning for its completion.

#### Service Learning—min. 6

EDPC554; ANTH415 or MSSN618; SOWK410

#### Family and Parenting Advocacy—min. 6

FMST454; FMST456; EDPC634

#### Church-Based Community Development

##### —min. 6

CHMN544; MSSN618; ANTH415

#### AIDS and Substance Abuse Prevention—min. 6

SOCI415; PSYC455; PSCY458

#### Community Development Research—min. 6

EDRM604; EDRM605

#### Community Health—min. 6

BHSC450; FDNT421 and FDNT422 or FDNT585\*; HLED420; FDNT469

\*Prerequisites

#### GRADUATE CERTIFICATES

Graduate certificates may be added as an option and offered in conjunction with focused study in core curricular areas such as social science foundations, planning and evaluation, management, and individual and organizational accountability or in conjunction with the focused study in concentration areas such as food security, economic development, health and nutrition, or emergency preparedness and response. In addition to successfully completing a minimum of six credits of focused course work, students must also complete a three semester credit web-based certificate seminar (IDSC640 Topics: Professional Seminar), two semester credits of a field practicum, and a synthesis project for one semester credit.

Interested individuals should consult with the program director for further information about which graduate certificates will be offered during a given school year and how to proceed with enrollment.

Graduate certificates are developed and offered in accordance with standards set by the Graduate Council. While they serve to give evidence of focused study in a given field of specialization at the graduate level, they do not take the place of certificates and licenses offered by professional associations and guilds.

## Courses

(Credits)

See inside front cover for symbol code.

### ANTHROPOLOGY

#### ANTH124

Alt (3)

##### *Introduction to Anthropology*

An introduction to the anthropological perspective. Topics include cognitive and social aspects of language, biology and the study of culture, origins of culture, archaeology and cultural beginnings, introduction to the study of cultural variation, and models of culture. Offered even years.

#### ANTH200

(3)

##### *Cultural Anthropology*

The study of culture and cultural variation. The contemporary beliefs, values, institutions, and material way of life of people in North America are contrasted with those of people living in other regions of the world today and in the past.

#### ANTH205

Alt (3)

##### *Introduction to Archaeology*

An introduction to some of the discoveries made by archaeologists and to some of the methods whereby their discoveries are made. Advances in archaeological method and theory over the past 100 years are explained and illustrated. Normally offered odd years.

#### ANTH415

? (3)

##### (was ANTH515)

##### *Urban Anthropology*

An introduction to ethnographic approaches to understanding urban populations and problems. Special emphasis placed on examining the uses of quantitative methods in the design of urban community initiatives.

#### ANTH417

? (2-3)

##### *Applied/Development Anthropology*

An introduction to cultural anthropology with special emphasis on principles and techniques of research applicable to community and international development.

#### ANTH420

? (3)

##### *Food and Culture*

An analysis of the role of food in human affairs with special emphasis on understanding who is well fed and who is hungry among the world's peoples and why such huge differences exist in the level of food security among the world's people.

#### ANTH435

? (3)

##### *Museum and Lab Methods*

Methods for preparation and preservation of archaeological finds. Conservation, cleaning, cataloguing, and classification. Analysis of lithics,

ceramics, faunal and floral remains,  
metals, and glass.

**ANTH440** ? (1-3)  
(was ANTH500)

***Topics in Anthropology***

Topics in cross-cultural anthropology. Repeatable  
as topics vary.

**ANTH478** ? (3)

***Archaeological and Ethnographical  
Perspectives on the Middle East***

History of exploration. Beginnings of sedentary  
food production and pastoralism. Rise of Egyptian  
and Mesopotamian civilization. Israel, Ammon,  
Moab, and Edom. Rome and Christianity. History  
of the Arabs and Islamic civilization.

Ethnographical perspectives on women, families,  
tribes, and states. Islam and the modern world.

Offered as credit on Summer Tours.

**ANTH496** ? (1-8)

***Supervised Fieldwork in Anthropology or  
Archaeology***

Students may apply to participate as trainees on  
research projects sponsored either by the  
Behavioral Sciences Department or the Institute of  
Archaeology.

**ANTH600**

***Introduction to Geographic Information Systems***

The study of the fundamentals of Geographic Information Systems (GIS). Emphasis on the foundations of these systems, their components and capabilities.

**GEOG430**

? (3)

***Urban Geography***

prevention strategies including specific training in assessment and therapeutic techniques, examining the relationship between etiology and treatment. Treatment evaluation discussed. At-risk, vulnerable populations receive special consideration. Prerequisite: PSYC101; Prerequisite or corequisite: SOCI415.

**PSYC458** Alt ? (3)

***Advanced Theories of Addiction and Treatment***

Surveys, critiques and integrates the primary theories currently used to explain the process, outcome and treatment of addictions. Covers biological, psychological, social and anthropological addiction theories. Primary substance-abuse prevention theories are surveyed. Implications for at-risk, vulnerable populations considered. Prerequisite: PSYC101; Prerequisite or corequisite: SOCI415.

**PSYC460** ? (3)

***Psychology of Abnormal Behavior***

A study of deviant human behavior and theories of causation and remediation. Prerequisite: PSYC101.

**PSYC465** \$ ? (3)

***Physiological Psychology***

Introduces the biological bases of behavior. Examination of the neuroanatomical and physiological foundations of such topics as the mind/body problem, the development of language and learning, sexual behavior, recovery from brain damage, and psychopathology. Prerequisite: PSYC101.

**PSYC466** ? (3)

***Psychology of the Exceptional Child***

A survey of assessment, remediation, and adjustment for exceptional children and youth who require special education and related services. Various types of exceptionality are explored such as mental retardation, learning disabilities, emotional or behavioral disorders, giftedness, disorders of communication, and impairment of hearing or sight. Prerequisite: PSYC101.

**PSYC469** ? (3)

***History and Systems of Psychology***

A study of significant schools, individuals, and theories in the field of psychology, together with their contributions to present knowledge of behavior. Limited to seniors and grads only or permission of instructor. Prerequisite: PSYC101.

**PSYC469** V ? (3)

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professional journals. Corequisite: PSYC434.  
Prerequisite: BHSC230 and PSYC432.

**SOCI/PSYC434** ? (3)  
**(merges PSYC354, part of PSYC429)**  
**Research Methods IV: Advanced Statistical Analysis and SPSS**

A study on advanced parametric and non-parametric techniques such as two-way ANOVA, regression and power. The utilization of SPSS in the analysis and interpretation of statistical data. An analysis of professional journals and reports with an emphasis on the statistical reasoning. Corequisite: PSYC/SOCI433. Prerequisite: BHSC230 and PSYC/SOCI432.

**SOCI440** ? (3)  
**Sociology of the Family**

The family as a social institution, its biological and cultural foundations, and its historic development and changing structure and function. The interaction of marriage and parenthood and some disorganizing factors in contemporary society examined.

**SOCI460** ? (3)  
**Death and Grief in Contemporary Society**

The study of cultural and societal perspectives on death and personal and interpersonal dynamics of death and dying.

**SOCI470** ? (3)  
**Demography**

Overview of the world's population; spatial dimensions of human populations; fertility concepts, measurements, trends, levels, and explanations; mortality and migration; population structures, life chances; population growth, economic development, and the environment.

**SOCI474** ? (3)  
**Social Thought and Theory**

The roots of self-conscious social thought and the rise of sociology and anthropology as scientific disciplines in the 19th century. Major theoretical orientations in their fields, proponents, and impact on present-day sociology and anthropology are reviewed. Normally offered odd years.

**SOCI480** (1-8)  
**Field Experience**

Supervised field placement in a human services setting is approved in advance by the department chair. A minimum of 30 hours of fieldwork is required for each credit. Open only to departmental majors. Repeatable 3 times until 9 credits have been accumulated.

**SOCI488** V (3)  
**The City in the Industrialized World**

Distance education course. The structure and development of the modern urban community with emphasis on ecological and demographic features of urban life. Normally offered even years.

**SOCI495** (1-3)  
**Independent Study/Readings/Research/Project in Sociology**

Individual assignments and/or reports and/or individualized research in sociology are set up on a contract basis with no more than 3 credits per semester. Students may repeat or take any combination of departmental independent study courses for up to 6 credits. Consult staff before registering.

**SOCI520** (2)  
**Concepts of Community Development**

A study of the special problems of developing countries from the perspectives of anthropology, demography, geography, political economy and misology. Also includes techniques needed to promote community as well as individual capacity building.

**SOCI530** (2)  
**Community Needs Assessment & Capacity Mapping**

Introduction to various methods for assessing community needs and mapping community capacity to address those needs.

**SOCI535** (2)  
**Program Planning, Budgeting & Grantsmanship**

Building on assessment and capacity mapping, the related topics of program planning, budgeting and grant-writing are presented. Hands-on experience is sought, linking classroom instruction and real community situations.

**SOCI545** (2)  
**Program Implementation and Evaluation**

Strategies for implementation. Review of various methods of evaluation with emphasis on measuring outcomes and assessing quality in community program development.

**SOCI580** (1)  
**Seminar in Community Development Leadership**

Topics include philosophical and spiritual foundations, profiles in leadership, strategic planning, grantsmanship, networking and interagency relations, managing volunteers, program evaluation. Offered over 2 semesters.

**SOCI698** (1-3)  
**Project**

Open only to students in the MSA in Community Development.

# BIOLOGY

Price Hall, Room 216  
(616) 471-3243  
biology@andrews.edu  
http://www.biol.andrews.edu

**Faculty**  
David A. Steen, *Chair*  
Gordon J. Atkins  
Bill Chobotar  
H. Thomas Goodwin  
James L. Hayward  
Timothy G. Standish  
John F. Stout  
Dennis W. Woodland  
Robert E. Zdor

Academic Programs	Credits
BS: Biology	
Biomedical	41
Botany	45
Molecular Biology	39-40
Neurobiology	41
Special	45
Zoology	45
Minor in Biology	22
MS: Biology	30
MAT in Biology	

Each degree offered by the Biology Department includes a common core curriculum and additional courses tailored to students' special needs.

Highly motivated students may compete for the Biology Undergraduate Research Traineeship (BURT) program. For full details, consult the Biology Department.

## Undergraduate Programs

### Bachelor of Science

All biology majors must complete the following core and cognate courses:

**Biology Core—24**

BIOL165, 166, 348, 371, 372, 449, 451, 452.

**Cognate Core—24 or 26**

CHEM131, 132, 231, 232, 241, 242;  
PHYS141, 142 or 241, 242, 271, 272.

**General Education Cognates**

RELT340, PSYC101.

Students must complete the biology core, the cognate core, and the requirements for one of the emphases listed below.

### Botany Emphasis—21

Upper-division biology courses; must include a botany course (BOT prefix) drawn from each of the environmental, morphological, and functional groups of courses listed below. In addition, one zoological course (ZOO prefix) must be included.