

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

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Academic Programs	Credits
BS: Behavioral Sciences	39
Anthropology	40
Anthropological Archaeology	39
Emphasis	
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

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;
PSYC 469 or SOCI474.

Required General Education

PSYC101

The remaining credits are to be selected from at least two of the areas offered in the department or as specified in an area of emphasis below. Majors are required to take the major field test in either psychology or sociology. Those with specific vocational goals may wish to consider one of the following areas of emphasis:

Anthropology Emphasis—40

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

Core Courses—21

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

Emphasis Courses—18

ANTH124, 205, 415, 417, 420, 496

Required General Education—6

BHSC235; PSYC101

Required Cognates

BIOL449, COMM436; ENGL440;

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; ZOO484

Group B (minimum - 2 courses from this group)

PSYC220; PSYC450; PSYC454; PSYC460

Group C (minimum - 1 course)

PSYC410; PSYC486

Methodology—9

PSYC432; PSYC433; PSYC434

Integrative—3

PSYC469

Electives—7

Electives may be chosen from Content Courses not taken to meet minimum requirements, or from additional Psychology courses chosen with approval of the advisor.

General Education—3

RELT340

Required Cognates—16-19

BHSC230; BIOL111, 112 or BIOL165, 166;
PHIL224; SOCI119 or ANTH200

Recommended: Field Experience and a reading knowledge of a foreign language are strongly recommended, particularly for students who plan to take graduate studies in Psychology
Major Field Test: Majors are required to take the Major Field Test in Psychology. The exam assesses the following areas: memory and thinking, sensory and physiology, developmental, clinical and abnormal, social, and measurement and methodology.

*Attend at least one professional convention during your undergraduate experience. A form and the requirements of that form can be obtained from the department.

General Program—40

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

Introduction—3

PSYC101

Content Courses (Groups A, B, C) A

minimum of four courses from Group A & B—15

Group A (minimum - 1 course from this group)

PSYC210; PSYC364; PSYC449; PSYC465;
PSYC471; ZOO484

Group B (minimum - 2 courses from this group)

PSYC220; PSYC450; PSYC454; PSYC460

Group C (minimum - 1 course)

PSYC410; PSYC486

Methodology—3

PSYC432

Integrative—5

PSYC469; PSYC480

Electives—14

Electives may be chosen from Content Courses not taken to meet minimum requirements, or from additional Psychology courses chosen with approval of the advisor.

General Education—3

RELT340

Required Cognates—13-16 (The following courses are required choices in your general education or elective program.)

BHSC230; BIOL111, 112 or BIOL165, 166;
SOCI119 or ANTH200

Recommended: Field Experience and a reading knowledge of a foreign language are strongly recommended, particularly for students who plan to take graduate studies in Psychology
Major Field Test: Majors are required to take the Major Field Test in Psychology. The exam assesses the following areas: memory and thinking, sensory and physiology, developmental, clinical and abnormal, social, and measurement and methodology.

Health Psychology Emphasis—39

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

Core courses—18

BHSC230; PSYC101; PSYC251 or
PSYC252; PSYC432; PSYC433; PSYC434;
PSYC450; PSYC469

Emphasis—18

BHSC450; PSYC210; PSYC319 OR
SOCI420; PSYC460; PSYC465 or PSYC454;
PSYC471 or PSYC364

General Education—3

RELT340

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
expected to acquire include an introductory
acquaintance with the social science foundations of
community development, especially with regard to
understanding the causes of poverty and the meaning
of people-centered development; skills related to
planning, implementing and evaluating development
projects, including grantsmanship; knowledge of basic
principles of organizational behavior, leadership and
management as it relates to not-for-profit
organizations; understanding of ethical principles and
accounting procedures for assuring individual and
organizational accountability; competency in at least
one special area of concentration, ideally in a field
where the student has had some previous experience
and background; mastery of social research methods
appropriate to their chosen field of concentration; and
the ability to communicate effectively to stakeholders
about their community development program and
plans.

Depending in part on their previous work
experience, graduates who pursue community
development emphases may find employment
working for inner city development agencies;
education-based service learning organizations;
church-based community service organizations; grass-
roots community advocacy groups; and a host of

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 (2-3)
Seminar in 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.

BEHAVIORAL SCIENCE

BHSC100 (2)
Philosophy of Service
Provides a theoretical and practical basis for understanding and meeting needs of communities and individuals. Course materials include works from Christian and secular sources. Students develop an individualized practical plan to understand and meet needs. Does not apply to a major or minor.

BHSC220 (3)
An Interdisciplinary Approach to Contemporary Social Issues
Issues may include drug abuse, the family, crime/violence and punishment, AIDS, poverty, and health care. Integrates foundational social science with a Christian perspective to help students understand the origins of current societal issues and strategies for addressing those issues.

BHSC220 V (3)
An Interdisciplinary Approach to Contemporary Social Issues
Distance education—see content above.

BHSC230 (3)
Research Methods I: Statistics for the Behavioral Sciences
Probability concepts, frequency distributions, measures of central tendency, measures of variation, using frequency distributions, point-estimation and confidence intervals, sampling distribution, levels of significance in hypothesis testing, t and z tests, correlation, chi-square and ANOVA.

BHSC235 (3)
Culture, Place and Interdependence
Uses and integrates concepts from anthropology, geography and other sciences to help students understand how human culture and natural habitat create regional, ethnic, religious and other social groups. Examines origins of group conflict and considers avenues of responsible action for resolution.

BHSC235 V (3)
Culture, Place and Interdependence
Distance education—see content above.

BHSC300 (2)
Philosophy of Service Fieldwork
Provides an opportunity for the practical application of the theories, principles, and concepts learned in BHSC100. Prerequisite: BHSC100 or permission of Service Learning Coordinator. Does not apply to a major or minor.

BHSC440 (1-3)
Topics in _____
Examines emerging issues in the behavioral sciences. Repeatable in different specialized areas.

BHSC450 ? (3)
(merges BHSC440 Topics in Community Disease with BHSC440 Topics in Etiology & Disease)
Community Health and Human Disease
Examines in-depth emerging issues in the behavioral sciences. May be repeated in different specialized areas.

BHSC495 (1-3)
Independent Study/Readings/Research/Project in Behavioral Sciences
Individual assignments and/or reports and/or individualized research in behavioral sciences 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.

BHSC590 (1-3)
Internship
To be arranged in cooperation with the student's adviser.

BHSC648 (1-2)
Workshop
Provides an opportunity to study in a focused area within the behavioral sciences.

BHSC690 (1-3)
Independent Study/Readings/Research Project in Behavioral Sciences

FAMILY STUDIES

FMST115 (3)
Introduction to Family Studies
Study of the conceptual framework for the discipline and exploration of contemporary issues and trends in society as related to families.

FMST310 (3)
Parent-Child Relationships
Study of the concepts, challenges, and changes in the parent/child relationship including contemporary strategies, parenting in diverse family types, and changing parenting roles

(3) throughout the life cycle.

FMST350 (3)
Family Cultural Perspectives
Study of the family as a social institution, its biological and cultural foundations, and its historic development and changing structure and function. Cross-cultural uniqueness is examined.

FMST454 ? (3)
Family Violence Across the Lifespan
Study of factors contributing to abuse in the family with emphasis on prevention of domestic violence.

FMST456 Alt ? (3)
Marriage and the Family
Study of the family and the marriage relationship from a multicultural perspective, focusing on diversity and strengths of families, developing and maintaining satisfying intimate relationships, trends in family structure, family dynamics and the conceptual frameworks from which researchers, theoreticians and clinicians look at families.

FMST460 ? (3)
Management and Decision Making in the Family
Principles of sound management of resources including time, money, and energy as they relate to individuals and groups throughout the lifespan, with emphasis on the family.

FMST470 (1-8)
Field Experience
Supervised experience in observing, planning, directing, and/or assisting families in various home or organizational environments. Repeatable to 8 credits.

GEOGRAPHY

GEOG110 (3)
Survey of Geography
A survey of major geographic perspectives: physical, human, and regional. Applies toward General Education social science requirements.

GEOG240 \$ (3)
Physical Geography
The physical environment in which human societies exist; the earth's crust, its water systems, land systems, and climatic features.

GEOG245 (3)
Introduction to Meteorology and Climatology
Emphasis on atmospheric processes and regional distribution and classification of the world's climate.

GEOG260 (3)
Cultural Geography
The geographic viewpoint of the human occupancy of the earth in relation to the environment; including aspects of population, settlement, language, religion, and economy; a generalized survey of major world cultural areas to integrate course elements.

GEOG260 V (3)
Cultural Geography
Distance education—see content above.

GEOG335 (3)

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 <i>Urban Geography</i> Examination of spatial patterns and processes associated with urbanization within the framework of economy, culture and politics.	? (3)		
GEOG455 <i>Environmental Disasters</i> An integrated study of the causes and geography of natural and man-made disasters. Understanding of extreme event prediction, early warning, and disaster mitigation. Organizations involved in disaster response.	? (3)		
GEOG460 <i>Topics in _____</i> Study of selected topics in geography. Topic and credit to be announced in advance. Repeatable with different topics to 9 credits (to 3 credits for graduate students).	? (1-3)		
GEOG475 <i>Regional Geography: _____</i> Regional study of physical, economic, and cultural characteristics of major regions of the world. Areas selected for analysis vary from quarter to quarter. Direct inquires to the department chair. Repeatable for different regions.	? (3)		
GEOG485 <i>Geography Field Experience</i> Observation and evaluation of geographical phenomena in the U.S. or foreign countries. May be based upon individual research, organized tours, or expeditions. A formal report is expected.	(1-6)		
GEOG495 <i>Independent Study</i> Independent work on a specified topic under the guidance of department adviser. Repeatable to 9 credits with the consent of the department chair.	(1-3)		
PSYCHOLOGY			
PSYC101 <i>Introduction to Psychology</i> Principles of psychology including the study of growth, perception, learning, thinking, motivation, emotion, personality, and mental health.	(3)		
PSYC101 <i>Introduction to Psychology</i> Distance education—see content above.	V (3)		
PSYC204 <i>Dynamics of Personal and Social Adjustment</i> Application of psychological principles of behavior as they influence optimal personal and social adjustment, with an emphasis on group dynamics.	(3)		
PSYC210 <i>Introduction to Health Psychology</i> Study of causes for the rise of health psychology; interrelationships between psychology and health-related disciplines; models of disease and health care; interrelationships between stressful life events, social support, and wellness; illness behavior; psychology of addictive behavior; and behavioral health. Prerequisite: PSYC101.	\$(3)		
PSYC220 <i>Human Development—Lifespan</i> Lifespan is an integrative approach to psychological development which emphasizes the interdependency of physical, cognitive, emotional and social development. The interrelatedness of theory, research, and application are seen throughout the entire sequence of human development from conception to death. Prerequisite: PSYC101.	(3)		
PSYC251 <i>Psychology of Early Development</i> An intensive study of current psychological theories relating to environmental influences during prenatal, infant, and childhood years. Prerequisite: PSYC101.	(3)		
PSYC252 <i>The Psychology of Adolescence, Youth, and Aging</i> Current psychological theories relating to psychological development, maturity, and decline as evidenced during the adolescent, youth, middle age, and retirement years. Prerequisite: PSYC101.	(3)		
PSYC252 <i>The Psychology of Adolescence, Youth, and Aging</i> Distance education—see content above.	V (4)		
PSYC315 <i>Organization and Work</i> Distance education course. A discussion of human beings at work and how work interfaces with the community. The meaning of work, formal organization, informal group activity, occupational status and mobility, the structure and function of labor unions, and industry-community relationships are examined.	V (3)		
PSYC319 <i>Stress Management</i> An introduction to stress along with signs and symptoms of stress and identification of stressors in a person's life. Students learn how to increase stress tolerance and implement change.	(3)		
PSYC364 <i>Learning and Behavior</i> A study of theories of learning which evaluates connections between learning and behavioral processes within and between humans and animals. A lab fee may be required. Prerequisite: PSYC101.	(3)		
PSYC364 <i>Learning and Behavior</i> Distance education—see content above.	V (3)		
PSYC410 <i>Introduction to Counseling & Psychotherapy</i> An introduction to the major theoretical models and concepts for counseling and psychotherapy. Concepts such as the philosophical assumptions, the therapeutic process, and the client/therapist relationship are discussed. Prerequisites: PSYC101, and one of the following: PSYC454, 460 or 469.	? (3)		
PSYC420 <i>Human Sexuality</i> A study of the multiple aspects of sexuality within a framework of Christian values. Prerequisite: PSYC101.	? (3)		
PSYC432 <i>(merges SOCI427; parts of SOCI306, 428, 465) Research Methods II: Introduction</i> Asking researchable questions. Reviewing the literature. Hypothesis formulation. Research methodology emphasizes qualitative approaches but includes discussion of instrumentation, subject selection, and data collection procedures. Andrews' human subject research review process. Informed consent. Writing assignments include theoretical essay, pilot study, second pilot study, research journal. Prerequisite or corequisite: BHSC230.	\$(?) (3)		
PSYC/SOCI433 <i>(merges SOCI428, 429) Research Methods III: Advanced Research Design-Experimental and Survey</i> The principles of designing, administering, interpreting, and writing experimental research, questionnaires and interview schedules. Survey also focuses on coding procedures and scale construction. Structured around a research project, and the interpretation of scientific reports and professional journals. Corequisite: PSYC434. Prerequisite: BHSC230 and PSYC432.	\$(?) (3)		
PSYC/SOCI434 <i>(merges PSYC354, part of PSYC429) Research Methods IV: Advanced Statistical Analysis and SPSS</i> 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.	? (3)		
PSYC434 <i>Research Methods IV: Advanced Statistical Analysis and SPSS</i> Distance education—see content above.	V (4)		
PSYC438 <i>Workshop</i> Provides an opportunity to study in a focused area within the Behavioral Sciences. A paper is required for more than one credit.	(1-3)		
PSYC449 <i>Psychopharmacology</i> Examination of current psychotropic drugs, how they affect human perception and behavior, and how they are used in clinical evaluation. Prerequisites: PSYC101; BIOL111,112 or BIOL165, 166.	? (3)		
PSYC450 <i>Social Psychology</i> A study of human behavior within a group context. Included are attitudes, social roles, collective behavior, and the dynamic aspects of human interaction. Lab fee may be required. Prerequisites: PSYC101 and SOCI119 or permission of instructor.	\$(?) (3)		
PSYC454 <i>Theories of Personality</i> Integrates subfields of psychology to enhance understanding of the individual personality. Prerequisite: PSYC101.	? (3)		
PSYC455 <i>Treatment of Substance Abuse</i> An overview of treatment techniques and basic	? (3)		

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)
History and Systems of Psychology
Distance education—see content above.

PSYC471 Alt ? (3)
Behavior Modification
The theory and techniques of behavior change utilizing principles of conditioning. Applications relevant to health-centered and educational settings are emphasized. Prerequisite: PSYC101. Normally offered even years.

PSYC480 (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 activity is required for each credit. Consult staff before registering. Open only to departmental majors. Repeatable to 8 credits.

PSYC486 \$? (3)
Psychological Assessment
Theory and practice in individual and group testing in the areas of intelligence, aptitude, achievement, personality, and interest. Evaluation of tests and other instruments for measurement with a focus on their worth and limitations. A lab fee may be required. Prerequisite: PSYC101, 354.

PSYC495 (1-3)
Independent Study/Readings/Research/Project in Psychology
Individual assignments and/or reports and/or individualized research in psychology on a contract basis with no more than 3 credits per semester. Students may repeat or take any combination of departmental independent study courses up to 6 credits. Consult staff before registering.

PSYC495 V (1-3)
Independent Study/Readings/Research/Project in Psychology
Distance education course. Provides an opportunity to work with an instructor on a research project and/or studies in psychology.

PSYC575 (1-3)
Topics in Psychology
Repeatable with different topics.

PSYC648 (1-3)
Workshop
Provides an opportunity to study in a focused area within the Behavioral Sciences. A paper is required for more than one credit.

SOCIOLOGY

SOCI119 (3)
Principles of Sociology
A study of the development of sociology as a social science, some concepts and ideas associated with the study of human behavior, and an overview of the principles, terms, and concepts in the discipline.

SOCI119 V (3)
Principles of Sociology
Distance education—see content above.

SOCI210 (3)
Marriage Dynamics and Growth
An introductory study of the factors leading to a stable marriage relationship and growth within that relationship in contemporary American society.

SOCI315 Alt (3)
Criminology
Theories and techniques associated with apprehension, conviction, and detention of individuals who infringe criminal law in this society. Normally offered even years.

SOCI345 (3)
Juvenile Delinquency
Topics related to modern youth in trouble, sociological analysis of the problems of youth, legal and societal factors involved in delinquency, and some of the remedial measures now being used.

SOCI360 Alt (3)
Introduction to International Development

Focuses on the dilemmas facing industrialized nations and developing nations in coping with severe global inequalities and poverty. Analyzes the popular strategies and explanations used by governments and non-governmental organizations (NGOs) to deal with these challenges. Normally offered odd years.

SOCI410 Alt ? (3)
Social Gerontology
A study of aging and ageism in the United States, including demographic trends, societal attitudes, problems of the elderly, and national policies relating to senior citizens in the cultural context of American society. Normally offered even years.

SOCI415 Alt ? (2)
Substance Abuse in American Society
An overview of substance-use terminology, historical issues, definitions, epidemiology, consequences and drugs of abuse within an American cultural and historical framework.

SOCI420 Alt ? (3)
Medical Socio-Geography
Analysis of the relationship between social characteristics and the incidence and prevalence of disease, as well as geographical determinants of health and medical systems. Normally offered even years.

SOCI425 ? (3)
Racial and Ethnic Relations
A study of the distinctive racial and cultural minorities in American society with an emphasis on problems and adjustments within the larger society.

SOCI425 V (3)
Racial and Ethnic Relations
Distance education—see content above.

SOCI430 ? (3)
Gender Roles in Contemporary Society
Significant issues related primarily to the concerns of women as members of American society, but also in cross-cultural perspective. Includes such topics as socialization in sex roles, women in the professions, women in minority groups, the feminization of poverty, and women and substance abuse and crime.

SOCI432 \$? (2-3)
(merges SOCI427; parts of SOCI306, 428, 465)
Research Methods II: Introduction
Asking researchable questions. Reviewing the literature. Hypothesis formulation. Research methodology will emphasize qualitative approaches but includes discussion of instrumentation, subject selection and data collection procedures. Andrews' human-subject-research review process. Informed consent. Writing assignments include theoretical essay, pilot study, second pilot study, research journal. Prerequisite or Corequisite: BHSC230. Recommended for the junior year.

SOCI/PSYC433 \$? (3)
(merges SOCI428, 429)
Research Methods III: Advanced Research Design-Experimental and Survey
The principles of designing, administering, interpreting, and writing experimental research, questionnaires and interview schedules. Survey also focuses on coding procedures and scale construction. Structured around a research project, and the interpretation of scientific reports and

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.