

# BEHAVIORAL SCIENCES

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## Faculty

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Academic Programs	Credits
BS: Behavioral Sciences	39
Anthropology	40
Anthropological Archaeology Emphasis	39
Public Health	40
Student Development	40
BS: Family Studies	39
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	
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 advisors 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, 230; 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, 433, 434;  
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;  
RELG360; 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, 433;  
PSYC450; PSYC469 OR SOCI474

#### **Emphasis Courses—18**

ANTH124, 205, 420, 435, 478, 496

#### **Required General Education—3**

PSYC101

#### **Required Cognates—18-20**

BIOL155 or BIOL208; 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,  
433, 434; PSYC450; PSYC469 or SOCI474

#### **Emphasis Courses—16**

BHSC440, 450; PSYC319; PSYC460 or PSYC471; SOCI415, 420

#### **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; CHEM110 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,  
433; 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**

EDPC302; EDTE165, 228, 408, 417, 424, 459, 476, 480, 487,  
488. Education requirements are listed on p. 253.

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**

BHSC440; FMST115, 310, 350, 454, 456, 460, 470; PSYC251,  
252, 420

#### **Family Studies Electives—6-9**

ANTH420; COMM320, 440; EDRE438, 440; PSYC319, 410,  
466; SOCI120, 430, 460; SOWK315, \*and as authorized by  
advisor.

#### **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, 350; 454, 456, 460; BHSC450; PSYC251, 252, 420;  
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 advisor 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 PSYC364, 449,  
465; 471; or ZOO484

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

PSYC220, 450, 454, 460

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

PSYC410, 486

#### **Methodology—9**

PSYC432, 433, 434

#### **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 - one course from this group)

PSYC210, 364, 449, 465, 471; ZOOL484

##### Group B (minimum - two courses from this group)

PSYC220, 450, 454, 460

##### Group C (minimum - one course)

PSYC410, 486

#### **Methodology—3**

PSYC432

#### **Integrative—5**

PSYC469, 480

#### **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, 433, 434, 450, 469

#### **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 131; 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, 425, 430, 432, 433, 434; 474

#### **Electives—9**

(Choose 3 of the following 4 classes) SOCI410, 440, 460, 470

#### **Required General Education—9**

BHSC230; PSYC101; 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, 432, 433, 434, 425, 430, 474

#### **Emphasis Courses—9**

ANTH417; SOCI360; SOCI470 or ANTH420

#### **Required General Education**

BHSC220; PSYC101; 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, 345; SOCI415 or SOCI120; SOCI420, 425, 430, 432, 433, 434, 474

#### **Emphasis Courses—9**

FMST454; PSYC458; SOCI315

#### **Required General Education—9**

BHSC220; PSYC101; 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, 460

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, 425, 432, 433, 434, 474

#### **Emphasis Courses—15**

BHSC440; FMST350; SOCI120, 430, 440

#### **Required General Education—9**

BHSC220; PSYC101; RELT340

#### **Required Cognates—27**

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

ANTH200; BHSC230; ECON225; FMST310, 454, 460; HIST400 or PHIL224; PSYC420, 450

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; DGME125; PHTO115; 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 advisor.

### **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 Program**

### **MSA: Master of Science in Administration Community Development or International Development**

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www.andrews.edu/GRAD/Idp

#### **Administration**

Marciana Popescu, Director  
Øystein S. LaBianca, Coordinator for Planning, Partnerships,  
and Research  
Josephine Katenga, Administrative Assistant

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.

### ADMISSION REQUIREMENTS

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

- Qualify for general admission into graduate studies at Andrews University (see p. 39)
- Have a four-year baccalaureate degree or its equivalent
- Have completed an undergraduate course in statistics. Provisional acceptance is granted, with the undergraduate statistics course to be completed during the first semester into the program.
- At least one year's experience in human service or development preferred.
- Pass the GRE test. Provisional acceptance is granted, with the requirement of passing the GRE test during the first semester in the program.

## MSA: Community Development or International Development—40

### Core Courses—34

#### Social Science Foundations—8

SOCI520 or MSSN627; SOCI432; ANTH417 or MSSN615 or ANTH600; SOCI550

#### Planning/Evaluation—6

SOCI530, 535, 545

#### Economics—3

ECON525

#### Management—5-6

BSAD440; or 515, 530

#### Individual and Organizational Accountability—5

ACCT625 or ACCT500 or ACCT635 or MKTG540; IDSC640 or SOCI580 or MSSN630\* or CHMN638

#### Research and Practicum Requirements

##### (Capstone Activities)—6

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

#### Development Emphasis Area—6

(As discussed below)

**Total credits required**

### EMPHASIS AREA/CONCENTRATION AREA

Emphasis area could be developed on either a community or an international development track. Students will select up to 6 credits of directed electives, from the courses indicated for this purpose, and design their own emphasis area, with direct guidance from the academic advisor. Students should consult both the Program Director and the Off-campus director, for planning their concentrations, that will be offered on campus or around the world.

### CONCENTRATION IN INTERNATIONAL DEVELOPMENT (normally taken off campus)

Students selecting a concentration in international development are required to complete a minimum of 6 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 draw on faculty strengths, utilizing courses throughout the university to design a package that meets the students career goals. The students should plan an appropriate program in consultation with the Director of the On-campus MSA and a concentration advisor. Some concentrations may have prerequisite course work in addition to these directed electives. Suggested concentrations include:

Community Health  
 Church-based Community Development  
 Economic Development  
 Family Issues  
 Family Life Education  
 Family and Parenting  
 Financial Management for Nonprofit Organizations:  
 International Perspectives  
 Health Care Management  
 International Marketing for Community Development  
 Service Learning  
 Substance Abuse Theories and Prevention Strategies

A complete list of courses that may apply to specific concentrations is available from the department.

**List of electives:** ANTH415 or MSSN618\*; BHSC450; BSAD531, 532, 535, 545, 560, 670; CHMN544; COMM536; ECON500; EDAL520, 635; EDCI547, 620; EDFN514; EDPC520; 554; 628, 634; EDRE655, 657, 658, 659, 676; FDNT421, 422, 469, 540, 545, 570, 585; FMST454; FNCE526; HLED420; MKTG500, 540; MSSN618; NRS517; PSYC420, 455, 458; SOCI415; 430, 434; SOWK410; 440, 630; 456

The emphasis area could be designed upon individual choice, based on a plan that the student will submit to the academic advisor as a rationale for her/his choice of emphasis. Courses could be picked from the suggested electives, up to 6 credits. Workshops for 3 credits or more could replace some of these electives. Field practicum and research will be necessarily related to the area of

emphasis, in order to provide the students with an in-depth understanding of that area, and with the possibility of applying course work in practice. Field placement with local community development organizations and projects will be discussed with the program director and arranged accordingly.

Other emphasis areas could be built as concentrations taught at the international sites. Suggested areas: economic development; international marketing; international agriculture; peace and conflict resolution; basic education training; AIDS and risk behaviors; substance abuse prevention and policy; comparative social policy; women in development. Concentration areas should be related to the practicum and the research. Field placements with international organizations, as well as practicum at the off-campus sites is recommended. Students should consult with the program director and with the director of the off-campus program for information and practicum placement.

Any prerequisites required for the completion of courses that are part of a particular concentration area should be discussed in advance with the program director and the concentration advisor, for better guidance in planning for its completion. The schools and departments offering them regulate policies that govern the courses offered as part of the concentration package.

\* 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, economics, and individual and organizational accountability or in conjunction with the focused study in concentration areas such as described above. In addition to successfully completing a minimum of 6 credits of focused course work, students must also complete a 2 semester credit, web-based certificate seminar, 2 semester credits of a field practicum, and a 2 semester credit research synthesis project.

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 procedures.

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, neither do they necessarily build up towards a graduate degree (unless so agreed upon by the schools offering those degrees).

Graduate certificates could be pursued either as part of the MSA-ID program, or independently, being open for students both on- and off-campus, as well as for professionals aiming to enhance their expertise in a particular area of study.

As a first option at hand for graduate certificates, the certificate in Family Life Education will be open for students in this program, either as pursuing their degree, or as continuous education, upon graduation.

**Development Emphasis Area.** Details regarding courses for the various Development Emphasis Areas are included in the Student Handbook.

\* Courses listed are the options available for students enrolled in the MDiv program.

## 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)**

***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)**

***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** H (3)  
***An Interdisciplinary Approach to Contemporary Social Issues***  
 AU/HSI course—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** H (3)  
***Culture, Place and Interdependence***  
 AU/HSI course—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)  
***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 advisor.

**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** Alt (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. Normally offered odd years.

**FMST310** Alt (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 throughout the life cycle. Offered odd years.

**FMST350** Alt (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. Offered even years.

**FMST454** ♦ Alt (3)  
***Family Violence Across the Lifespan***  
 Study of factors contributing to abuse in the family with emphasis on prevention of domestic violence. Offered odd years.

**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. Offered even years.

**FMST460** ♦ Alt (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 life span, with emphasis on the family. Offered odd years.

**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. Normally offered even years.

**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** H (3)  
**Cultural Geography**  
 AU/HSI course—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** ♦ (3)  
**Urban Geography**  
 Examination of spatial patterns and processes associated with urbanization within the frame work of economy, culture and politics.

**GEOG455** ♦ (3)  
**Environmental Disasters**  
 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.

**GEOG460** ♦ (1-3)  
**Topics in \_\_\_\_\_**  
 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).

**GEOG475** ♦ (3)  
**Regional Geography: \_\_\_\_\_**  
 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.

**GEOG485** (1-6)  
**Geography Field Experience**  
 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.

**GEOG495** (1-3)  
**Independent Study**  
 Independent work on a specified topic under the guidance of department advisor. Repeatable to 9 credits with the consent of the department chair.

## PSYCHOLOGY

**PSYC101** (3)  
**Introduction to Psychology**  
 Principles of psychology including the study of growth, perception, learning, thinking, motivation, emotion, personality, and mental health.

**PSYC101** H (3)  
**Introduction to Psychology**  
 AU/HSI course—see content above.

**PSYC204** (3)  
**Dynamics of Personal and Social Adjustment**  
 Application of psychological principles of behavior as they influence optimal personal and social adjustment, with an emphasis on group dynamics.

**PSYC210** \$ (3)  
**Introduction to Health Psychology**  
 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.

**PSYC220** (3)  
**Human Development—Lifespan**  
 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.

**PSYC251** (3)  
**Psychology of Early Development**  
 An intensive study of current psychological theories relating to environmental influences during prenatal, infant, and childhood years. Prerequisite: PSYC101.

**PSYC252** (3)  
**The Psychology of Adolescence, Youth, and Aging**  
 Current psychological theories relating to psychological development, maturity, and decline as evidenced during the adolescent, youth, middle age, and retirement years. Prerequisite: PSYC101.

- PSYC252** **H (3)**  
*The Psychology of Adolescence, Youth, and Aging*  
AU/HSI course—see content above.
- PSYC315** **H (3)**  
*Organization and Work*  
AU/HSI 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.
- PSYC319** **(3)**  
*Stress Management*  
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.
- PSYC364** **(3)**  
*Learning and Behavior*  
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.
- PSYC364** **H (3)**  
*Learning and Behavior*  
AU/HSI course—see content above.
- PSYC410** **◆ (3)**  
*Introduction to Counseling & Psychotherapy*  
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.
- PSYC420** **◆ (3)**  
*Human Sexuality*  
A study of the multiple aspects of sexuality within a framework of Christian values.
- PSYC432** **◆ \$ (3)**  
*Research Methods II: Introduction*  
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 or STAT285.
- PSYC/SOCI433** **◆ \$ (3)**  
*Research Methods III: Advanced Research Design-Experimental and Survey*  
The principles of designing, administrating, 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 or STAT285 and PSYC432.
- PSYC/SOCI434** **◆ (3)**  
*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 or STAT285 and PSYC/SOCI432.
- PSYC434** **H (4)**  
*Research Methods IV: Advanced Statistical Analysis and SPSS*  
AU/HSI course—see content above.
- PSYC438** **(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 and may be required for one credit.
- PSYC449** **◆ Alt (3)**  
*Psychopharmacology*  
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. Offered odd years.
- PSYC450** **◆ \$ (3)**  
*Social Psychology*  
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.
- PSYC454** **◆ (3)**  
*Theories of Personality*  
Integrates subfields of psychology to enhance understanding of the individual personality. Prerequisite: PSYC101.
- PSYC455** **◆ (2)**  
*Treatment of Substance Abuse*  
An overview of treatment techniques and basic 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. Normally offered odd years.

**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** ◆ H (3)***History and Systems of Psychology***

AU/HSI course—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 45 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, BHSC230 or STAT285.

**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** H (1-3)***Independent Study/Readings/Research/Project in Psychology***

AU/HSI 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** H (3)***Principles of Sociology***

AU/HSI course—see content above.

**SOCI120** (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** Alt (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. Offered odd years.

**SOCI350/550** (2)***Introduction to Social Policy***

Develops basic knowledge and skills for policy analysis, formulation and critical challenge within local and international contexts. Examines the determining factors affecting public policy in the United States as compared with other systems. Provides framework for analysis of social problems and policies, as they impact development and practice in human services.

**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. Normally offered odd years.

- SOCI420** ♦ Alt (3)  
**Medical Sociology**  
 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** H (3)  
**Racial and Ethnic Relations**  
 AU/HSI course—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)  
**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 or STAT285. Recommended for the junior year.
- SOCI/PSYC433** ♦ \$ (3)  
**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 or STAT285 and PSYC432.
- SOCI/PSYC434** ♦ (3)  
**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 or STAT285 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** ♦ (2)  
**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** ♦ Alt (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** H (3)  
**The City in the Industrialized World**  
 AU/HSI 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**  
 Community development refers to the practice of planning and implementing projects to improve the quality of life for people living in poverty, both locally and internationally. Development will be presented as the building of social capital in our communities that enables them to function at a higher and more efficient level. Building on the core Christian principles that emphasize development, this course will provide students with a better understanding of community, while applying basic development concepts to local and international realities.
- 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 (1-2)*****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.

**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.andrews.edu/biology

**Faculty**

David A. Steen, *Chair*

Gordon J. Atkins

Bill Chobotar

H. Thomas Goodwin

James L. Hayward

David Mbungu

John F. Stout

Dennis W. Woodland

Robert E. Zdor

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

**BS: Biology**

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, morphologi-