

FLORIDA ATLANTIC UNIVERSITY – INTELLECTUAL FOUNDATION PROGRAM 2016 – 2017

All courses are three (3) credits unless otherwise indicated. Course selections should be made in consultation with an academic advisor.

BIOLOGY MAJOR (2016-2017)

Charles E. Schmidt College of Science
Bachelor of Arts (BA) or Bachelor of Science (BS)

FOUNDATIONS OF WRITTEN COMMUNICATION

(6 credit hours required – Writing Across the Curriculum - WAC)
Grade of “C” or higher is required in each course

- ___ ENC 1101.....College Writing I **(Required)**
- ___ ENC 1102.....College Writing II +

THE FOLLOWING COURSES BELOW MAY BE SUBSTITUTED FOR ENC 1102:

English Department

- ___ ENC 1930+.....University Honors Seminar in Writing **(Permit Only)**
- ___ ENC 1939+.....Special Topic: College Writing
- ___ ENC 2452+.....Honors Composition for Science

Anthropology Department

- ___ ANT 1471+.....Cultural Difference in a Globalized Society

History Department

- ___ HIS 2050+Writing History

Nursing Department (Departmental Permission Required)

- ___ NSP 1195+Being Cared For: Reflections from Other Side of Bed

FOUNDATIONS OF MATHEMATICS & QUANTITATIVE REASONING

(6 credit hours required – Grade of “C” or higher is required)
Student must take 2 of the following courses; 1 must be from group A.
The second course may be from group A or group B.

PRETEST IS REQUIRED BEFORE TAKING YOUR FIRST MATH COURSE

Group A

- ___ MGF 1106..... Math for Liberal Arts 1 **(not for this major)**
- ___ MGF 1107..... Math for Liberal Arts 2 **(not for this major)**
- ___ MAC 1105..... College Algebra
- ___ STA 2023 Introductory Statistics **(not for this major)**
- ___ MAC 2311..... Calculus with Analytic Geometry 1 (4 credits)
or any mathematics course for which one of the above courses is the direct prerequisite

Group B

- ___ MAC 1140..... Precalculus Algebra
- ___ MAC 1114..... Trigonometry
- ___ MAC 1147..... Precalculus Algebra & Trigonometry (5 credits)
- ___ MAC 2233..... Methods of Calculus
- ___ MAC 2312..... Calculus with Analytic Geometry 2 (4 credits)

Philosophy Department

- ___ PHI 2102 Logic **(not for this major)**

Note: Students must take at least one course with the prefix MAC or MGF.

FOUNDATIONS OF SCIENCE & THE NATURAL WORLD

(6 credit hours required - **One of the courses must have a lab**)
Student must take 2 of the following courses; 1 must be from group A.
The second course may be from group A or group B.

Group A

Group B

-----For Non-Science Majors-----

Biology Department

- ___ BSC 1005 & L
Life Science (3 cr. incl. Lab)
- ___ BSC 2085 & L
Anatomy & Physiology 1
(4 cr. Incl. Lab) *

Chemistry Department

- ___ CHM 1020C
Contemporary Chemical Issues

Geosciences Department

- ___ ESC 2000 Blue Planet **(online)**
- ___ EVR 1001
Env. Science and Sustainability

Physics Department

- ___ AST 2002
Intro. to Astronomy **(P/F)**

-----For Science Majors-----

Biology Department (Required)

- ___ BSC 1010 & L & D
Biological Principles
(4 cr. Incl. Lab & Dis)

Chemistry Department (Required)

- ___ CHM 2045 & L
General Chemistry 1
(4 cr. Incl. Lab) ‡

Physics Department (Required)

- ___ PHY 2048 & L
General Physics 1
(5 credits incl. Lab) **
- ___ PHY 2053
College Physics 1 (4 credits)

-----For Non-Science Majors-----

Anthropology Department

- ___ ANT 2511 & L
Intro to Biological
Anthropology (4 cr. Incl. Lab)

Chemistry Department

- ___ CHM 2032 & L
Chem. for Health Sciences
(4 credits including Lab)
- ___ CHM 2083
Chemistry in Modern Life **(P/F)**

Engineering Dean Department

- ___ ETG 2831
Nature: Inter. of Sci., Eng., &
the Humanities

Geosciences Department

- ___ GLY 2010C
Physical Geol. (4 cr. incl. Lab)
- ___ GLY 2100
History of Earth and Life
- ___ MET 2010 & D
Weather and Climate

Physics Department

- ___ PSC 2121 Physical Science
(only for BA Bio Major)

-----For Science Majors-----

Biology Department (Required)

- ___ BSC 1011 & L & D
Biodiversity (4 cr. incl Lab & Dis)

FOUNDATIONS OF SOCIETY & HUMAN BEHAVIOR

(6 credit hours required)
Student must take 2 of the following courses; 1 must be from group A.
The second course may be from group A or group B.

Group A

History Department

- ___ AMH 2020 United States History Since 1877 **(P/F)**

Anthropology Department

- ___ ANT 2000 & D. Introduction to Anthropology

Economics Department

- ___ ECO 2013 Macroeconomic Principles §

Political Science Department

- ___ POS 2041 Government of the United States

Psychology Department

- ___ PSY 1012 Introduction to Psychology **(Required)**

Sociology Department

- ___ SYG 1000 Sociological Perspectives **(strongly recommended)**

Group B

History Department

- ___ AMH 2010 United States History to 1877 **(P/F)**

Economics Department

- ___ ECO 2023 Microeconomic Principles §
- ___ ECP 2002 Contemporary Economic Issues

Exceptional Student Education Department

- ___ EEX 2091 Disability and Society

Geosciences Department

- ___ EVR 2017 Environment and Society

Public Administration Department

- ___ PAD 2258 Changing Environment of Soc., Bus., & Gov't

Sociology Department

- ___ SYD 2790 Race, Class, Gender, and Sexuality
- ___ SYG 2010 Social Problems

Urban & Regional Planning Department

- ___ URP 2051 Designing the City

FOUNDATIONS IN GLOBAL CITIZENSHIP

(6 credit hours required)

Student must choose two (2) courses from among the following:

Anthropology Department

___ ANT 2410 Culture and Society

Curriculum, Culture & Education Department

___ EDF 2854 Educated Citizen in Global Context

Geosciences Department

___ GEA 2000 World Geography

Political Science Department

___ INR 2002 Introduction to World Politics

Languages, Linguistics, & Comparative Literature Department

___ LAS 2000 Intro to Caribbean & Latin American Studies

___ LIN 2607 Global Perspectives on Language (**online course**)

Sociology Department

___ SYP 2450 Global Society

Social Work Department

___ SOW 1005 Global Perspectives of Social Services

History Department

___ WOH 2012 & D History of Civilization 1 (**WAC**) ++

___ WOH 2022 History of Civilization 2

FOUNDATIONS OF HUMANITIES

(6 credit hours required)

Student must take 2 of the following courses; 1 must be from group A.

The second course may be from group A or group B.

Group A

Visual Art & Art History Department

___ ARH 2000 Art Appreciation (**P/F**)

Music Department

___ MUL 2010 Music Appreciation

Philosophy Department

___ PHI 2010 & D Introduction to Philosophy (**WAC**) ++

Theatre & Dance Department

___ THE 2000 Theatre Appreciation

Group B

Architecture Department

___ ARC 2208 Culture & Architecture

Theatre & Dance Department

___ DAN 2100 Appreciation of Dance

School of Communication & Multimedia Studies

___ FIL 2000 & D Film Appreciation

Languages, Linguistics, & Comparative Literature Department

___ LIT 2100 Introduction to World Literature

English Department

___ LIT 2010 Interpretation of Fiction (**WAC**) ++

___ LIT 2030 Interpretation of Poetry (**WAC**) ++

___ LIT 2040 Interpretation of Drama (**WAC**) ++

___ LIT 2070 Interpretation of Creative Nonfiction (**WAC**) ++

STUDENTS ASSUME RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS

Course selections should be made in consultation with an academic advisor.

Legend

- + - ENC 1101 is a prerequisite.
- ++ - Two Foundations of Written Communications classes are required before taking this course.
- § - Sophomore standing (30 credits earned) is a requirement to take this course.
- * - Nursing majors are required to take this course in their first semester.
- ** - MAC 2311 is a prerequisite for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
- *** - MAC 1105 and MAC 1114 are prerequisites for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
- ‡ - Co-requisite of College Algebra (MAC 1105) or a prerequisite of Introductory Chemistry (CHM 1025).
- WAC** - (WAC) Writing across the curriculum course.

§ Writing Across the Curriculum (WAC)/Gordon Rule

Students must attain grades of "C" or higher. 12 credits of writing (WAC) and 6 credits of mathematics are required.

Please note:

Students must take four (4) WAC courses. Two (2) courses are to be taken from Foundations of Written Communication. We strongly recommend the two additional WAC courses come from these courses: PHI 2010, WOH 2012, LIT 2010, LIT 2030, LIT 2040 and LIT 2070. See advisor for additional details.

P/F

Certain designated undergraduate courses may be taken for a letter grade of pass (P) or fail (F). Students must indicate the grade option preferred when registering; otherwise, a letter grade will be given. The maximum credit available to any student on the P/F option is one course per term with a maximum of 12 credits during a student's entire course of study. This option is not available for courses in the student's major, for students on probation, or for **Engineering** majors.

(D) = Discussion, (L) = Lab

Courses indicating a (D) or (L) are linked with a lecture, a lab, and/or a discussion. If you select one of these courses, you must register for the lecture, lab, and/or discussion. You **must** attend the lecture, lab, and/or discussion.

<http://myfau.fau.edu>

Go to MyFAU to:

- Check e-mail
- See FAU Announcements

FAU Self-Service:

- Course schedules
- Registration (drop/add classes) and withdrawals
- Student records and financial aid
- Tuition payments
- The University Course Catalog

Elective Credits

The number of elective credits allowed varies by major. Please consult with an academic advisor to determine the number of elective credits required for your major. **Certain majors do not allow any electives.**

FOREIGN LANGUAGE (4 - 8 credits, 1 or more courses in the same language) - **REQUIRED FOR MAJOR**

Students with more than one year of a foreign language in high school should enroll in the second half of the beginners foreign language class (ARA/CHI/FRE/GER/HBR/ITA/JPN/LAT/SPN 1121) or a higher level course. Proficiency for a first-level course can be earned by successfully completing a second-level course. For questions related to this requirement, consult an academic advisor. CLEP exam credits meet this requirement: see the catalog.

- ❖ **NOTE:** *Native Speakers of a foreign language must consult the Languages, Linguistics, and Comparative Literature Department regarding this requirement.*
- ❖ **NOTE:** *Honors Seminars SHALL BE ACCEPTED AS MEETING THE WAC/GRW REQUIREMENT. See the University Advising Services Office for details.*
- ❖ **HONORS NOTE:** *Students can apply for the PSYCHOLOGY HONORS PROGRAM after completion of 60 credits, and before completion of 105 credits. Students must have a 3.2 overall & Psychology GPA to be admitted and retained in the Honors track.*

NOTE: See catalog for specific requirements, course descriptions, and additional information. The requirements for some Intellectual Foundations Program (IFP) courses & other courses may be satisfied by passing the appropriate AP or CLEP exam. Check with your advisor and college.

The Charles E. Schmidt College of Science has the following requirements:

- (1) A student must earn a “C-” or better in all biology AND cognate courses taken as part of the requirements for an undergraduate degree in Biological Sciences. However, students must earn a “C” average in chemistry courses.
- (2) Any course work in the major field transferred from another institution must be approved by the major dept.
- (3) No major course may be taken pass/fail.
- (4) The maximum amount of credit which may be earned through co-op is 10 credits; some departments allow some of these credits to substitute for major courses, check with department for specifics.

MAJOR COURSES, COLLEGE REQUIREMENTS and ELECTIVES

B.A. DEGREE

Required Courses (Biology Core): 40 - 41 credits:

BSC 1011 & L	Biodiversity and Lab	4 cr – as indicated on first page
BSC 1010 & L	Biological Principles and Lab	4 cr
(BSC 1011 & BSC 1010 also require a discussion)		
CHM 2045 & L ¹	General Chemistry I and Lab	4 cr – as indicated on first page
CHM 2046 & L ¹	General Chemistry II and Lab	4 cr
CHM 2210 & D ¹	Organic Chemistry I	3 cr
CHM 2211 ¹	Organic Chemistry II	3 cr
PSC 2121	Physical Science	3 cr

¹Chemistry courses require a "C" or better

OR {	MAC 2233	Methods of Calculus	3 cr
	MAC 2311	Calculus w/Analytic Geometry	4 cr
	STA 3173	Introduction to Biostatistics	3 cr (prerequisite: MAC 2233)
	PSY 3234	Exp. Design & Stat. Inference	3 cr

Select at least three (3) of the courses below (the other course may be used as an elective): 9 – 10 credits

PCB 3063	Genetics	4 cr
PCB 4023	Molecular and Cell Biology	3 cr (prerequisite: BCH 3033)
PCB 4043	Principles of Ecology	3 cr
PCB 4674	Evolution	3 cr

*** BCH 3033 (Biochemistry I) is a prerequisite and can serve as an elective.

Biology electives (select 15 credits): Please note you must have course prerequisite(s) completed

BCH 3033 Biochemistry 1	3 cr	OCB 4043 & 4043L Marine Biology and Lab	4 cr
BOT 3223 & 3223L Vascular Plant Anatomy & Lab	4 cr	OCB 4525 & 4525L Marine Microbiology & Molecular Bio & Lab	4 cr
BOT 4404 & 4404L Marine Botany & Lab	4 cr	OCB 4633 & 4633L Marine Ecology & Lab	4 cr
BOT 4503 & 4503L Principles of Plant Physiology & Lab	4 cr	OCE 4006 Marine Science	4 cr
BOT 4734C Plant Biotechnology	3 cr	PCB 3352 Issues in Human Ecology	3 cr
BSC 4403L Biotechnology 1 Lab	2 cr	PCB 3703 & 3703L Human Morph. & Function 1 & Lab	4 cr
BSC 4427L Biotechnology 2 Lab	2 cr	PCB 3704 & 3704L Human Morph. & Function 2 & Lab or	4 cr
BSC 4806 Biology of Cancer	3 cr	PCB 4233 Immunology	3 cr
BSC 4905 Directed Independent Study	1 - 3 cr	PCB 4522 Molecular Genetics	4 cr
BSC 4917 Honors Thesis Research 1	3 cr	PCB 4723 & 4723L Comparative Animal Physiology & Lab	4 cr
BSC 4918 Honors Thesis Research 2	3 cr	PCB 4803 Reproductive Endocrinology	3 cr
BSC 4930 Special Topics: (Model Systems Genetics Lab)	3 cr	PCB 4842 Cellular Neuroscience & Disease	3 cr
CHM 2211L Organic Chemistry Lab	2 cr	PCB 4843C Practical Cell Neuroscience	3 cr
MCB 3020 & 3020L General Microbiology & Lab	4 cr	ZOO 2203 & 2203L Invertebrate Zoology & Lab	5 cr
MCB 4203 Medical Bacteriology	3 cr	ZOO 4402 & 4402L Functional Bio of Marine Animals & Lab	4 cr
MCB 4603 Microbial Ecology	3 cr	ZOO 4472 & 4472L Ornithology & Lab	4 cr
OCB 4032 & 4032L Marine Biodiversity and Lab	4 cr	ZOO 4690 & 4690L Comparative Vertebrate Morph & Lab	5 cr
EVS 4021 Critical Thinking in Environmental Science	3 cr	PSB 4240 Neuropsychology	3 cr
EXP 4304 Psychology of Motivation	3 cr	PSB 4323 Human Psychophysiology	3 cr
PSB 3002L Computer Laboratory in Psychobiology	3 cr	PSB 4444 Psychopharmacology	3 cr
PSB4004L Lab in Psychobiology	3 cr	PSB 4504 Developmental Psychobiology	3 cr
PSB 4504 Developmental Psychobiology	3 cr	PSB 4810 Neurobiology of Learning and Memory	3 cr
EXP 4120 Auditory Perception	3 cr	PSY 4833 Biopsychology of Language	3 cr
EXP 4204 Human Perception	3 cr	PSB 3002 Biological Bases of Behavior	3 cr
PSB 4006 Biological Basis of Behavior II	3 cr	CBH 4024 Comparative Animal Behavior	3 cr

31 – 35 credits	Intellectual Foundations Program and Foreign Language
40 – 41 credits	Biology Core
15 credits	Biology Electives
<u>29 – 34 credits</u>	<u>Free Electives – (17 – 20 credits must be upper-division)</u>
120 CREDITS	TOTAL (45 credits at upper division minimum)

B.S. DEGREE

Required Courses (Biology Core): 47 - 48 credits

BSC 1011 & L Biodiversity and Lab 4 cr – **as indicated on first page**

BSC 1010 & L Biological Principles and Lab 4 cr

(BSC 1011 & BSC 1010 also require a discussion)

CHM 2045 & L General Chemistry I and Lab 4 cr – **as indicated on first page - (Chemistry courses require a “C” or better)**

CHM 2046 & L General Chemistry II and Lab 4 cr - **(Requires a “C” or better)**

CHM 2210 & D Organic Chemistry I¹ 3 cr - **(Requires a “C” or better)**

CHM 2211 Organic Chemistry II¹ 3 cr - **(Requires a “C” or better)**

OR { MAC 2233 Methods of Calculus 3 cr
MAC 2311 Calculus w/Analytic Geometry 4 cr

PHY 2053 College Physics I 4 cr - **Prerequisite of a “C” in one these math courses: MAC 1114 / 1147 / 2233 / 2311**

PHY 2048L General Physics I Lab 1 cr

OR

PHY 2048 General Physics I 4 cr - **Prerequisite of a “C” in MAC 2311**

PHY 2048L General Physics I Lab 1 cr

PHY 2054 College Physics II 4 cr

PHY 2049L General Physics II Lab 1 cr

OR

PHY 2049 General Physics II 4 cr

PHY 2049L General Physics II Lab 1 cr

OR { STA 3173 Introduction to Biostatistics 3 cr - **prerequisite: MAC 2233**
PSY 3234 Exp. Design & Stat. Inference 3 cr

Select at least three (3) of the courses below (the other course may be used as an elective): 9 – 10 credits

PCB 3063 Genetics 4 cr

PCB 4023 Molecular and Cell Biology 3 cr - **prerequisite: BCH 3033**

PCB 4043 Principles of Ecology 3 cr

PCB 4674 Evolution 3 cr

Electives: (select at least 21 credits from the list below): Please note you must have course prerequisite(s) completed

BCH 3033 Biochemistry 1	3 cr	OCB 4043 & 4043L Marine Biology and Lab	4 cr
BOT 3223 & 3223L Vascular Plant Anatomy & Lab	4 cr	OCB 4525 & 4525L Marine Microbiology & Molecular Bio & Lab	4 cr
BOT 4404 & 4404L Marine Botany & Lab	4 cr	OCB 4633 & 4633L Marine Ecology & Lab	4 cr
BOT 4503 & 4503L Principles of Plant Physiology & Lab	4 cr	OCE 4006 Marine Science	4 cr
BOT 4734C Plant Biotechnology	3 cr	PCB 3352 Issues in Human Ecology	3 cr
BSC 4403L Biotechnology 1 Lab	2 cr	PCB 3703 & 3703L Human Morph. & Function 1 & Lab	4 cr
BSC 4427L Biotechnology 2 Lab	2 cr	PCB 3704 & 3704L Human Morph. & Function 2 & Lab or	4 cr
BSC 4806 Biology of Cancer	3 cr	PCB 4233 Immunology	3 cr
BSC 4905 Directed Independent Study	1 - 3 cr	PCB 4522 Molecular Genetics	4 cr
BSC 4917 Honors Thesis Research 1	3 cr	PCB 4723 & 4723L Comparative Animal Physiology & Lab	4 cr
BSC 4918 Honors Thesis Research 2	3 cr	PCB 4803 Reproductive Endocrinology	3 cr
BSC 4930 Special Topics: (Model Systems Genetics Lab)	3 cr	PCB 4842 Cellular Neuroscience & Disease	3 cr
CHM 2211L Organic Chemistry Lab	2 cr	PCB 4843C Practical Cell Neuroscience	3 cr
MCB 3020 & 3020L General Microbiology & Lab	4 cr	ZOO 2203 & 2203L Invertebrate Zoology & Lab	5 cr
MCB 4203 Medical Bacteriology	3 cr	ZOO 4402 & 4402L Functional Bio of Marine Animals & Lab	4 cr
MCB 4603 Microbial Ecology	3 cr	ZOO 4472 & 4472L Ornithology & Lab	4 cr
OCB 4032 & 4032L Marine Biodiversity and Lab	4 cr	ZOO 4690 & 4690L Comparative Vertebrate Morph & Lab	5 cr
EVS 4021 Critical Thinking in Environmental Science	3 cr	PSB 4240 Neuropsychology	3 cr
EXP 4304 Psychology of Motivation	3 cr	PSB 4323 Human Psychophysiology	3 cr
PSB 3002L Computer Laboratory in Psychobiology	3 cr	PSB 4444 Psychopharmacology	3 cr
PSB4004L Lab in Psychobiology	3 cr	PSB 4504 Developmental Psychobiology	3 cr
PSB 4504 Developmental Psychobiology	3 cr	PSB 4810 Neurobiology of Learning and Memory	3 cr
EXP 4120 Auditory Perception	3 cr	PSY 4833 Biopsychology of Language	3 cr
EXP 4204 Human Perception	3 cr	PSB 3002 Biological Bases of Behavior	3 cr
PSB 4006 Biological Basis of Behavior II	3 cr	CBH 4024 Comparative Animal Behavior	3 cr

31 – 35 credits	Intellectual Foundations Program and Foreign Language
47 – 48 credits	Biology Core
21 credits	Biology Electives
<u>17 – 20 credits</u>	<u>Free Electives – (11 – 14 credits must be upper-division)</u>
120 CREDITS	TOTAL (45 credits at upper division minimum)