BIOLOGY MAJOR (2018 - 2019)

**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:**
- 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

*Note:* Students must take four Writing-Across-the-Curriculum (WAC) courses, two of which must be taken from Foundations of Written Communication.

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**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**
- 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: select one below)
  - PHY 2048 & L General Physics 1
    - (5 credits incl. Lab) **
  - PHY 2053 College Physics 1
    - (5 credits incl. Lab)

**Group B**
- Biology Department (Required)
  - BSC 1011 & L & D
    - Biodiversity (4 cr. incl Lab & Dis)
- Chemistry Department (Required)
  - CHM 2045 & L
    - General Chemistry 1
    - (4 cr. Incl. Lab)

*Note:* 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.

**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 & D ......... 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 - see note below
- Sociology Department
  - SYG 1000 ............... Sociological Perspective
    - (recommended for pre-health-related majors)

**Group B**
- History Department
  - AMH 2010 & D ......... 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
- Languages, Linguistics, & Comparative Literature Department
  - LIN 2001 ............... Introduction to Language (online course)
- Public Administration Department
  - PAD 2258 ............... Changing Environment of Soc., Bus., & Gov’t
- Sociology Department
  - SYG 2010 ............... Social Problems
- Urban & Regional Planning Department
  - URP 2051 ............... Designing the City

*Note:* A required course to take PSY 3234 per the University catalog.
**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**  
  ___ 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 2030 .......... Interpretation of Poetry (WAC) ++

- **Philosophy Department**  
  ___ LIT 2070 .......... Interpretation of Creative Nonfiction (WAC) ++

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**STUDENTS ASSUME RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS**

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

+ - 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.

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**Legend**

**§ Writing Across the Curriculum (WAC)**

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.

(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.

**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.

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**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.

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**Go to MyFAU to:**

http://myfau.fau.edu

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
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.

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 Biology department has the following requirements (per the University catalog):

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” 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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 1011 &amp; L &amp; D</td>
<td>Biodiversity and Lab &amp; Discussion</td>
<td>4 cr</td>
</tr>
<tr>
<td>BSC 1010 &amp; L &amp; D</td>
<td>Biological Principles and Lab &amp; Discussion</td>
<td>4 cr</td>
</tr>
<tr>
<td>CHM 2045 &amp; L¹</td>
<td>General Chemistry I and Lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>CHM 2046 &amp; L¹</td>
<td>General Chemistry II and Lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>CHM 2210 &amp; D¹</td>
<td>Organic Chemistry I</td>
<td>3 cr</td>
</tr>
<tr>
<td>CHM 2211¹</td>
<td>Organic Chemistry II</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

¹Chemistry courses require a “C” or better.

- **PSC 2121**  
  Physical Science  
  3 cr

- **OR {**
  - **MAC 2233**  
    Methods of Calculus  
    3 cr
  - **MAC 2311**  
    Calculus w/Analytic Geometry  
    4 cr
  - **OR {**
    - **STA 3173**  
      Introduction to Biostatistics  
      3 cr (prerequisite: MAC 2233)
    - **PSY 3234**  
      Exp. Design & Stat. Inference  
      3 cr (prerequisite: PSY 1012)
  - **OR {**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCB 3063</td>
<td>Genetics</td>
<td>4 cr</td>
</tr>
<tr>
<td>PCB 3023</td>
<td>Cell Biology</td>
<td>3 cr</td>
</tr>
<tr>
<td>PCB 4043</td>
<td>Principles of Ecology</td>
<td>3 cr</td>
</tr>
<tr>
<td>PCB 3674</td>
<td>Evolution</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry l (BCH 3033)</td>
<td>3 credits</td>
<td>Marine Biodiversity &amp; Lab (OCB 4032 &amp; 4032L) 4 credits</td>
</tr>
<tr>
<td>Vascular Plant Anatomy &amp; Lab (BOT 3223 &amp; 3223L)</td>
<td>4 credits</td>
<td>Marine Biology &amp; Lab (OCB 4043 &amp; 4043L) 4 credits</td>
</tr>
<tr>
<td>Marine Botany &amp; Lab (BOT 4404 &amp; 4404L)</td>
<td>4 credits</td>
<td>Marine Microbiology and Molecular Biology &amp; Lab (OCB 4525 &amp; 4525L) 6 credits</td>
</tr>
<tr>
<td>Principles of Plant Physiology &amp; Lab (BOT 4503 4503L)</td>
<td>4 credits</td>
<td>Marine Ecology &amp; Lab (OCB 4633 &amp; 4633L) 4 credits</td>
</tr>
<tr>
<td>Plant Biotechnology (BOT 4734C)</td>
<td>3 credits</td>
<td>Marine Science (OCE 4006) 4 credits</td>
</tr>
<tr>
<td>Life of a Biologist (BSC 2844)</td>
<td>1 credit</td>
<td>Human Morphology and Function 1 &amp; Lab (PCB 3703 &amp; 3703L) 4 credits</td>
</tr>
<tr>
<td>Conservation Biology (BSC 3052)</td>
<td>3 credits</td>
<td>Human Morphology and Function 2 &amp; Lab (PCB 3704 &amp; 3704L) 4 credits</td>
</tr>
<tr>
<td>Introduction to Biological Research (BSC 3453)</td>
<td>1 credit</td>
<td>Issues in Human Ecology (PCB3352) 3 credits</td>
</tr>
<tr>
<td>Biological Research (BSC 3481)</td>
<td>2 credits</td>
<td>Genetics Lab (PCB 4067L) 3 credits</td>
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<tr>
<td>Molecular Genetics of Aging (BSC 4022)</td>
<td>3 credits</td>
<td>Immunology (PCB 4233) 3 credits</td>
</tr>
<tr>
<td>Biotechnology Laboratory 1 (BSC 4403L)</td>
<td>2 credits</td>
<td>Freshwater Ecology &amp; Lab (PCB 4301 &amp; 4301L) 3 credits</td>
</tr>
<tr>
<td>Biotechnology Laboratory 2 (BSC 4448L)</td>
<td>2 credits</td>
<td>Molecular Genetics (PCB 4522) 3 credits</td>
</tr>
<tr>
<td>Concepts in Bioinformatics (BSC 4434C)</td>
<td>3 credits</td>
<td>Genes and Development (PCB 4594) 3 credits</td>
</tr>
<tr>
<td>Biology of Cancer (BSC 4806)</td>
<td>3 credits</td>
<td>Comparative Animal Physiology &amp; Lab (PCB 4723 &amp; 4723L) 4 credits</td>
</tr>
<tr>
<td>Directed Independent Study (BSC 4905)</td>
<td>1-3 credits</td>
<td>Cellular Neuroscience and Disease (PCB 4842) 3 credits</td>
</tr>
<tr>
<td>Honors Research (BSC 4917)</td>
<td>3 credits</td>
<td>Practical Cell Neuroscience (PCB 4843C) 3 credits</td>
</tr>
<tr>
<td>Honors Thesis (BSC 4918)</td>
<td>3 credits</td>
<td>Biological Bases of Behavior (PSB 3002) 3 credits</td>
</tr>
<tr>
<td>Special Topics (BSC 4930)</td>
<td>1-3 credits</td>
<td>Invertebrate Zoology &amp; Lab (ZOO 2203 &amp; 2203L) 5 credits</td>
</tr>
<tr>
<td>Comparative Animal Behavior (CBH 4024)</td>
<td>3 credits</td>
<td>Vertebrate Zoology &amp; Lab (ZOO 2303 &amp; 2303L) 4 credits</td>
</tr>
<tr>
<td>Organic Chemistry II Lab (CHM 2211L)</td>
<td>2 credits</td>
<td>Functional Biology of Marine Animals &amp; Lab (ZOO 4402 &amp; 4402L) 4 credits</td>
</tr>
<tr>
<td>Critical Thinking in Environmental Science (EVS 4021)</td>
<td>3 credits</td>
<td>Ornithology &amp; Lab (ZOO 4472 &amp; 4472L) 2 credits</td>
</tr>
<tr>
<td>General Microbiology &amp; Lab (MCB 3020 &amp; 3020L)</td>
<td>4 credits</td>
<td>Comparative Vertebrate Morphogenesis &amp; Lab (ZOO 4690 &amp; 4690L) 3 credits</td>
</tr>
<tr>
<td>Medical Bacteriology (MCB 4203)</td>
<td>3 credits</td>
<td>Comparative Vertebrate Morphogenesis Lab (ZOO 4690L) 2 credits</td>
</tr>
<tr>
<td>Virology (MCB 4503)</td>
<td>3 credits</td>
<td>Principles of Human Neuroanatomy (ZOO 4742) 3 credits</td>
</tr>
<tr>
<td>Microbial Ecology (MCB 4603)</td>
<td>3 credits</td>
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</tr>
</tbody>
</table>
B.S. DEGREE

Required Courses (Biology Core): 47 - 48 credits

- BSC 1011 & L & D Biodiversity and Lab & Disc 4 cr – as indicated on first page
- BSC 1010 & L & D Biological Principles and Lab & Disc 4 cr
- CHM 2045 & L General Chemistry I and Lab 4 cr – (Chemistry courses require a “C” or better)
- CHM 2046 & L General Chemistry II and Lab 4 cr
- CHM 2210 & D Organic Chemistry I 3 cr - (Requires a “C” or better)
- CHM 2211 Organic Chemistry II 3 cr - (Requires a “C” or better)

OR

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

OR

- PHY 2053 College Physics I 4 cr - Prerequisite of a “C” in one of these 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 per University catalog
- PHY 2048L General Physics I Lab 1 cr

OR

- PHY 2054 College Physics II 4 cr
- PHY 2049 General Physics II Lab 1 cr
- PHY 2049L General Physics II Lab 1 cr

OR

- STA 3173 Introduction to Biostatistics 3 cr - prerequisite: MAC 2233 per University catalog
- PSY 3234 Exp. Design & Stat. Inference 3 cr - prerequisite: PSY 1012 per University catalog

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

- PCB 3063 Genetics 4 cr
- PCB 3023 Cell Biology 3 cr
- PCB 4043 Principles of Ecology 3 cr
- PCB 3674 Evolution 3 cr

Electives: (select at least 21 credits from the list below):

- Biochemistry I (BCH 3033) 3 credits
- Vascular Plant Anatomy & Lab (BOT 3223 & 3223L) 4 credits
- Marine Botany & Lab (BOT 4404 & 4404L) 4 credits
- Principles of Plant Physiology & Lab (BOT 4503 4503L) 4 credits
- Plant Biotechnology (BOT 4734C) 3 credits
- Life of a Biologist (BSC 2844) 1 credit
- Conservation Biology (BSC 3052) 3 credits
- Introduction to Biological Research (BSC 3453) 1 credit
- Biological Research (BSC 3481) 2 credits
- Molecular Genetics of Aging (BSC 4022) 3 credits
- Biotechnology Laboratory 1 (BSC 4403L) 2 credits
- Biotechnology Laboratory 2 (BSC 4448L) 2 credits
- Concepts in Bioinformatics (BSC 4434C) 3 credits
- Biology of Cancer (BSC 4806) 3 credits
- Directed Independent Study (BSC 4905) 1-3 credits
- Honors Research (BSC 4917) 3 credits
- Honors Thesis (BSC 4918) 3 credits
- Special Topics (BSC 4930) 1-3 credits
- Comparative Animal Behavior (CBH 4024) 3 credits
- Organic Chemistry II Lab (CHM 2211L) 2 credits
- Critical Thinking in Environmental Science (EVS 4021) 3 credits
- General Microbiology & Lab (MCB 3020 & 3020L) 4 credits
- Medical Bacteriology (MCB 4203) 3 credits
- Virology (MCB 4503) 3 credits
- Microbial Ecology (MCB 4603) 3 credits
- Marine Biodiversity & Lab (OCB 4032 & 4032L) 4 credits
- Marine Biology & Lab (OCB 4043 & 4043L) 4 credits
- Marine Microbiology and Molecular Biology & Lab (OCB 4525 & 4525L) 6 credits
- Marine Ecology & Lab (OCB 4633 & 4633L) 4 credits
- Marine Science (OCE 4006) 4 credits
- Human Morphology and Function 1 & Lab (PCB 3703 & 3703L) 4 credits
- Human Morphology and Function 2 & Lab (PCB 3704 & 3704L) 4 credits
- Issues in Human Ecology (PCB3352) 3 credits
- Genetics Lab (PCB 4067L) 3 credits
- Immunology (PCB 4233) 3 credits
- Freshwater Ecology & Lab (PCB 4301 & 4301L) 3 credits
- Molecular Genetics (PCB 4522) 3 credits
- Genes and Development (PCB 4594) 3 credits
- Comparative Animal Physiology & Lab (PCB 4723 & 4723L) 4 credits
- Cellular Neuroscience and Disease (PCB 4843) 3 credits
- Practical Cell Neuroscience (PCB 4843C) 3 credits
- Biological Bases of Behavior (PSB 3002) 3 credits
- Invertebrate Zoology & Lab (ZOO 2203 & 2203L) 5 credits
- Vertebrate Zoology & Lab (ZOO 2303 & 2303L) 4 credits
- Functional Biology of Marine Animals & Lab (ZOO 4402 & 4402L) 4 credits
- Ornithology & Lab (ZOO 4472 & 4472L) 2 credits
- Comparative Vertebrate Morphogenesis & Lab (ZOO 4690 & 4690L) 3 credits
- Comparative Vertebrate Morphogenesis Lab (ZOO 4690L) 2 credits
- Principles of Human Neuroanatomy (ZOO 4742) 3 credits

Total: 120 credits (45 credits at upper division minimum)