Biology Major (2019 - 2020)

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

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

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
___ MAC 1105 ...... College Algebra
___ 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 2210 ...... Intro Calculus w/Applications (4 credits) (Permit Only)
___ MAC 2233 ...... Methods of Calculus (Required or higher math)
___ MAC 2312 ...... Calculus with Analytic Geometry 2 (4 credits)

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 Biomedical 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)

(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.

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

Group B
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.
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)
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.

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

https://myfau.fau.edu

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

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.

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 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.

(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.
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.
5. The Department of Biological Sciences offers an Honors Thesis Program that recognizes research accomplishments of talented undergraduates. Eligible students must have a minimum of 20 credits in biology and an overall GPA of 3.2. Students usually begin the program in their sophomore or junior year and conduct independent supervised research during their junior and senior years. A written paper and a seminar describing the results of their research are required in the senior year. Students who meet the eligibility criteria must apply and be accepted to the program. To enroll in the below Honors Program courses which can be used as biology elective courses. Interested students should contact the faculty member whose research interests are closest to those the student wishes to pursue and see http://biology.fau.edu/academics/undergraduate/research.php for more information. Denoted with (H).
**MAJOR COURSES, COLLEGE REQUIREMENTS and ELECTIVES**

**B.A. DEGREE**

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

- BSC 1011 & L & D Biodiversity and Lab & Discussion 4 cr – as indicated on first page
- BSC 1010 & L & D Biological Principles and Lab & Discussion 4 cr
- CHM 2045 & L General Chemistry I and Lab 4 cr – as indicated on first page
- CHM 2046 & L General Chemistry II and Lab 4 cr
- CHM 2210 & D Organic Chemistry I 3 cr
- CHM 2211 Organic Chemistry II 3 cr

**OR**

- PSC 2121 Physical Science 3 cr
- PHY 2053 College Physics 4 cr
- MAC 2233 Methods of Calculus 3 cr
- STA 3173 Introduction to Biostatistics 3 cr (prerequisite: MAC 2233)
- PSY 3234 Exp. Design & Stat. Inference 3 cr (prerequisite: PSY 1012)

Select four of the courses below (Additional courses selected from this category beyond the four courses may be applied toward the elective requirement.)

- PCB 3063 Genetics 4 cr.
- PCB 3023 Cell Biology 3 cr
- PCB 4043 Principles of Ecology 3 cr
- PCB 3674 Evolution 3 cr
- One course in Physiology *** 4-5 cr

***Students who select the "One course in Physiology" option above may fulfill this option by choosing one of the below course/lab combinations

- BOT 4503, 4503L Principles of Plant Physiology and Lab 4 cr.
- PCB 4723, 4723L Comparative Animal Physiology and Lab 4 cr.
- ZOO 4690, 4690L Vertebrate Structure Dev. & Evolution w/Lab 5 cr.
- PCB 3703, 3703L Human Morphology and Function 1 and Lab 4 cr.
- PCB 3704, 3704L Human Morphology and Function 2 and Lab 4 cr.

**Biology electives (select 12 credits Upper Division):** Please note you must have course prerequisite(s) completed - (H) – Honors Research Program Courses

<table>
<thead>
<tr>
<th>Vascular Plant Anatomy &amp; Lab (BOT 3223 &amp; 3223L) 4 credits</th>
<th>Virology (MCB 4503) 3 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine Botany &amp; Lab (BOT 4404 &amp; 4404L) 4 credits</td>
<td>Microbial Ecology (MCB 4603) 3 credits</td>
</tr>
<tr>
<td>Principles of Plant Physiology &amp; Lab (BOT 4503 4503L) 4 credits</td>
<td>Marine Biodiversity &amp; Lab (OCE 4032 &amp; 4032L) 4 credits</td>
</tr>
<tr>
<td>Plant Biotechnology (BOT 4734C) 3 credits</td>
<td>Marine Biology &amp; Lab (OCE 4043 &amp; 4043L) 4 credits</td>
</tr>
<tr>
<td>Life of a Biologist (BSC 2844) 1 credit</td>
<td>Marine Microbiology and Molecular Biology &amp; Lab (OCE 4525 &amp; 4525L) 6 credits</td>
</tr>
<tr>
<td>Conservation Biology (BSC 3052) 3 credits</td>
<td>Marine Ecology &amp; Lab (OCE 4633 &amp; 4633L) 4 credits</td>
</tr>
<tr>
<td>Introduction to Biological Research (BSC 3453) 1 credit (H)</td>
<td>Marine Science (OCE 4006) 4 credits</td>
</tr>
<tr>
<td>Biological Research (BSC 3481) 2 credits (H)</td>
<td>Issues in Human Ecology (PCB3352) 3 credits</td>
</tr>
<tr>
<td>Molecular Genetics of Aging (BSC 4022) 3 credits</td>
<td>Genetics Lab (PCB 4067L) 3 credits</td>
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<tr>
<td>Biotechnology Laboratory 1 (BSC 4403L) 2 credits</td>
<td>Immunology (PCB 4233) 3 credits</td>
</tr>
<tr>
<td>Biotechnology Laboratory 2 (BSC 4448L) 2 credits</td>
<td>Freshwater Ecology &amp; Lab (PCB 4301 &amp; 4301L) 3 credits</td>
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<td>Concepts in Bioinformatics (BSC 4434C) 3 credits</td>
<td>Molecular Genetics (PCB 4522) 3 credits</td>
</tr>
<tr>
<td>Biology of Cancer (BSC 4806) 3 credits</td>
<td>Genes and Development (PCB 4594) 3 credits</td>
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<tr>
<td>Directed Independent Study (BSC 4905) 1-3 credits</td>
<td>Cellular Neuroscience and Disease (PCB 4842) 3 credits</td>
</tr>
<tr>
<td>Directed Independent Research (BSC 4910) 0-3 credits</td>
<td>Practical Cell Neuroscience (PCB 4843C) 3 credits</td>
</tr>
<tr>
<td>Honors Research (BSC 4917) 3 credits (H)</td>
<td>Biological Bases of Behavior (PSB 3002) 3 credits</td>
</tr>
<tr>
<td>Honors Thesis (BSC 4918) 3 credits (H)</td>
<td>Invertebrate Zoology &amp; Lab (ZOO 2203 &amp; 2203L) 5 credits</td>
</tr>
<tr>
<td>Special Topics (BSC 4930) 1-3 credits</td>
<td>Vertebrate Zoology &amp; Lab (ZOO 2303 &amp; 2303L) 4 credits</td>
</tr>
<tr>
<td>Comparative Animal Behavior (CBH 4024) 3 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) 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) 4 credits</td>
<td>Principles of Human Neuroanatomy (ZOO 4742) 3 credits</td>
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<tr>
<td>Medical Bacteriology (MCB 4203) 3 credits</td>
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</tbody>
</table>
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 – 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 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 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 per University catalog
- STA 3174 Exp. Design & Stat. Inference 3 cr - prerequisite: PSY 1012 per University catalog

Select four of the courses below (Additional courses selected from this category beyond the four courses may be applied toward the elective requirement.)

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

One course in Physiology *** 4-5 cr

***Students who select the “One course in Physiology” option above may fulfill this option by choosing one of the below course/lab combinations

- BOT 4503, 4503L Principles of Plant Physiology and Lab 4 cr.
- PCB 4723, 4723L Comparative Animal Physiology and Lab 4 cr.
- ZOO 4690, 4690L Vertebrate Structure Dev. & Evolution w/Lab 5 cr.
- PCB 3703, 3703L Human Morphology and Function 1 and Lab 4 cr.
- PCB 3704, 3704L Human Morphology and Function 2 and Lab 4 cr.

Biology electives (select 18 credits Upper Division): Please note you must have course prerequisite(s) completed: (H) – Honors Research Program Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry I (BCH 3033)</td>
<td>3 credits</td>
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</tr>
<tr>
<td>Biochemistry II (BCH 3034)</td>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>Biochemistry Lab (BCH 3103L)</td>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>Vascular Plant Anatomy &amp; Lab (BOT 3223 &amp; 3223L)</td>
<td>4 credits</td>
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<tr>
<td>Plant Biotechnology (BOT 4734C)</td>
<td>3 credits</td>
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<tr>
<td>Life of a Biologist (BSC 2844)</td>
<td>1 credit</td>
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<tr>
<td>Conservation Biology (BSC 3052)</td>
<td>3 credits</td>
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<td>Introduction to Biological Research (BSC 3453)</td>
<td>1 credit (H)</td>
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<td>Biological Research (BSC 3481)</td>
<td>2 credits (H)</td>
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<td>Special Topics (BSC 4930)</td>
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<tr>
<td>Comparative Animal Behavior (CBH 4024)</td>
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<tr>
<td>Organic Chemistry II Lab (CHM 2211L)</td>
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<tr>
<td>Critical Thinking in Environmental Science (EVS 4021)</td>
<td>3 credits</td>
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</tbody>
</table>

- 31 – 35 credits Intellectual Foundations Program and Foreign Language
- 52 – 53 credits Biology Core
- 18 credits Biology Electives
- 15 – 18 credits Free Electives – (9 – 11 credits must be upper-division)
- 120 CREDITS TOTAL (45 credits at upper division minimum)