

**FLORIDA ATLANTIC UNIVERSITY – INTELLECTUAL FOUNDATION PROGRAM 2023 – 2024**

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

**BIOLOGY MAJOR (2023 - 2024)**

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:**

- \_\_\_ ENC 1939 + ....Special Topic: College Writing
- \_\_\_ 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.

**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**

- \_\_\_ COP 1031C ....Computer Programming & Data Literacy for Everyone  
**(For Non-College Engineering & Computer Science majors)**
- \_\_\_ MAC 1147.....Precalculus Algebra & Trigonometry (4 credits)
- \_\_\_ MAC 2210.....Intro Calculus w/Applications (4 credits) **(Permit Only)**
- \_\_\_ MAC 2233.....Methods of Calculus **(REQUIRED or higher math)**
- \_\_\_ MAC 2241.....Life Science Calculus 1 (4 credits) \*\*\*
- \_\_\_ MAC 2312.....Calculus with Analytic Geometry 2 (4 credits) \*\*\*
- \_\_\_ PHI 2102 .....Logic

**\*\*\* Medical Biology majors must select one of these math courses.**

**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**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>___ BSC 1010 &amp; L <b>(Required)</b><br/>Biological Principles<br/>(4 cr. Incl. Lab)</li> <li>___ CHM 2045 &amp; L <b>(Required)</b><br/>General Chemistry 1<br/>(4 cr. Incl. Lab) ‡</li> </ul> <p><b>(Required: select one below)</b></p> <ul style="list-style-type: none"> <li>___ PHY 2048 &amp; L General Physics 1<br/>(5 credits incl. Lab) *</li> <li>___ PHY 2053 College Physics 1<br/>(5 credits incl. Lab) **</li> </ul> | <ul style="list-style-type: none"> <li>___ BSC 1011 &amp; L <b>(Required)</b><br/>Biodiversity (4 cr. incl Lab)</li> </ul> |
|---|--|

**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**

- \_\_\_ AMH 2020 & D .....United States History Since 1877 ◊
- \_\_\_ ANT 2000 & D.....Introduction to Anthropology **(WAC)**
- \_\_\_ ECO 2013.....Macroeconomic Principles §
- \_\_\_ POS 2041 .....Government of the United States ◊
- \_\_\_ PSY 1012.....Introduction to Psychology **(see note below)**
- \_\_\_ SYG 1000 .....Sociological Perspectives  
**(Recommended for pre-health-related majors)**

**Group B**

- \_\_\_ AMH 2010 & D .....United States History to 1877
- \_\_\_ CCJ 2002 .....Law, Crime & the Criminal Justice System ‡
- \_\_\_ DIG 2202 .....Digital Culture
- \_\_\_ ECO 2023.....Microeconomic Principles §
- \_\_\_ ECP 2002 .....Contemporary Economic Issues
- \_\_\_ EEX 2091 .....Disability and Society
- \_\_\_ EME 2620 .....Digital Literacy in a Globally Connected World ✕
- \_\_\_ EVR 1110 .....Climate Change: The Human Dimensions
- \_\_\_ EVR 2017 .....Environment and Society
- \_\_\_ LIN 2001 .....Introduction to Language **(online course)**
- \_\_\_ PAD 2081.....Risk Resilience and Rising Seas ‡
- \_\_\_ PAD 2258.....Changing Environment of Soc., Bus., & Gov't
- \_\_\_ SYG 2010 .....Social Problems
- \_\_\_ URP 2051.....Designing the City

**Note:** A required course to take PSY 3234 per the University catalog.

**(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.

◊ **Civic Literacy Requirement**

<https://www.fau.edu/ugstudies/civic-literacy-requirement/>

Beginning in Summer 2021, Florida Legislature amended the statute and now requires students to complete **both** a civic literacy course (AMH 2020 or POS 2041) and an assessment exam.

### FOUNDATIONS IN GLOBAL CITIZENSHIP

(6 credit hours required)

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

- \_\_\_ ANT 2410 ..... Culture and Society
- \_\_\_ EDF 2854 ..... Educated Citizen in Global Context
- \_\_\_ GEA 2000 ..... World Geography
- \_\_\_ INR 2002 ..... Introduction to World Politics
- \_\_\_ JST 2452 ..... Global Jewish Communities  $\Omega$
- \_\_\_ LAS 2000 ..... Intro to Caribbean & Latin American Studies
- \_\_\_ LIN 2607 ..... Global Perspectives on Language
- \_\_\_ MAR 2142 ..... Culture, Consumers and the Global Marketplace  $\text{X}$
- \_\_\_ MUH 2121 ..... Music in Global Society  $\Omega$
- \_\_\_ POT 2000 ..... Global Political Theory
- \_\_\_ SYP 2450 ..... Global Society
- \_\_\_ SOW 1005 ..... Global Perspectives of Social Services
- \_\_\_ SOW 1130 ..... Race and Cultural Inclusion in Social Work
- \_\_\_ WOH 2012 & D ..... History of Civilization 1 (WAC) ++
- \_\_\_ WOH 2022 ..... History of Civilization 2
- \_\_\_ WST 2351 ..... Gender and Climate Change

### 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

- \_\_\_ ARH 2000 ..... Art Appreciation
- \_\_\_ MUL 2010 ..... Music Appreciation
- \_\_\_ PHI 2010 & D ..... Introduction to Philosophy (WAC) ++
- \_\_\_ THE 2000 ..... Theatre Appreciation

#### Group B

- \_\_\_ ARC 2208 ..... Culture & Architecture
- \_\_\_ DAN 2100 ..... Appreciation of Dance
- \_\_\_ FIL 2000 & D ..... Film Appreciation
- \_\_\_ HUM 2471 ..... Racism and Anti-Racism
- \_\_\_ 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) ++
- \_\_\_ LIT 2100 ..... Introduction to World Literature
- \_\_\_ LIT 2931 ..... Special Topics in Literature (WAC) ++  $\Omega$
- \_\_\_ SPC 2608 ..... Public Speaking  $\pm$

#### 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.
- $\S$  - Sophomore standing (30 credits earned) is a requirement to take this course.
- \* - MAC 2311 is a prerequisite for this course.
- \*\* - MAC 2233 is a prerequisite for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
- $\text{X}$  - Co-requisite of College Algebra (MAC 1105) or a prerequisite of Introductory Chemistry (CHM 1025).
- $\pm$  - Starting Spring 2022
- $\Omega$  - Starting Spring 2023
- $\text{X}$  - Starting Fall 2023
- $\diamond$  - See information box regarding Civic Literacy Requirement
- WAC - (WAC) Writing across the curriculum course.

#### $\S$ 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: ANT 2000, PHI 2010, WOH 2012, LIT 2010, LIT 2030, LIT 2040, LIT 2070 or LIT 2931. See advisor for additional details.

<https://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

#### (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) 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.
- (4) 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 - 43 credits:

<b>OR</b> {	___	BSC 1019 Introduction to Biology at FAU	0 cr
<b>OR</b> {	___	SLS 1411 First-Year Interest Group Experience	1 cr
	___	SLS 1501 Honors Introduction to Academic Life	2 cr
	___	BSC 1011 & L Biodiversity and Lab	4 cr – as indicated on first page.
	___	BSC 1010 & L Biological Principles and Lab	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
<b>OR</b> {	___	PSC 2121 Physical Science	3 cr
	___	PHY 2053 College Physics	4 cr
	___	MAC 2233 Methods of Calculus	3 cr
<b>OR</b> {	___	STA 3173 Introduction to Biostatistics	3 cr (prerequisite: MAC 1105)
	___	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 4043 Principles of Ecology 3 cr.
PCB 3023 Cell Biology 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, 4503 L Principles of Plant Physiology and Lab 4 cr.	ZOO 4690, 4690L Vertebrate Structure Dev. & Evolution w/Lab 5 cr.
PCB 4723, 4723L Comparative Animal Physiology and Lab 3 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**

Vascular Plant Anatomy & Lab (BOT 3223 & 3223L) 4 credits	Medical Bacteriology (MCB 4203) 3 credits
Marine Botany & Lab (BOT 4404 & 4404L) 4 credits	Virology (MCB 4503) 3 credits
Principles of Plant Physiology & Lab (BOT 4503 4503L) 4 credits	Microbial Ecology (MCB 4603) 3 credits
Plant Biotechnology (BOT 4734C) 3 credits	Marine Biodiversity & Lab (OCB 4032 & 4032L) 4 credits
Life of a Biologist (BSC 2844) 1 credit	Marine Biology & Lab (OCB 4043 & 4043L) 4 credits
Conservation Biology (BSC 3052) 3 credits	Marine Microbiology and Molecular Biology & Lab (OCB 4525 & 4525L) 4 credits
Introduction to Biological Research (BSC 3453) 1 credit <b>(H)</b>	Marine Ecology & Lab (OCB 4633 & 4633L) 4 credits
Biological Research (BSC 3481) 2 credits <b>(H)</b>	Marine Science (OCE 4006) 3 credits
Molecular Genetics of Aging (BSC 4022) 3 credits	Issues in Human Ecology (PCB3352) 3 credits
Climate Change Biology (BSC 4307) 3 credits	Genetics Lab (PCB 4067L) 3 credits
Laboratory Methods in Biotechnology (BSC 4403L) 3 credits	Immunology (PCB 4233) 3 credits
Concepts in Bioinformatics (BSC 4434C) 3 credits	Freshwater Ecology & Lab (PCB 4301 & 4301L) 4 credits
Biology of Cancer (BSC 4806) 3 credits	Molecular Genetics (PCB 4522) 3 credits
Directed Independent Study (BSC 4905) 1-3 credits	Genes and Development (PCB 4594) 3 credits
Directed Independent Research (BSC 4910) 0-3 credits	Cellular Neuroscience and Disease (PCB 4842) 3 credits
Honors Research (BSC 4917) 3 credits <b>(H)</b>	Practical Cell Neuroscience (PCB 4843C) 3 credits
Honors Thesis (BSC 4918) 3 credits <b>(H)</b>	Invertebrate Zoology & Lab (ZOO 3205 & 3205L) 5 credits
Special Topics (BSC 4930) 1-3 credits	Introduction to Animal Locomotion (ZOO 4373) 3 credits
Comparative Animal Behavior (CBH 4024) 3 credits	Functional Biology of Marine Animals & Lab (ZOO 4402 & 4402L) 4 credits
Critical Thinking in Environmental Science (EVS 4021) 3 credits	Ornithology & Lab (ZOO 4472 & 4472L) 2 credits
Artificial Intelligence Applications in Biology (IDS 4139) 3 credits	Principles of Human Neuroanatomy (ZOO 4742) 3 credits
General Microbiology & Lab (MCB 3020 & 3020L) 4 credits	

31 – 35 credits	Intellectual Foundations Program and Foreign Language
45 – 47 credits	Biology Core
12 credits	Biology Electives
<u>28 – 30 credits</u>	<u>Free Electives – (15 – 16 credits must be upper-division)</u>
<b>120 CREDITS</b>	<b>TOTAL (45 credits at upper division minimum)</b>

**B.S. DEGREE**

**Required Courses (Biology Core): 47 - 51 credits**

OR {	___ BSC 1019	Introduction to Biology at FAU	0 cr
	___ SLS 1411	First-Year Interest Group Experience	1 cr
OR {	___ SLS 1501	Honors Introduction to Academic Life	2 cr
	___ BSC 1011 & L	Biodiversity and Lab & Disc	4 cr – as indicated on first page.
	___ BSC 1010 & L	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
	___ 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
	___ 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 1105 per university catalog
	___ PSY 3234	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 3063	Genetics	4 cr.	PCB 4043	Principles of Ecology	3 cr.
PCB 3023	Cell Biology	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, 4503 L	Principles of Plant Physiology and Lab	4 cr.	ZOO 4690, 4690L	Vertebrate Structure Dev. & Evolution w/Lab	5 cr.
PCB 4723, 4723L	Comparative Animal Physiology and Lab	3 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**

OR {	Biochemistry I (BCH 3033) 3 credits	Artificial Intelligence Applications in Biology (IDS 4139) 3 credits
	Biochemistry II (BCH 3034) 3 credits	General Microbiology & Lab (MCB 3020 & 3020L) 4 credits
	Biochemistry Lab (BCH 3103L) 3 credits	Medical Bacteriology (MCB 4203) 3 credits
	Vascular Plant Anatomy & Lab (BOT 3223 & 3223L) 4 credits	Virology (MCB 4503) 3 credits
	Marine Botany & Lab (BOT 4404 & 4404L) 4 credits	Microbial Ecology (MCB 4603) 3 credits
	Principles of Plant Physiology & Lab (BOT 4503 4503L) 4 credits	Marine Biodiversity & Lab (OCB 4032 & 4032L) 4 credits
	Plant Biotechnology (BOT 4734C) 3 credits	Marine Biology & Lab (OCB 4043 & 4043L) 4 credits
	Life of a Biologist (BSC 2844) 1 credit	Marine Microbiology and Molecular Biology & Lab (OCB 4525 & 4525L) 4 credits
	Conservation Biology (BSC 3052) 3 credits	Marine Ecology & Lab (OCB 4633 & 4633L) 4 credits
	Introduction to Biological Research (BSC 3453) 1 credit (H)	Marine Science (OCE 4006) 4 credits
	Biological Research (BSC 3481) 2 credits (H)	Issues in Human Ecology (PCB3352) 3 credits
	Molecular Genetics of Aging (BSC 4022) 3 credits	Genetics Lab (PCB 4067L) 3 credits
	Climate Change Biology (BSC 4307) 3 credits	Immunology (PCB 4233) 3 credits
	Laboratory Methods in Biotechnology (BSC 4403L) 3 credits	Freshwater Ecology & Lab (PCB 4301 & 4301L) 3 credits
	Concepts in Bioinformatics (BSC 4434C) 3 credits	Molecular Genetics (PCB 4522) 3 credits
	Biology of Cancer (BSC 4806) 3 credits	Genes and Development (PCB 4594) 3 credits
	Directed Independent Study (BSC 4905) 1-3 credits	Cellular Neuroscience and Disease (PCB 4842) 3 credits
	Directed Independent Research (BSC 4910) 0-3 credits	Practical Cell Neuroscience (PCB 4843C) 3 credits
Honors Research (BSC 4917) 3 credits (H)	Invertebrate Zoology & Lab (ZOO 3205 & 3205L) 5 credits	
Honors Thesis (BSC 4918) 3 credits (H)	Introduction to Animal Locomotion (ZOO 4373) 3 credits	
Special Topics (BSC 4930) 1-3 credits	Functional Biology of Marine Animals & Lab (ZOO 4402 & 4402L) 4 credits	
Comparative Animal Behavior (CBH 4024) 3 credits	Ornithology & Lab (ZOO 4472 & 4472L) 2 credits	
Organic Chemistry II Lab (CHM 2211L) 2 credits	Principles of Human Neuroanatomy (ZOO 4742) 3 credits	
Critical Thinking in Environmental Science (EVS 4021) 3 credits		

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)
<b>120 CREDITS</b>		<b>TOTAL (45 credits at upper division minimum)</b>

## B.S. MEDICAL BIOLOGY DEGREE

**Required Courses (Biology Core):** 75 - 76 credits

	<input type="checkbox"/> BSC 1011 & L	Biodiversity and Lab & Disc	4 cr – <b>as indicated on first page.</b>
	<input type="checkbox"/> BSC 1010 & L	Biological Principles and Lab & Disc	4 cr
	<input type="checkbox"/> CHM 2045 & L	General Chemistry I and Lab	4 cr – <b>as indicated on first page - (Chemistry courses require a “C” or better)</b>
	<input type="checkbox"/> CHM 2046 & L	General Chemistry II and Lab	4 cr - <b>(Requires a “C” or better)</b>
	<input type="checkbox"/> CHM 2210 & D	Organic Chemistry I	3 cr - <b>(Requires a “C” or better)</b>
	<input type="checkbox"/> CHM 2211	Organic Chemistry II	3 cr - <b>(Requires a “C” or better)</b>
	<input type="checkbox"/> CHM 2211L	Organic Chemistry Lab	2 cr - <b>(Requires a “C” or better)</b>
<b>OR</b> {	<input type="checkbox"/> MAC 2241	Life Science Calculus	4 cr
	<input type="checkbox"/> MAC 2311	Calculus w/Analytic Geometry	4 cr
<b>OR</b> {	<input type="checkbox"/> PHY 2053	College Physics I	4 cr - <b>Prerequisite of a “C” in one of these courses: MAC 1114/1147/2233/2311</b>
	<input type="checkbox"/> PHY 2048L	General Physics I Lab	1 cr
	<input type="checkbox"/> PHY 2048	General Physics I	4 cr - <b>Prerequisite of a “C” in MAC 2311 per university catalog</b>
	<input type="checkbox"/> PHY 2048L	General Physics I Lab	1 cr
<b>OR</b> {	<input type="checkbox"/> PHY 2054	College Physics II	4 cr
	<input type="checkbox"/> PHY 2049L	General Physics II Lab	1 cr
	<input type="checkbox"/> PHY 2049	General Physics II	4 cr
	<input type="checkbox"/> PHY 2049L	General Physics II Lab	1 cr
<b>OR</b> {	<input type="checkbox"/> STA 3173	Introduction to Biostatistics	3 cr - <b>prerequisite: MAC 1105 per university catalog</b>
	<input type="checkbox"/> PSY 3234	Exp. Design & Stat. Inference	3 cr - <b>prerequisite: PSY 1012 per university catalog</b>
	<input type="checkbox"/> BCH 3033	Biochemistry 1	3 cr
	<input type="checkbox"/> MCB 3020 & L	General Microbiology and Lab	4 cr
	<input type="checkbox"/> PCB 3063	Genetics	4 cr.
	<input type="checkbox"/> PCB 3023	Cell Biology	3 cr
<b>OR</b> {	<input type="checkbox"/> PCB 3703, 3703L	Human Morphology and Function 1 and Lab	4 cr.
	<input type="checkbox"/> ZOO 4690, 4690L	Vertebrate Structure Dev. & Evolution w/Lab	5 cr.
<b>OR</b> {	<input type="checkbox"/> PCB 3704, 3704L	Human Morphology and Function 2 and Lab	4 cr.
	<input type="checkbox"/> PCB 4723, 4723L	Comparative Animal Physiology and Lab	4 cr.

### MEDICAL BIOLOGY ELECTIVES (SELECT 12 CREDITS)

Select a minimum of 12 UPPER DIVISION credits from the list below			
	Biochemistry 2 <b>or</b> Biochemistry Lab (BCH 3034 <b>or</b> BCH 3103L) 3 credits	Virology (MCB 4503) 3 credits	
	Molecular Genetics of Aging (BSC 4022) 3 credits	Evolution (PCB 3674) 3 credits	
	Laboratory Methods in Biotechnology (BSC 4403L) 3 credits	Principles of Ecology (PCB 4043) 3 credits	
	Biology of Cancer (BSC 4806) 3 credits	Genetics Lab (PCB 4067L) 3 credits	
	Directed Independent Research in Biological Sciences ***(BSC 4910) 0-3 credits	Immunology (PCB 4233) 3 credits	
	Special Topics (BSC 4930) 1 – 3 credits	Molecular Genetics (PCB 4522) 3 credits	
	Comparative Animal Behavior (CBH 4024) 3 credits	Genes and Development (PCB 4594) 3 credits	
	Introduction to Drug Design (CHM 4273) 3 credits	Cellular Neuroscience and Disease (PCB 4842) 3 credits	
	Structural Biochemistry (CHM 4350) 3 credits	Practical Cell Neuroscience (PCB 4843C) 0 - 3 credits	
	Directed Independent Study*** (CHM 4905) 1-4 credits	Directed Independent Study*** (PCB 4905) 1-3 credits	
	Senior Seminar (CHM 4930) 1 credit	Directed Independent Research*** (PCB 4915) 1-3 credits	
	Artificial Intelligence Applications in Biology (IDS 4139) 3 credits	Directed Independent Research*** (PCB 4916) 0-3 credits	
	Medical Bacteriology (MCB 4203) 3 credits	Special Topics (PCB 4930) 1-8 credits	

\*\*\* Maximum of 3 credits in DIS/DIR/RES within a given semester. No more than a total of 5 non-graded (S/U) credits may be used to fulfill biology degree program requirements.

31 – 35	credits	Intellectual Foundations Program and Foreign Language
63 – 64	credits	Medical Biology Core
12	credits	Medical Biology Electives
9 – 14	credits	Free Electives – (7-8 credits must be upper-division)
<b>120 CREDITS</b>		<b>TOTAL (45 credits at upper division minimum)</b>