

BIOLOGY WITH A CONCENTRATION IN RADIOBIOLOGY

ADVISEMENT SHEET 2015

120 credits

***All students must see their advisers each semester to make sure they are on track.**

REQUIRED GENERAL EDUCATIONS CORE (33 CREDITS)

ORIENTATION TO UNIVERSITY LIFE AND THE DISCIPLINES – 3 CREDITS

FMU 101 – University 101

NSC 102 – Critical Thinking in HNS

COMMUNICATION SKILLS – 6 CREDITS (COM AND ENG)

COM 103 - Public Speaking (3)

ENG 102 - College Writing II (3) or higher.

MATH ANALYTICAL SKILLS, COMPUTATION AND TECHNOLOGY – 6 CREDITS

*For science majors it is the first mat class needed as a science major, Mat 111 or higher depending on what level math the student tested in and the science major.

WORLD LANGUAGES – 3 CREDITS

202 or higher

SOCIETY AND GLOBAL INQUIRY – 6 CREDITS

100 level or higher, 3 credits must come from Humanities/Visual arts

200 level or higher, 3 credits must come from Social/behavioral sciences, does not include African American History I or II.

Choices - ARH101 or 104, MUS 200, 209, 210, 221, THE 181 and 182, DAN 181 and 182, DAN 200, COM 205, 210, 294, ENG Literature classes (ENG201, 202, 212,295, & 297, CRJ 200, PHI 200, PSY 200 or higher, POL 200, GEO 302, 303, or 304, ENV 304, ECO 201 or 202, HIS 101 or 102, or HIS 200 or higher

RELIGION AND PHILISOPHICAL INQUIRY – 3 CREDITS

REL101 or higher depending on science major

AFRICAN DIASPORA AND THE WORLD – 3 CREDITS

HIS 103 or 104,

200 or higher Social Sciences, cannot use a class that was used for Society and Global Inquiry, see advisor

200 or higher Visual and Performing art, cannot use a class that was used for Society and Global Inquiry

SCIENTIFICA INQUIRY – 3 CREDITS

*FOR SCIENCE MAJORS IT IS THE FIRST OFFICIAL SCIENCE CLASS TAKEN (EXAMPLE – BIOLOGY 130 PRINCIPLES OF BIOLOGY FOR BIOLOGY MAJORS)

ELECTIVE GENERAL EDUCATIONS CORE (9 CREDITS)

1. THERE ARE 9 CREDITS OF GENERAL EDUCATION CLASSES THAT CAN BE TAKEN THAT ARE OUTSIDE OF THE BASIC CORE REQUIREMENTS
2. SEE FACULTY SCIENCE ADVISOR FOR POSSIBLE CHOICES, These can include prerequisites for certain classes. For example if student tests into ENG101 College Writing I it can be used here.

MAJOR REQUIREMENTS (BREAKDOWN) FOR CONCENTRATION IN RADIOBIOLOGY

COGNATES (32 CREDITS)

- 1) MATH - 6 CREDITS
- 2) CHEMISTRY - 18 CREDITS
- 3) PHYSICS - 8 CREDITS

BIOLOGY REQUIREMENTS (20 CREDITS)

SEE ADVISOR FOR BREAKDOWN OF CLASSES

INCLUDES CAPSTONE CLASSES

CONCENTRATION SPECIFIC REQUIREMENTS (15 CREDITS)

SEE ADVISOR FOR BREAKDOWN OF CLASSES

ELECTIVE SCIENCE CLASSES (11 CREDITS)

SEE ADVISOR FOR BREAKDOWN OF CLASSES

ALL BIOLOGY MAJORS (INCLUDES RADIOBIOLOGY & BIOLOGY/PRE-NURSING)

8 FROM BIO 100 LEVEL-All of these courses have a MAT 111 or higher pre-requisite and NSC 102 must be completed and passed with a C or higher.

If student tests into a higher class than MAT 111, students can start a science class with that higher level math.

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|--------|----------------------------------|---------------|----------------------|-----------------|
| BIO130 | Principles of Biology I Lecture | 3 | GEN CORE | REQUIRED |
| BIO131 | Principles of Biology I Lab | 1 | BIO CORE | REQUIRED |
| BIO132 | Principles of Biology II Lecture | 3 | BIO CORE | REQUIRED |
| BIO133 | Principles of Biology II Lab | 1 | BIO CORE | REQUIRED |

18 FROM Chemistry (CHE) – THESE CLASSES COUNT TOWARDS THE COGNATES

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|---------------|------------------------------|---------------|----------------------|-----------------|
| CHE110 | General Chemistry I Lecture | 4 | COGNATES | REQUIRED |
| CHE111 | General Chemistry I Lab | 1 | COGNATES | REQUIRED |
| CHE112 | General Chemistry II Lecture | 4 | COGNATES | REQUIRED |
| CHE113 | General Chemistry II Lab | 1 | COGNATES | REQUIRED |
| CHE210 | Organic Chemistry I Lecture | 3 | COGNATES | REQUIRED |
| CHE211 | Organic Chemistry I Lab | 1 | COGNATES | REQUIRED |
| CHE212 | Organic Chemistry II Lecture | 3 | COGNATES | REQUIRED |
| CHE213 | Organic Chemistry II Lab | 1 | COGNATES | REQUIRED |

8 FROM Physics (PHY) – THESE CLASSES COUNT TOWARDS THE COGNATES

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|--------|--------------------------------|---------------|----------------------|-----------------|
| PHY200 | College Physics I Lecture/Lab | 3 | COGNATES | REQUIRED |
| PHY201 | College Physics I Lecture/Lab | 1 | COGNATES | REQUIRED |
| PHY202 | College Physics II Lecture/Lab | 3 | COGNATES | REQUIRED |
| PHY203 | College Physics II Lecture/Lab | 1 | COGNATES | REQUIRED |

**9 FROM MAT - THESE CLASSES COUNT TOWARDS THE GEN CORE (3) AND COGNATES (6) -
CONCENTRATION IN RADIOBIOLOGY**

These are dependent on what math students test into. For example if student tests into Cal I, then Cal I is used as the gen core and student must take MAT 202 and MAT 205

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|--------|----------------------------|--------|---------------|-----------------|
| MAT113 | Trigonometry | 3 | | GEN ED ELECTIVE |
| MAT201 | Calculus I | 3 | | COGNATE ELEC |
| MAT202 | Calculus II | 3 | | COGNATE ELEC |
| MAT205 | Probability and Statistics | 3 | | REQUIRED |
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8 FROM the Following Radiochemistry classes

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|------------|-------------------------------------|--------|---------------|-----------------|
| CHE101 | Concepts of Nuclear Science | 1 | CONCEN CORE | REQUIRED |
| CHE230/231 | Intro to Radiochemistry I | 3/1 | CONCEN CORE | REQUIRED |
| CHE480 | Special Topics in Nuclear Chemistry | 3 | CONCEN CORE | REQUIRED |

7 FROM BIO 200 LEVEL-Must have ALL BIO 100 LEVEL courses completed with a C or above, 3 must come from BIO211, the other 4 must come from a lab and lecture combination.

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|------------|---------------------------------|--------|---------------|-----------------|
| BIO211 | Radiation Biology | 3 | | REQUIRED |
| BIO204/205 | General Zoology Lecture/Lab | 3/1 | | ELECTIVE |
| BIO206/207 | General Botany Lecture/Lab | 3/1 | | ELECTIVE |
| BIO212/213 | Human Anatomy Lecture/Lab | 3/1 | | ELECTIVE |
| BIO220/221 | Comparative Anatomy Lecture/Lab | 3/1 | | ELECTIVE |

12 FROM the following choices - **BIO310/311 (all biology majors)** + 8 from another lecture lab combination (**4 from BIO, CHE, & ENV** and 4 from **BIO/CHE that are specifically radiobiology/radiochemistry classes**).

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|-------------------|---|--------|---------------|---|
| BIO310/311 | Genetics Lecture/Lab | 3/1 | | REQUIRED |
| BIO300/301 | Human Physiology Lecture/Lab | 3/1 | | ELECTIVE |
| BIO302/303 | Plant Physiology Lecture/Lab | 3/1 | | ELECTIVE |
| BIO304/305 | Embryology Lecture/Lab | 3/1 | | ELECTIVE |
| BIO320/321 | General Ecology Lecture/Lab | 3/1 | | ELECTIVE |
| BIO330/331 | Parasitology Lecture/Lab | 3/1 | | ELECTIVE |
| BIO306 | Radiopharmacology | 3 | | ELECTIVE (Radiobiology/Radiochemistry) |
| BIO326 | Res. Tech. in Rad. Bio and Radiopharm. | 1 | | ELECTIVE (Radiobiology/Radiochemistry) |
| CHE 250* | Radioactive Waste Management | 3 | | ELECTIVE (Radiobiology/Radiochemistry) |
| CHE340/341 | Survey of Physical Chemistry Lecture/Lab | 3/1 | | ELECTIVE |
| CHE380/381 | Immunochemistry Lecture/Lab | 3/1 | | ELECTIVE |
| CHE350/351 | Principles of Radiation Health Lecture/Lab | 3/1 | | ELECTIVE (Radiobiology/Radiochemistry) |
| CHE360/361 | Physical Chemistry I Lecture/Lab | 3/1 | | ELECTIVE |
| CHE362/CHE363 | Physical Chemistry II Lecture and Lab | 3/1 | | ELECTIVE |
| CHE370/CHE371 | Advanced Radiochemistry/Nuclear Chemistry Lecture/Lab | 3/1 | | ELECTIVE (Radiobiology/Radiochemistry) |
| ENV301/ENV302 | Wetland Ecology Lecture/Lab | 3/1 | | ELECTIVE |
| ENV331/ENV332 | Urban Ecology Lecture/Lab | 3/1 | | ELECTIVE |

* CHE 250 Radioactive waste management can be used as a substitution in this section, however it is only a 3 credit class and students are still required to make up that missing 1 credit from another class in this group of classes.

8 FROM BIO 400 LEVEL – BIO420/421 is required for all biology majors including radiobiology and Biology/Pre-Nursing students. 4 more credits come from the other possible choices.

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|------------|---|---------------|----------------------|-----------------|
| BIO400 | Evolution* | 3 | | ELECTIVE |
| BIO410/411 | Microbiology Lecture/Lab | 3/1 | | ELECTIVE |
| BIO420/421 | Cell Biology Lecture/Lab | 3/1 | | REQUIRED |
| BIO430/431 | Immunology Lecture/Lab | 3/1 | | ELECTIVE |
| CHE410/411 | Instrumental Analysis Lecture/Lab | 3/1 | | ELECTIVE |
| CHE430/431 | Biochemistry Lecture/Lab | 3/1 | | ELECTIVE |
| CHE460/461 | Advanced Inorganic Chemistry Lecture/Lab | 3/1 | | ELECTIVE |
| ENV401/402 | Ecology of South Florida Lecture/Lab | 3/1 | | ELECTIVE |

BIO400 does not have a lab, the student has to make up the missing credit by taking another science class (discuss with advisor)

3 FROM SENIOR PROJECT

| | DESCRIPTION | CREDIT | COUNTS TOWARD | |
|--------|-----------------------|---------------|----------------------|-----------------|
| NSC452 | Senior Project Part 1 | 2 | | REQUIRED |
| NSC453 | Senior Project Part 2 | 1 | | REQUIRED |