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## BACHELOR OF ARTS <br> BIOLOGY

|  |
| :--- |
| $\square \bullet$ Basic College Math |
| $\square \bullet$ Reading Comprehension |

*General Education Categories (34-35 credits total)

| $\star$ FYS | First Year Seminar |  |  | 3 |  |
| :--- | :--- | :--- | :--- | :---: | :---: |
| $\star$ W-I | Written Communication - Level I |  |  | 3 |  |
| ${\hline \multirow{8}{}}{ } }$ | Oral Communication |  |  | 3 |  |
| PGR | Personal Growth \& Responsibility |  |  | 3 |  |
| CEA | Creative Expression \& Appreciation |  |  | 3 |  |
| WC | World Cultures |  |  | 3 |  |
| HP | The Human Past |  |  | 3 |  |
| CS | Contemporary Society |  |  | 3 |  |
| SR | Scientific <br> Reasoning: \# Any SR course |  |  | $3-4$ |  |
|  | \# SR Lab course |  |  | 4 |  |
| QR | Quantitative Reasoning |  |  | 3 |  |

$\ddagger$ Written Communication (Level II and Level III)

| W-II | Written Communication - Level II |  |  | $\square$ |
| :---: | :--- | :--- | :--- | :---: |
| W-III | Written Communication - Level III |  |  | $\square$ |

Foreign Language ( 0-12 Credits total)


- IT Free Electives/Minor (12 credits minimum)
May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or



## COURSES IN MAJOR (38-41 credits total) <br> Required ( $35-37$ credits)

Required Minor: Chemistry ( 16 credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :---: | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

$\checkmark$ Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year

* Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline
$\ddagger \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
$\dagger$ At least two of the following must have a lab: the Plant or Animal elective, the Structure/Function elective or Ecology/Evolution elective, or the BIO elective.
Electives within the major are to be chosen from 300 to 400 level courses, exclusive of BIO 304, 324, and 328. A maximum 4 credits from BIO 407,416 ,
TI 418,420 , or 422 may be used to fulfill one BIO Elective; additional credits will count as Free Electives. Secondary Education minors must select BIO320, and one course in Geological Sciences.
B.A. Biology majors are strongly urged to elect a Computer Science course and one year of Physics. $\bullet$ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS $\quad \bullet$ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS

Exceptions in the timing of courses will be made for transfer students
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## BACHELOR OF SCIENCE BIOLOGY

GENERAL EDUCATION REQUIREMENTS

## Competencies

$\square$ - Basic College Math
$\square$ •Reading Comprehension
*General Education Categories (34-35 credits total)

| *YS | First Year Seminar |  |  |  | 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -W-I | Written Communication - Level I |  |  |  | 3 |  |
| - OC | Oral Communication |  |  |  | 3 |  |
| PGR | Personal Growth \& Responsibility |  |  |  | 3 |  |
| CEA | Creative Expression \& Appreciation |  |  |  | 3 |  |
| WC | World Cultures |  |  |  | 3 |  |
| HP | The Human Past |  |  |  | 3 |  |
| CS | Contemporary Society |  |  |  | 3 |  |
| SR | Scientific Reasoning: | \# Any SR course |  |  | 3-4 |  |
|  |  | \# SR Lab course |  |  | 4 |  |
| QR | Quantitative Reasoning |  |  |  | 3 |  |
| $\ddagger$ Written Communication (Level II and Level III) |  |  |  |  |  |  |
| W-II | Written Communication - Level II |  |  |  |  | $\square$ |
| W-III | Written Communication - Level III |  |  |  |  | $\square$ |

Free Electives (8 credit minimum total)
May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or minor selection.

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COURSES IN MAJOR (45-49 credits total)
Required (42-45 credits)

| BIO | 131 | Introduction to Organisms | 4 |  |
| :--- | :---: | :--- | :---: | :---: |
| BIO | 132 | Introduction to Cells | 4 |  |
| BIO | 208 | Environmental Problems | 3 |  |
| BIO | 212 | Cell Biology | 4 |  |
| BIO | 220 | Evolutionary Morphology | 3 |  |
| BIO | 402 | Genetics | 4 |  |
| BIO | 415 | Biology Seminar | 3 |  |
| BIO | 406 <br> or <br> 409 | Microbiology Biochemistry | 4 |  |
| $\dagger$ BIO |  | Plant Biology Elective | 4 |  |
| $\dagger$ BIO |  | Animal Biology Elective | $3-4$ |  |
| $\dagger$ BIO |  | Structure/Function Elective | $3-4$ |  |
| $\dagger$ BIO |  | Ecology/Evolution Elective | $3-4$ |  |

Electives (3-4 credits)

| II BIO | Biology elective | $3-4$ |  |
| :--- | :--- | :--- | :--- | :--- |

- Required Support Courses (11-12 credits total)

| MAT | 110 <br> or <br> 220 | Pre-calculus | Calculus I | $3-4$ |
| :---: | :---: | :--- | :---: | :---: |
| 211 A <br> or <br> 221 | College Physics I |  |  |  |
|  | 4 |  |  |  |
| $\diamond$ PHS | 212 A <br> or <br> 222 | College Physics II <br> General Physics II | 4 |  |

Required Minor: Chemistry (16 credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

- Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year

* Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.
$\ddagger \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
Electives within the major are to be chosen from 300 to 400 level courses, exclusive of BIO 304, 324 and 328 . A maximum 4 credits from $\mathrm{BIO} 407,408 \mathrm{~N}$,
II $416,418,420$ or 422 may be used to fulfill one Biology Elective; additional credits will count as Free Electives. Secondary Education minors must select BIO 320, and one course in Geological Sciences.
$\dagger$ Two of the three group electives MUST have a lab.
$\diamond \quad$ The sequence can be either PHS 211A and 212A, or PHS 221 and 222. $\bullet$ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS $\quad$ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS


## Name:

$\qquad$
Student ID: $\qquad$

## BACHELOR OF SCIENCE <br> BIOLOGY <br> AQUACULTURE CONCENTRATION

| GENERAL EDUCATION REQUIREMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Competencies |  |  |  |  |  |
| $\square$ - Basic College Math |  |  |  |  |  |
| $\square \cdot$ Reading Comprehension |  |  |  |  |  |
| *General Education Categories (34-35 credits total) |  |  |  |  |  |
| *FYS | First Year S | inar |  | 3 |  |
| -W-I | Written Com | unication - Level I |  | 3 |  |
| $\bullet$ OC | Oral Comm | cation |  | 3 |  |
| PGR | Personal Gr | th \& Responsibility |  | 3 |  |
| CEA | Creative Exp | ssion \& Appreciation |  | 3 |  |
| WC | World Cultu |  |  | 3 |  |
| HP | The Human |  |  | 3 |  |
| CS | Contempora | Society |  | 3 |  |
| SR | Scientific | \# Any SR course |  | 3-4 |  |
| SR | Reasoning: | \# SR Lab course |  | 4 |  |
| QR | Quantitative | easoning |  | 3 |  |
| $\ddagger$ Written Communication (Level II and Level III) |  |  |  |  |  |
| W-II | Written Com | unication - Level II |  | $\square$ | $\square$ |
| W-III | Written Com | unication - Level III |  | $\square$ | $\square$ |

Free Electives ( 9 credits minimum total)
May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or


COURSES IN MAJOR (48 credits total)
Required (48 credits)

| BIO | 131 | Introduction to Organisms | 4 |  |
| :---: | :---: | :---: | :---: | :---: |
| BIO | 132 | Introduction to Cells | 4 |  |
| BIO | 208 | Environmental Problems | 3 |  |
| BIO | 212 | Cell Biology | 4 |  |
| BIO | 220 | Evolutionary Morphology | 3 |  |
| BIO | 310 | Invertebrate Zoology | 4 |  |
| BIO | $\begin{gathered} 320 \\ \text { or } \\ 322 \end{gathered}$ | General Ecology <br> Biological Oceanography | 4 |  |
| BIO | 323 | Fish Biology | 4 |  |
| BIO | 326 | Marine Botany | 4 |  |
| BIO | 345 | Introduction to Aquaculture | 4 |  |
| BIO | 402 | Genetics | 4 |  |
| BIO | 403 | Advanced Aquaculture | 3 |  |
| BIO | 415 | Biology Seminar | 3 |  |

$\checkmark$ Required Support Courses (11-12 credits total)

| MAT | 110 <br> or <br> 220 | Precalculus <br> Calculus I | $3-4$ |  |
| :---: | :---: | :--- | :---: | :---: |
| PHS | 211 A <br> or <br> 221 | College Physics I <br> General Physics I | 4 |  |
| CHE | 321 | Quantitative Analysis | 4 |  |

Required Minor: Chemistry (16 credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

- Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year

* Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.
$\ddagger \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
Electives within the major are to be chosen from 300 to 400 level courses, exclusive of BIO 304, 324 and 328. A maximum 4 credits from $\mathrm{BIO} 407,408 \mathrm{~N}$,
- $416,418,420$ or 422 may be used to fulfill one Biology Elective; additional credits will count as Free Electives. Secondary Education minors must select BIO 320, and one course in Geological Science.
$\qquad$
Date Admitted Into Major:


## BACHELOR OF SCIENCE BIOLOGY

## BIOMEDICAL SCIENCES CONCENTRATION

| GENERAL EDUCATION REQUIREMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Competencies |  |  |  |  |  |
| $\square$ - Basic College Math |  |  |  |  |  |
| $\square$, Reading Comprehension |  |  |  |  |  |
| *General Education Categories (34-35 credits total) |  |  |  |  |  |
| *FS | First Year S | inar |  | 3 |  |
| -W-I | Written Com | unication - Level I |  | 3 |  |
| -OC | Oral Commu | cation |  | 3 |  |
| PGR | Personal Gro | th \& Responsibility |  | 3 |  |
| CEA | Creative Exp | ssion \& Appreciation |  | 3 |  |
| WC | World Cultur |  |  | 3 |  |
| HP | The Human |  |  | 3 |  |
| CS | Contempora | Society |  | 3 |  |
| SR | Scientific | \# Any SR course |  | 3-4 |  |
| SR | Reasoning: | \# SR Lab course |  | 4 |  |
| QR | Quantitative | easoning |  | 3 |  |
| $\ddagger$ Written Communication (Level II and Level III) |  |  |  |  |  |
| W-II | Written Com | unication - Level II |  | $\square$ | $\square$ |
| W-III | Written Com | unication - Level III |  | $\square$ | $\square$ |

Free Electives (8 credit minimum total)
May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or


COURSES IN MAJOR (47-49 credits total)
Required ( $\mathbf{3 7}$ credits)

| BIO | 131 | Introduction to Organisms | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| BIO | 132 | Introduction to Cells | 4 |  |
| BIO | 200 | Anatomy and Physiology I | 4 |  |
| BIO | 201 | Anatomy and Physiology II | 4 |  |
| BIO | 208 | Environmental Problems | 3 |  |
| BIO | 210 | Basic Nutrition | 3 |  |
| BIO | 212 | Cell Biology | 4 |  |
| BIO | 402 | Genetics | 4 |  |
| BIO | 406 <br> or <br> 409 | Microbiology Biochemistry | 4 |  |
| BIO | 415 | Biology Seminar | 3 |  |

$\infty$ Electives ( $\mathbf{1 0 - 1 2}$ credits)

| I BIO |  | Biology elective | 4 |  |
| :--- | :--- | :--- | :---: | :---: |
| п BIO |  | Biology elective | $3-4$ |  |
| П BIO |  | Biology elective | $3-4$ |  |

- Required Support Courses (11-12 credits total)

| MAT | 110 <br> or <br> 220 | Pre-calculus <br> Calculus I | $3-4$ |  |
| :---: | :---: | :--- | :---: | :---: |
| 2 semester Physics sequence |  |  |  |  |
| $\Delta$ PHS | 211 A <br> or <br> 221 | College Physics I <br> General Physics I | 4 |  |
| $\Delta$ PHS | 212 A <br> or <br> 222 | College Physics II <br> General Physics II | 4 |  |

Required Minor: Chemistry ( $\mathbf{1 6}$ credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

$\checkmark$ Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year

* Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.
$\ddagger \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
II Two electives must be chosen from the following courses: BIO 311, 312, 313, 316, 340, 400, 406, 407, 408, 409, 411, 412, and 416. At least one of these
I must be a 400 level course, one elective is to be a general elective (any 300-400 course not otherwise restricted)
$\dagger$ This elective within the major is to be chosen from 300 to 400 level courses, exclusive of BIO 304, 324, and 328.
$\infty \quad$ A maximum of 4 credits from BIO 407, 408, 416, 418, or 422 may be used to fulfill one Biology elective; additional credits will count as Free Electives.
$\diamond$ The sequence can be either PHS 211A and 212A or PHS 221 and 222. - COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS $\quad \bullet$ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS


# BACHELOR OF SCIENCE BIOLOGY <br> BIOTECHNOLOGY CONCENTRATION 


$\downarrow$ Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline
$\pm \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
This elective must be chosen from the following courses: BIO 311, BIO 312, 314, 316, 400, 407, 408, 412, and 416. A maximum of 4 credits from BIO 407 ,
$\dagger \quad 408,416,418,420$, or 422 may be used to fulfill one Biology elective; additional credits will count as Free Electives.
For the Advanced Laboratory Elective, students may choose from BIO 416, 312N, CHE 340, CHE 420. Students are strongly encouraged to complete a
II Biology internship (BIO 416). Internship placements are not made by the University. Interested students should speak with their academic advisor and Career Services for coaching in the internship search process, starting in fall of the sophomore year. Note: some internship programs have a minimum GPA requirement.
$\diamond \quad$ The sequence can be either PHS 211A and 212A, or PHS 221 and 222.

## Name:

Student ID:
Date Admitted Into Major:

## BACHELOR OF SCIENCE BIOLOGY

## ENVIRONMENTAL BIOLOGY CONCENTRATION

## GENERAL EDUCATION REQUIREMENTS

Competencies

*General Education Categories (34-35 credits total)

| $\star$ FYS | First Year Seminar |  |  | 3 |  |
| :--- | :--- | :--- | :--- | :---: | :---: |
| $\star$ W-I | Written Communication - Level I |  |  | 3 |  |
| $\star$ OC | Oral Communication |  |  | 3 |  |
| PGR | Personal Growth \& Responsibility |  |  | 3 |  |
| CEA | Creative Expression \& Appreciation |  |  | 3 |  |
| WC | World Cultures |  |  | 3 |  |
| HP | The Human Past |  |  | 3 |  |
| CS | Contemporary Society |  |  | 3 |  |
| SR | Scientific <br> Reasoning: | \# Any SR course |  |  | $3-4$ |
|  | \# SR Lab course |  |  | 4 |  |
| QR | Quantitative Reasoning |  |  | 3 |  |

$\ddagger$ Written Communication (Level II and Level III)

| W-II | Written Communication - Level II |  |  | $\square$ |
| :---: | :--- | :--- | :---: | :---: |
| W-III | Written Communication - Level III |  |  | $\square$ |

Free Electives ( 0 credits minimum total)
May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or


COURSES IN MAJOR 43-45 credits total)
Required (40-41 credits)

| BIO | 131 | Introduction to Organisms | 4 |  |
| :---: | :---: | :---: | :---: | :---: |
| BIO | 132 | Introduction to Cells | 4 |  |
| BIO | 208 | Environmental Problems | 3 |  |
| BIO | 212 | Cell Biology | 4 |  |
| BIO | 220 | Evolutionary Morphology | 3 |  |
| BIO |  | Plant Biology Elective | 4 |  |
| BIO |  | Animal Biology Elective | 3-4 |  |
| BIO | 320 | General Ecology | 4 |  |
| BIO | 406 | Microbiology or | 4 |  |
| BIO | 409 | Biochemistry |  |  |
| BIO | 402 | Genetics | 4 |  |
| BIO | 415 | Biology Seminar | 3 |  |

Electives (3-4 credits)

| +BIO | Biology elective | $3-4$ |  |
| :--- | :--- | :--- | :--- |

$\dagger$ Required Support Courses (13-15 credits total)

| MAT | 110 <br> or <br> 220 | Pre-calculus <br> Calculus I | $3-4$ |  |
| :---: | :---: | :--- | :---: | :---: |
| PHS | 211 A <br> or <br> 221 | College Physics I <br> General Physics I | 4 |  |
|  |  | Elective (GROUP A) | $3-4$ |  |
|  |  | Elective (GROUP B) | 3 |  |

Required Minor: Chemistry (16 credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

- Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year * Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.
$\ddagger$
Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.

The Biology Elective must be chosen from 300 to 400 level courses, exclusive of BIO 304, 324 and 328 . A maximum of 4 credits from BIO 407, 408, 416,

+ 418, 420, or 422 may be used to fulfill one Biology Elective; additional credits will count as Free Electives.
Electives within the major are to be chosen from the following (One course from Group A and a second course from either Group A or Group B):
Group A - GLS210, GLS212, GLS221, GLS330, GLS334, GLS342, GLS362, GPH222, GPH245, GPH264, GPH282P, GPH285P, GPH301, GPH314,
GPH371, GPH376P, GPH383P
Group B - ECO319, IDS220, IDS325, PHL224, PHL314, POL304, POL319.
- COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS
- GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS

Name:
Student ID:
Date Admitted Into Major:

## BACHELOR OF SCIENCE BIOLOGY

† MEDICAL TECHNOLOGY CONCENTRATION

## GENERAL EDUCATION REQUIREMENTS

Competencies
$\square$ - Basic College Math
$\square$ • Reading Comprehension
*General Education Categories (34-35 credits total)

| *FYS | First Year Seminar |  |  |  | 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *W-I | Written Communication - Level I |  |  |  | 3 |  |
| -OC | Oral Communication |  |  |  | 3 |  |
| PGR | Personal Growth \& Responsibility |  |  |  | 3 |  |
| CEA | Creative Expression \& Appreciation |  |  |  | 3 |  |
| WC | World Cultures |  |  |  | 3 |  |
| HP | The Human Past |  |  |  | 3 |  |
| CS | Contemporary Society |  |  |  | 3 |  |
| SR | Scientific Reasoning: | \# Any SR course |  |  | 3-4 |  |
|  |  | \# SR Lab course |  |  | 4 |  |
| QR | Quantitative Reasoning |  |  |  | 3 |  |

$\ddagger$ Written Communication (Level II and Level III)

| W-II | Written Communication - Level II |  |  | $\square$ |
| :---: | :--- | :--- | :--- | :--- |
| W-III | Written Communication - Level III |  |  | $\square$ |

## Free Electives (3 credits minimum total)

May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or minor selection.

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|  |  |  |  |  |

COURSES IN MAJOR (49-50 credits total)
Required (46 credits)

| BIO | 131 | Introduction to Organisms | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| BIO | 132 | Introduction to Cells | 4 |  |
| BIO | 200 | Anatomy and Physiology I | 4 |  |
| BIO | 201 | Anatomy and Physiology II | 4 |  |
| BIO | 208 | Environmental Problems | 3 |  |
| BIO | 212 | Cell Biology | 4 |  |
| BIO | 411 | Immunology |  |  |
| BIO | 313 | OR | Molecular Biology |  |
| BIO | 316 | OR | Parasitology | 4 |
| BIO | 402 | Genetics |  |  |
| BIO | 406 | Microbiology | 4 |  |
| BIO | 409 | Biological Chemistry | 4 |  |
| BIO | 415 | Biology Seminar | 3 |  |

## IT Elective (3-4 credits)

| II Elective (3-4 credits) |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| BIO | Biology elective | $3-4$ |  |  |

$\checkmark$ Required Support Courses (15-16 credits total)

| MAT | 110 <br> or <br> 220 | Pre-calculus <br> or <br> Calculus I | $3-4$ |  |
| :---: | :---: | :--- | :---: | :---: |
| $\diamond$ PHS | 211 A <br> or <br> 221 | College Physics I <br> or <br> General Physics I | 4 |  |
| $\diamond$ PHS | 212 A <br> or <br> 222 | College Physics II <br> or <br> General Physics II | 4 |  |
| CHE | 420 | Instrumental Analysis | 4 |  |

Required minor Chemistry (16 credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

『 Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year

* Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.
$\ddagger \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
It is strongly recommended that students seek medical laboratory experience through entry-level work or an internship in the sophomore or junior year.
$\dagger \quad$ Internship placements are not made by the university. Interested students should speak to their Academic Advisor and Career Services for coaching. Note: some external internships require a GPA minimum for applicants.
Electives within the major are to be chosen from 300 to 400 level courses, exclusive of BIO 304, 324, and 328. A maximum 4 credits from BIO 407,408
II $416,418,420$, or 422 may be used to fulfill one Biology elective; additional credits will count as Free Electives. Secondary Education minors must elect BIO 320, and one course in Geological Science.
$\diamond$ The sequence can be either PHS 211A and 212A, or PHS 221 and 222.
- COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS $\quad \bullet$ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS
$\qquad$
Date Admitted Into Major:


## BACHELOR OF SCIENCE BIOLOGY <br> MARINE BIOLOGY CONCENTRATION

| GENERAL EDUCATION REQUIREMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Competencies |  |  |  |  |  |
| $\square$. Basic College Math |  |  |  |  |  |
| $\square$ Reading Comprehension |  |  |  |  |  |
| *General Education Categories (34-35 credits total) |  |  |  |  |  |
| *YS | First Year Se | inar |  | 3 |  |
| -W-I | Written Com | unication - Level I |  | 3 |  |
| -OC | Oral Commu | cation |  | 3 |  |
| PGR | Personal Grow | th \& Responsibility |  | 3 |  |
| CEA | Creative Exp | ssion \& Appreciation |  | 3 |  |
| WC | World Cultur |  |  | 3 |  |
| HP | The Human |  |  | 3 |  |
| CS | Contempora | Society |  | 3 |  |
| SR | Scientific Reasoning: | \# Any SR course |  | 3-4 |  |
|  |  | \# SR Lab course |  | 4 |  |
| QR | Quantitative Reasoning |  |  | 3 |  |
| $\ddagger$ Written Communication (Level II and Level III) |  |  |  |  |  |
| W-II | Written Communication - Level II |  |  | $\square$ | $\square$ |
| W-III | Written Communication - Level III |  |  | $\square$ | $\square$ |

Free Electives (8 credit minimum total)
May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or


COURSES IN MAJOR (47-49 credits total)
Required (44-45 credits)

| BIO | 131 | Introduction to Organisms | 4 |  |
| :---: | :---: | :--- | :---: | :---: |
| BIO | 132 | Introduction to Cells | 4 |  |
| BIO | 208 | Environmental Problems | 3 |  |
| BIO | 212 | Cell Biology | 4 |  |
| BIO | 220 | Evolutionary Morphology | 3 |  |
| BIO | 310 | Invertebrate Zoology | 4 |  |
| BIO | 322 | Biological Oceanography | 4 |  |
| BIO | 326 | Marine Botany | 4 |  |
| BIO | 323 <br> or <br> 341 | Fish Biology <br> Biology of Marine Mammals | $3-4$ |  |
| † BIO |  | Cell/Molecular or <br> Structure/Function elective | 4 |  |
| BIO | 402 | Genetics | 4 |  |
| BIO | 415 | Biology Seminar | 3 |  |

Electives (3-4 credits)

| ITBIO |  | Biology elective | $3-4$ |  |
| :--- | :--- | :--- | :--- | :--- |

$\nabla \vee$ Required Support Courses (11-12 credits total)

| MAT | 110 <br> or <br> 220 | Pre-calculus | Calculus I | $3-4$ |
| :---: | :---: | :--- | :---: | :---: |
| 211 A <br> or <br> 221 | College Physics I |  |  |  |
|  | 4 |  |  |  |
| PHS | 212 A <br> or <br> 222 | College Physics II <br> General Physics II | 4 |  |

Required Minor: Chemistry (16 credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

『 Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.
$\ddagger \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
Electives within the major are to be chosen from 300 to 400 level courses, exclusive of BIO 304, 324, and 328. A maximum 4 credits from BIO 407, 408 N ,
I $416,418,420$ or 422 may be used to fulfill one BIO Elective; additional credits will count as Free Electives. Secondary Education minors must select BIO 320, and one course in Geological Sciences.
$\dagger \quad$ The Cell/Molecular or Structure/Function elective must be chosen from 400-level courses AND have a laboratory.
$\checkmark \quad$ The sequence can be either PHS 211A and 212A, or Physics 221 and 222 $\bullet$ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS $\quad \bullet$ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS

Exceptions in the timing of courses will be made for transfer students
$\qquad$
$\qquad$
Date Admitted Into Major:

## BACHELOR OF SCIENCE <br> BIOLOGY

## NUCLEAR MEDICINE TECHNOLOGY CONCENTRATION

| GENERAL EDUCATION REQUIREMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Competencies |  |  |  |  |  |
| $\square$ - Basic College Math |  |  |  |  |  |
| $\square$ - Reading Comprehension |  |  |  |  |  |
| *General Education Categories (34-35 credits total) |  |  |  |  |  |
| *FYS | First Year S | inar |  | 3 |  |
| -W-I | Written Com | unication - Level I |  | 3 |  |
| -OC | Oral Commu | cation |  | 3 |  |
| PGR | Personal Gr | th \& Responsibility |  | 3 |  |
| CEA | Creative Exp | ssion \& Appreciation |  | 3 |  |
| WC | World Cultur |  |  | 3 |  |
| HP | The Human |  |  | 3 |  |
| CS | Contempora | Society |  | 3 |  |
| SR | Scientific | \# Any SR course |  | 3-4 |  |
| S | Reasoning: | \# SR Lab course |  | 4 |  |
| QR | Quantitative | easoning |  | 3 |  |
| \# Written Communication (Level II and Level III) |  |  |  |  |  |
| W-II | Written Com | unication - Level II |  | $\square$ | $\square$ |
| W-III | Written Com | unication - Level III |  | $\square$ | $\square$ |


| Free Electives (0 credits minimum total) |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: |
| May be necessary to take additional credits to attain the minimum 120 credits |  |  |  |  |
| required for graduation depending on choices made for general education or |  |  |  |  |
| minor selection. |  |  |  |  |$|$|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
|  |  |  |  |  |
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COURSES IN MAJOR (60) credits total)

| Required (60 credits) |  |  |  |  |
| :---: | :---: | :--- | :--- | :--- |
| BIO | 105 | Biological Systems | 4 |  |
| BIO | 200 | Anatomy \& Physiology 1 | 4 |  |
| BIO | 201 | 212 | Anatomy \& Physiology 2 | 4 |
| NMT | 200 | Introduction To NMT | 4 |  |
| BIO | 340 | General Pathology | 1 |  |
| BIO | 402 | Genetics | 3 |  |
| BIO | 409 | Biological Chemistry | 4 |  |
| BIO | 411 | Immunology | 4 |  |
| NMT | 401 A | NMT Practicum I | 4 |  |
| NMT | 402 | NMT Practicum II | 3 |  |
| NMT | 403 | NMT Practicum III | 4 |  |
| NMT | 405 | Nuclear Medicine Tech I | 4 |  |
| NMT | 411 | Nuclear Medicine Tech II | 4 |  |
| NMT | 415 | NMT Seminar | 4 |  |
| NMT | 420 | Nuclear Instrumentation | 1 |  |
| NMT | 435 | Advanced Imaging \& | 4 |  |

$\checkmark$ Required Support Courses (17-18 credits total)

| $\triangle$ PHS | 211 A | College Physics I | 4 |  |
| :---: | :---: | :--- | :---: | :---: |
| $\triangle$ PHS | 212 A | College Physics II | 4 |  |
| MAT | 110 <br> or <br> 220 | Pre-calculus <br> Calculus I | $3-4$ |  |
| PHS | 315 | Introduction To Radiation <br> Physics | 3 |  |
| PHL | 218 | Medical Ethics | 3 |  |

Required Minor: Chemistry (16 credits total)

| CHE | 130 | General Chemistry I | 4 |  |
| :--- | :--- | :--- | :--- | :--- |
| CHE | 131 | General Chemistry II | 4 |  |
| CHE | 212 | Organic Chemistry I | 4 |  |
| CHE | 213 | Organic Chemistry II | 4 |  |

- Students may choose to use support courses to satisfy general education categories, but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
\# These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.
$\ddagger \quad$ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may $\ddagger \quad$ apply. The credits are counted only in one area.

The sequence can be chosen from PHS211A and PHS212A, or PHS221 and PHS222. $\bullet$ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS $\quad \bullet$ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS

Exceptions in the timing of courses will be made for transfer students

