

# Department of Biology

Central Connecticut State University  
New Britain, Connecticut 06050

Name: \_\_\_\_\_

I.D. #: \_\_\_\_\_

Major: **B.S. in Biology (non-teaching)**  
Specialization: **Environmental Science**

Effective: Fall 2017

Advisor: \_\_\_\_\_

## General Education

### Study Area I -

**Arts and Humanities** (9 cr.)<sup>a</sup>

- LIT [L] \_\_\_\_\_ (3)
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )

### Study Area II -

**Social Sciences** (9 cr.)<sup>a</sup>

- HIST \_\_\_\_\_ (3)
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )

### Study Area III -

**Behavioral Sciences** (6 cr.)

- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )

### Study Area IV -

**Natural Sciences** (6-7 cr.)

- Related science<sup>f</sup> \_\_\_\_\_ (4)
- Related science<sup>f</sup> \_\_\_\_\_ (4)

### Skill Area I -

**Comm. Skills** (6 cr.)

- ENG 110 or 105<sup>b</sup> \_\_\_\_\_ (3)
- \_\_\_\_\_ ( )

### Skill Area II - Mathematics

 (6 cr.)

- MATH 124<sup>d</sup>; or 115 and 125<sup>d</sup>; or 152<sup>e</sup> \_\_\_\_\_ (4-6)
- \_\_\_\_\_ ( )

### Skill Area III - Foreign Language Proficiency

 (0-6 cr.)

\_\_\_\_\_ 3 sequential years of one foreign language at the high school level, or  
 \_\_\_\_\_ passing the foreign language exam, or  
 \_\_\_\_\_ completion of a 112 or 114 foreign language course, or  
 \_\_\_\_\_ completion of a foreign language course at a level higher than 112 or 114, or  
 \_\_\_\_\_ demonstration of native proficiency in a language other than English.

### Skill Area IV -

**University Req.** (2-3 cr.)

- \_\_\_\_\_ ( )

## Major (32 credits)

- BIO 121 \_\_\_\_\_ (4)
  - BIO 122 \_\_\_\_\_ (4)
  - BIO 200 \_\_\_\_\_ (4)
  - BIO 290 \_\_\_\_\_ (2)
  - BIO 390 or 391 \_\_\_\_\_ (1-6)
  - BIO 436 or 438 \_\_\_\_\_ (3-4)
  - BIO 315, 322, 326, 327, 420, 421, 425, or 444 \_\_\_\_\_ (3-4)
  - BIO 331, 410, 412 (413 is optional), or 449 \_\_\_\_\_ (3-4)
  - BIO 405 or 434 \_\_\_\_\_ (4)
- Other BIO electives to complete 32 credits.
- \_\_\_\_\_ ( )
  - \_\_\_\_\_ ( )

## Portfolio requirement

## Related Science Courses (38-41 credits)

- CHEM 161 & 162 \_\_\_\_\_ (4)
- CHEM 200 & 201 \_\_\_\_\_ (4)
- CHEM 210 & 211 \_\_\_\_\_ (4)
- CHEM 212 & 213, or (3-4)
- CHEM 456 \_\_\_\_\_
- CHEM 406 \_\_\_\_\_ (3)
- MATH 124<sup>d</sup>; or 115 and 125<sup>d</sup>; or 152<sup>e</sup> \_\_\_\_\_ (4-6)
- PHYS 121 or 125 \_\_\_\_\_ (4)
- PHYS 122 or 126 \_\_\_\_\_ (4)
- ESCI 121 or 450 \_\_\_\_\_ (3-4)

## Graduation Requirements

- Six credits designated "International" [I]

- First Year Experience requirement

- Free electives (and/or courses in the minor<sup>c</sup>) to complete the required 120 credits of study

- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )
- \_\_\_\_\_ ( )

- Minor<sup>c</sup>

**Residency requirements:** A minimum of 30 credits at CCSU with 15 credits in the major and 9 credits in the minor or concentration. Eligibility for high honors requires the student to earn 62 credits in residence at CCSU.

<sup>a</sup> No more than 6 cr. from any one discipline.

<sup>b</sup> Students not completing ENG 110 prior to earning 61 cr. are required to take both ENG 110 and ENG 202.

<sup>c</sup> **Note:** Students in the B.S. Biology, are not required to have a **Minor**, although it is an option. Consult with your advisor. A Minor in Chemistry, B.S., may be elected with a C- or better in related requirement courses.

<sup>d</sup> Prerequisites for PHY 121

<sup>e</sup> Prerequisite for PHYS 125

<sup>f</sup> Related science courses include CHEM 161/162 and PHYS 121, 122, 125, or 126.

CENTRAL CONNECTICUT STATE UNIVERSITY

Department of Biology

PLAN OF STUDY

**B.S. Biology (non-teaching): Specialization in Environmental Science**

REQUIREMENTS: The B.S. Biology (non-teaching): Specialization in Environmental Science requires a minimum of 32 credits in Biology including BIO 121, 122, 200, 290, 390<sup>a</sup> or 391<sup>a</sup>, and 436 or 438; one course from an Organismal Biology course group (i.e., BIO 315, 322, 326, 327, 420, 421, 425, or 444); one course from a Physiology course group (i.e., BIO 331, 410, 412, or 449); and one course from an Ecology course group (i.e., BIO 405 or 434). In addition, the student must take CHEM 161/162<sup>b</sup>, 200/201, 210/211, 406, and the option of either CHEM 456 or CHEM 212/213; MATH 124, or 115 and 125; or 152<sup>bc</sup>; PHYS 121<sup>c</sup> or 125 and 122 or 126; ESCI 121 or 450; and maintain a student portfolio<sup>d</sup>.

While there are numerous ways to complete this B.S. program within a four-year period, one possible four-year plan is shown below as a model. As early as possible, each student electing this major should work with an Environmental Science Specialization faculty advisor to arrange an individualized plan of study.

**SAMPLE PLAN OF STUDY**

FALL SEMESTER			SPRING SEMESTER		
Course #	Title	Credits	Course #	Title	Credits
FIRST YEAR					
<b>BIO 121</b>	General Biology I	4	<b>BIO 122</b>	General Biology II	4
<b>ENG 110</b>	Freshman Composition <sup>g</sup>	3	<b>MATH 124</b>	Applied Calculus with Trig. <sup>b,c</sup>	4
<b>PE 144</b>	Fitness/Wellness Ventures <sup>e</sup>	2	<b>CHEM 200</b>	Fdns of Analytical Chemistry	3
<b>CHEM 161/162</b>	General Chemistry	4	<b>CHEM 201</b>	Fdns of Analytical Chemistry Lab	1
<b>Gen Ed</b>	<b>General Education Elective</b>	3	<b>Gen Ed</b>	<b>General Education Electives</b>	3
		<b>16<sup>f</sup></b>			<b>15</b>
SECOND YEAR					
<b>BIO 200</b>	Integrative Biology	4	<b>BIO Electives</b>		6-8
<b>BIO 290</b>	Biology Research Experience I	2	<b>CHEM 212/213</b>	Organic Synthesis <b>with lab</b>	4
<b>CHEM 210/211</b>	Fdns of Organic Chemistry	4	<b>or CHEM 456</b>	Toxicology	(3)
<b>Gen Ed</b>	<b>General Education Electives</b>	6	<b>Gen Ed</b>	<b>General Education Electives</b>	6
		<b>16</b>			<b>15-18</b>
THIRD YEAR					
<b>BIO 405 or 434</b>	Ecology <b>or</b> Ecol. Inland Waters	4	<b>BIO 436 or 438</b>	Env. Mngt. <b>or</b> Aquatic Pollut.	3-4
<b>PHYS 121</b>	General Physics I <sup>f</sup>	4	<b>BIO Elective</b>	<b>(Organismal)</b>	3-4
<b>Gen Ed</b>	<b>General Education Elective</b>	6	<b>PHYS 122</b>	General Physics II	4
<b>BIO 390</b>	Biology Research Experience II <sup>a</sup>	1-6	<b>ESCI 121</b>	Physical Geology	3-4
<b>or BIO 391</b>	Internship in Biology <sup>a</sup>	15-20	<b>or ESCI 450</b>	Environmental Geology	13-16
		<b>15-20</b>			<b>13-16</b>
FOURTH YEAR					
<b>BIO Elective</b>		3-4	<b>CHEM 406</b>	Environmental Chemistry	3
<b>Gen Ed</b>	<b>General Education Elective</b>	3	<b>BIO Elective</b>	<b>(Physiological)</b>	3-4
<b>Free Electives</b>		9	<b>Free Electives</b>		9
		<b>15-16</b>			<b>15-16</b>

<sup>a</sup>BIO 390 (Biology Research Experience II) and BIO 391 (Internship in Biology) give each student the opportunity to work with an individual faculty member on a research, library, teaching, or internship project. Students are welcomed and encouraged to discuss research opportunities with any faculty member as early as their first semester. While the required (1 credit) project may be completed as late as the senior year, more in-depth research experiences, which may culminate in an undergraduate thesis (BIO 499), may demand an earlier start.

<sup>b</sup>Math 101 or the Mathematics Placement Exam is a prerequisite for CHEM 161/162 and for MATH 115, 124, and 125.

<sup>c</sup>Either MATH 124 or both MATH 115 and 125 are prerequisites for PHYS 121. Math 152 is the prerequisite for PHYS 125. Math 152 is recommended for students wishing to take more advanced math classes. Other appropriate courses in Skill Area II may be substituted if this requirement is already met.

<sup>d</sup>The portfolio requirement is described in the Biology section of the University catalog, and it will be discussed in Bio 200 lab.

<sup>e</sup>Or other Skill Area IV course (2-3 cr.)

<sup>f</sup>First-year students must take an FYE introductory course in the first semester.

<sup>g</sup>Students not completing ENG 110 prior to earning 61 cr. are required to take both ENG 110 and ENG 202.