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# Bioenvironmental Engineering

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Undergraduate Program  
Student Handbook

September 2017

**RUTGERS**  
School of Engineering



**RUTGERS**  
School of Environmental  
and Biological Sciences

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## **A. Introduction**

The intention of this handbook is to inform Bioenvironmental Engineering (BEE) students about academic policies, procedures and requirements that are particular to the BEE program and to answer some frequently asked questions. This handbook also provides faculty members with information for student advising.

Students and advisors should also familiarize themselves with the Academic Policies and Procedures, the Degree Requirements and University Policies and Procedures in the most recent New Brunswick Undergraduate Catalog ([http://catalogs.rutgers.edu/generated/nb-ug\\_current/](http://catalogs.rutgers.edu/generated/nb-ug_current/)).

## **B. Program Overview**

Bioenvironmental engineering utilizes engineering principles and the physical, chemical and biological sciences to prevent and solve environmental problems related to human activities. Bioenvironmental engineers may work in a variety of environmental engineering fields including air pollution control, bioremediation, environmental health and safety, hazardous waste management, site remediation, solid waste management, renewable energy generation, stormwater treatment, and water and wastewater treatment. Employers include engineering consulting firms, treatment facilities, manufacturers, environmental regulatory and planning agencies, research laboratories, international development agencies, and public interest groups.

### **1. Program Mission**

The mission of the BEE program at Rutgers University is to provide students with a broad and thorough education in bioenvironmental engineering fundamentals, applications, and design so as to prepare graduates for the practice of bioenvironmental engineering at the professional level with confidence and skills necessary to meet the technical and social challenges of the future and for continuing their studies at the graduate level.

### **2. Program Educational Objectives**

Within the first few years on the job, graduates will have met the following Program Educational Objectives (POE's):

1. Graduates will meet the expectations of employers of bioenvironmental engineers
2. Qualified graduates will pursue advanced study if they so desire
3. Graduates will pursue leadership positions in their profession and/or communities

### **3. Student Outcomes**

Graduates of the BEE program will have demonstrated that they have attained the following Student Outcomes associated with the practice of Bioenvironmental Engineering:

- a. an ability to apply knowledge of mathematics, science, and engineering
- b. an ability to design and conduct experiments, as well as to analyze and interpret data

- c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- d. an ability to function on multidisciplinary teams
- e. an ability to identify, formulate, and solve engineering problems
- f. an understanding of professional and ethical responsibility
- g. an ability to communicate effectively
- h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- i. a recognition of the need for, and an ability to engage in life-long learning
- j. a knowledge of contemporary issues
- k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

## **C. Degree Programs**

The BEE program offers students a strong foundation in engineering, chemistry, physics and biological sciences. Upper-level courses provide graduates the environmental engineering tools and the ability to apply them to various environmental engineering fields.

Both a four-year and a five-year program are available. Students normally matriculate into the four-year program through the School of Engineering (SOE), or enter the five-year program through the School of Environmental and Biological Sciences (SEBS). The latter is a dual-degree program resulting in two bachelor of science (B.S.) degrees in Bioenvironmental Engineering, one from SOE and one from SEBS. The B.S. degree program through the School of Engineering is accredited by the Accreditation Board for Engineering and Technology (ABET) as an environmental engineering program. Both programs prepare graduates for taking the Fundamental of Engineering (FE) examination pursuant to becoming a licensed professional engineer (PE).

### **1. Four-Year B.S. Degree Program (SOE)**

Graduates in this program will complete 135 credits. These credits include the SOE General Education Requirements. The full list of General Education Requirements can be found at:

<http://soe.rutgers.edu/oas/geneds>.

#### **a. SOE General Education Requirements**

As part of the SOE General Education Requirements students are required to complete 6 courses (18 credits) in Humanities and Social Sciences (H/SS). Two of these courses (6 credits) are fulfilled by Expository Writing (355:101) and Microeconomics (220:102), students may choose H/SS courses to meet the remaining 12 credits. Note that at least TWO H/SS COURSES MUST BE UPPER LEVEL (300+). Effective September 2017, 200+ courses are considered upper level courses

(<http://soe.rutgers.edu/oas/electives>). The list of acceptable H/SS courses can be found at: [http://soe.rutgers.edu/sites/default/files/imce/pdfs/humanities\\_list\\_2018.pdf](http://soe.rutgers.edu/sites/default/files/imce/pdfs/humanities_list_2018.pdf).

As part of this program, students are also required to meet a 3-credit General Elective (see definition below). There are several courses that MAY NOT be used as a General Elective (<http://soe.rutgers.edu/oas/electives>).

The scholastic requirements for graduation from the SOE is a cumulative grade-point average (GPA) of 2.000.

#### **b. Four-Year Curriculum**

**A copy of the four-year curriculum is presented on the next page.**

## **2. Five-Year B.S./B.S. Dual Degree Program (SOE and SEBS)**

Students in this program are required to complete 159 credits. The degree in this dual-degree program results in two Bachelor of Science (B.S.) degrees in Bioenvironmental Engineering, one from SOE and one from SEBS. The curriculum includes the courses from the four-year program and additional 24 credits of core and bioenvironmental engineering courses at SEBS.

#### **a. Entry Requirements for the Five-Year B.S./B.S. Dual Degree Program**

First-year students will not officially declare their major until their second semester. At that time, students become eligible to declare Bioenvironmental Engineering as their pre-major or major, depending on their academic performance.

Students need to meet the following requirements to declare Bioenvironmental Engineering as their major:

- Successful completion the following three required courses:
  - Calculus 1 for Math and Physical Sciences (01:640:151)
  - Analytical Physics 1a (01:750:123)
  - General Chemistry for Engineers (01:160:159) OR Principles of Biology (01:119:103)
- A minimum grade-point average (GPA) of 2.0 for the first semester of their freshman year and a GPA of 2.5 for all following semesters
- A GPA of at least 2.5 in each of the following key areas: math (in particular: 01:640:151, 01:640:152, and 01:640:251), physics (01:750:123, 01:750:124, 01:750:227), chemistry (01:160:159, 01:160:160), biology (01:119:103) and general engineering (14:440:127, 14:440:221, 14:180:243). Any of these key courses taken at Rutgers University prior to when students are asked to declare their major are taken into account
- No D's and F's. If students earn D's or F's in any of these key courses, they must retake them and the grades must be replaced

Students who have not met the entry requirements for the major at the time they are asked to declare can declare Bioenvironmental Engineering as their pre-major. After three semesters at Rutgers University, students will no longer be allowed to pursue acceptance into the BEE program as their major, but are eligible for admission into the Environmental Sciences major.

## BIOENVIRONMENTAL ENGINEERING (116)

### FRESHMAN YEAR

#### Fall

01:160:159	Gen Chem I	3
01:160:171	Intro to Experimentation	1
01:355:101	Expository Writing I	3
01:640:151	Calculus I	4
01:750:123	Analytical Physics Ia	2
14:440:100	Eng'g Orientation Lect.	1
_____	Hum/Soc Elective	3

#### Spring

01:160:160	Gen Chem II	3
01:640:152	Calculus II	4
01:750:124	Analytical Physics Ib	2
14:440:127	Intro to Computers	3
14:440:221	Eng'g Mechanics: Statics	3
_____	Hum/Soc Elective	3

### SOPHOMORE YEAR

01:119:103	Principles of Biology	4
01:640:251	Multivariable Calculus	4
01:750:227	Analytical Physics IIa	3
01:750:229	Analy Physics IIa Lab	1
14:180:215	Engineering Graphics	1
14:180:243	Mechanics of Solids	3

01:160:209	Elementary Organic Chem	3
01:640:244	Differential Eqs (w/linalg)	4
11:117:333	Env. Eng. Anal. Tools	3
11:375:203	Physical Princ Envi-Sci	3
14:440:222	Eng'g Mech: Dynamics	3

### JUNIOR YEAR

01:160:211	Elem Organic Chem Lab	1
11:375:201	Biological Princ Envi-Sci	3
11:375:202	Chemical Princ Envi-Sci	3
11:375:303	Num Methods (or 960:3xx/4xx)	3
14:180:387	Fluid Mechanics (or 650:312)	3
14:180:389	Fluid Mechanics Lab	1
_____	General Elective	3

01:220:102	Microeconomics	3
11:117:462	Des Solid Waste Trtmt	3
11:375:423	Envr Fate Transport	3
14:650:351	Thermodynamics	3
_____	Technical Elective	3
_____	Hum/Soc Elec (200+)	3

### SENIOR YEAR

11:117:413	Unit Proc BEE I	3
11:117:423	BEE Lab I	1
11:117:474	Air Pollution Engineering	3
11:117:488	BioenvEng'g Design I	2
11:375:322	Energy Technology (or 670:453)	3
_____	Technical Elective	3
_____	Hum/Soc Elec 200+	3

11:117:414	Unit Proc in BEE II	3
11:117:424	BEE Lab II	1
11:117:468	Haz Waste Treat Eng'g	3
11:117:489	BioenvEng'g Design II	2
14:440:488	Senior Survey (or 440:487)	0
_____	Technical Elective	3
_____	Technical Elective	3

Total credits: 135cr

Transfer students with no more than one full semester at Rutgers University can declare BEE as their major if they have successfully completed two of the three required courses (01:640:151; 01:750:123; 01:160:159 OR 01:119:103), are currently enrolled in the third required course and meet the grade-point average requirements.

All students who want to declare Bioenvironmental Engineering as their major must meet with an advisor in the BEE program to determine their eligibility before declaring their major.

Meeting the requirements listed above does not guarantee acceptance into the Rutgers School of Engineering (SOE). The SOE will perform its own independent evaluation of each request to transfer. For more information about the transfer requirements used by the SOE, please see [http://soe.rutgers.edu/oas/transfer\\_schooltoschool](http://soe.rutgers.edu/oas/transfer_schooltoschool).

### **b. SEBS Core Requirements**

A brief outline of the SEBS core requirements is provided below. The SEBS core requirements listed below apply to first-year students matriculating during and after the Fall of 2015 and transfer students matriculating during and after the Fall of 2016 (<http://sebs.rutgers.edu/core/>). Several SEBS core requirements are fulfilled by courses in the major, while the remaining required courses need to be selected from an approved list.

Note that a single course may be used to meet multiple core curriculum requirements and/or goals. All courses must be credit-bearing, graded courses certified by the faculty as meeting core goals.

#### **A. 21<sup>st</sup> Century Challenges (21C) - 3 Credits**

- Fulfilled by 374:279 Politics of Environmental Issues

#### **B. Experience-Based Education (EBE) - 3 Credits**

- Fulfilled by 117:488/489 Senior Design I or II

#### **C. Areas of Inquiry**

##### **Natural Sciences (NS) - 6 Credits**

- Fulfilled by 119:103 Principles of Biology (Biological Sciences)
- Fulfilled by 160:159/160 General Chemistry for Engineers I or II (Physical Sciences)
- Fulfilled by 750:127 Analytical Physics II-A (Physical Sciences)

##### **Historical Analysis (HST) - 3 Credits**

- Students must choose one class from the approved list

##### **Social Analysis (SCL) - 9 Credits**

- Partially fulfilled by 374:279 Politics of Env. Issues (3 Credit Gov't/Regulatory Analysis)
- Partially fulfilled by 220:102 Intro to Micro Economics (3 Credit Economic Analysis)
- Students must choose one class from the approved list (3 Credit Social/Cultural Analysis)

##### **Arts and Humanities (AH) - 6 Credits; two of four goals must be met**

- Students must choose two classes from the approved list and meet two of the goals below:
- Goal O: Examine critically philosophical and/or theoretical issues
- Goal P: Analyze arts and/or literatures
- Goal Q: Understand the nature of human languages and their speakers
- Goal R: Engage critically in the process of creative expression

#### **D. Cognitive Skills and Processes**

##### **Writing and Communication (WCd) - 6 Credits**

- Partially fulfilled by 355:101 Expository Writing (3 Credits)

- Students must choose one class from the approved list (Discipline-Based Writing and Comm.)  
Quantitative and Formal Reasoning (QQ and QR) - 6 Credits
- Fulfilled by 640:151 Calculus I and 640:152 Calculus II
- Information Technology and Research (IRT) - 3 Credits
- Fulfilled by 640:251 Multivariable Calculus

### c. SEBS-to-SOE Transfer

Students normally enter the five-year program through SEBS, but must apply for a **school-to-school transfer** from SEBS to SOE. Students must submit a school-to-school application no later than the spring of their second year to transfer to the SOE for the fall of their third year, but may transfer earlier. There are several key requirements that must be met before students can transfer:

- Students must complete at least 12 credits at Rutgers University before the transfer
- Students must complete and obtain C+ average or better (New Brunswick) or B average or better (Camden/Newark) in: the equivalent of Calculus I & II (01:640:151 & 152), Analytical Physics Ia & Ib (01:750:123 & 124), and General Chemistry I (01:160:159)
- Students from Rutgers – New Brunswick must have earned a cumulative and term GPA of 2.5 (with no D's or F's) when the application is submitted. Students from Rutgers – Newark or Rutgers – Camden must have earned a cumulative and term GPA of 3.0 (with no D's or F's) when the application is submitted. Students must obtain a C+ AVERAGE in each of the key areas (math, chem, physics, other sciences and engineering courses, separately). For example, if a student took Calculus I and Calculus II and has a C in Calc I, but a B in Calc II, the student would meet the math requirement.
- For more information, see Transferring to SOE within Rutgers at: [http://soe.rutgers.edu/oas/transfer\\_schooltoschool](http://soe.rutgers.edu/oas/transfer_schooltoschool)
- Once the transfer is complete, general academic concerns (e.g., academic policies, academic standing, graduation certification) are to be addressed with the SOE Office of Academic Services (Busch Campus, Engineering Building, room B-100). Academic concerns regarding the major courses and the SEBS core requirements will continue to be handled at SEBS.

**Start your school-to-school transfer here:** <http://admissions.rutgers.edu/SchoolToSchool/>

### c. Five-Year Curriculum

**A copy of the five-year curriculum is presented on the next page.**

## BIOENVIRONMENTAL ENGINEERING – Dual Degree (117)

(\*take SEBS GenEds where needed)

### FIRST YEAR

Fall			Spring		
01:160:159	Gen Chem I	3	01:160:160	Gen Chem II	3
01:160:171	Intro to Experimentation	1	01:640:152	Calculus II	4
01:355:101	Expository Writing I	3	01:750:124	Analytical Physics Ib	2
01:640:151	Calculus I	4	14:440:127	Intro to Computers	3
01:750:123	Analytical Physics Ia	2	14:440:221	Eng'g Mechanics: Statics	3
11:117:100	Intro BEE	1			

### SECOND YEAR

01:119:103	Princ of Biology	4	01:160:209	Elementary Organic Chem	3
01:640:251	Multivariable Calculus	4	01:220:102	Microeconomics	3
01:750:227	Analytical Physics IIA	3	01:640:244	Differential Eqs (w/linalg)	4
01:750:229	Analy Physics Ila Lab	1	11:117:333	Env. Eng. Anal. Tools	3
14:180:215	Engineering Graphics	1	14:440:222	Eng'g Mech: Dynamics	3
14:180:243	Mechanics of Solids	3			

**117 Dual Degree students are required to transfer to the School of Engineering in their junior year.**

**Submit a School-to-School Transfer** <http://admissions.rutgers.edu/SchoolToSchool/>

### THIRD YEAR

01:160:211	Elem Organic Chem Lab	1	11:216:351	Princ of Ecology	3
11:375:201	Biological Princ Envi-Sci	3	11:375:203	Physical Princ Envi-Sci	3
11:375:202	Chemical Princ Envi-Sci	3	11:680:201	Intro to Microbiol	3
11:374:279	Politics of Environ Issues	3	14:650:351	Thermodynamics	3
14:180:387	Fluid Mechanics (or 650:312)	3	*	(see SEBS GenEds below)	
14:180:389	Fluid Mechanics Lab	1			
*	(see SEBS GenEds below)				

### FOURTH YEAR

11:374:460	Environmental Law/Policy I	3	11:117:462	Des Solid Waste Trtmt	3
11:375:303	Num Meth Env Sci(or 960:3xx/4xx)	3	11:375:423	Envr. Fate and Transport	3
*	(see SEBS GenEds below)		_____	Technical Elective	3
			*	(see SEBS GenEds below)	

### FIFTH YEAR

11:117:413	Unit Proc BEE I	3	11:117:414	Unit Proc in BEE II	3
11:117:423	BEE Lab I	1	11:117:424	BEE Lab II	1
11:117:474	Air Pollution Engineering	3	11:117:468	Haz Waste Treat Eng'g	3
11:117:488	BioenvEng'g Design I	2	11:117:489	BioenvEng'g Design II	2
11:375:322	Energy Tech (or 11:670:453)	3	14:440:488	Senior Survey (or 440:487)	0
_____	Technical Elective	3	_____	Technical Elective	3
			_____	Technical Elective	3

Total credits: 159cr

**\*SEBS GenEd Requirements (check with SEBS)**

HST - Historical Analysis(3cr):	AH - Arts/Humanities (o/p/q/r) (6cr):
SCL - Social/Cultural (3cr):	WCD - Discipline-Based Writing (3cr):

### **3. Prerequisites**

A prerequisite is a course that needs to be completed before a more advanced course can be taken. For example, Calculus I is a prerequisite for Calculus II. Prerequisites ensure that students have the knowledge and abilities required to be successful in more advanced courses.

The prerequisite charts for the 4-year and the 5-year curricula provide an overview of prerequisites needed for major and required courses. Every attempt was made to make these prerequisite charts accurate, but their accuracy is not guaranteed. Students should always verify themselves what prerequisites are required. The prerequisite charts for the 4-year and 5-year curricula are presented on the following pages.

## **D. Electives**

### **1. Technical Electives**

Courses identified as technical electives allow students to learn about a specific topic in more depth. They are generally engineering, math, or science related courses that are appropriate for bioenvironmental engineers. Bioenvironmental engineering students are required to complete 12 credits of technical electives (generally four 3-credit courses). Check with the Undergraduate Program Director before registering for a technical elective course that is not on the approved list of technical electives that can be found on the Bioenvironmental Engineering website.

### **2. Humanities/Social Science Electives and SEBS Core Requirements**

The purpose of humanities/social science electives is to help students “develop an understanding of the societal problems, a historical consciousness, a sense of values, knowledge of other cultures, an appreciation of the fine arts, and an ability to think logically and communicate effectively” (<http://soe.rutgers.edu/oas/electives>).

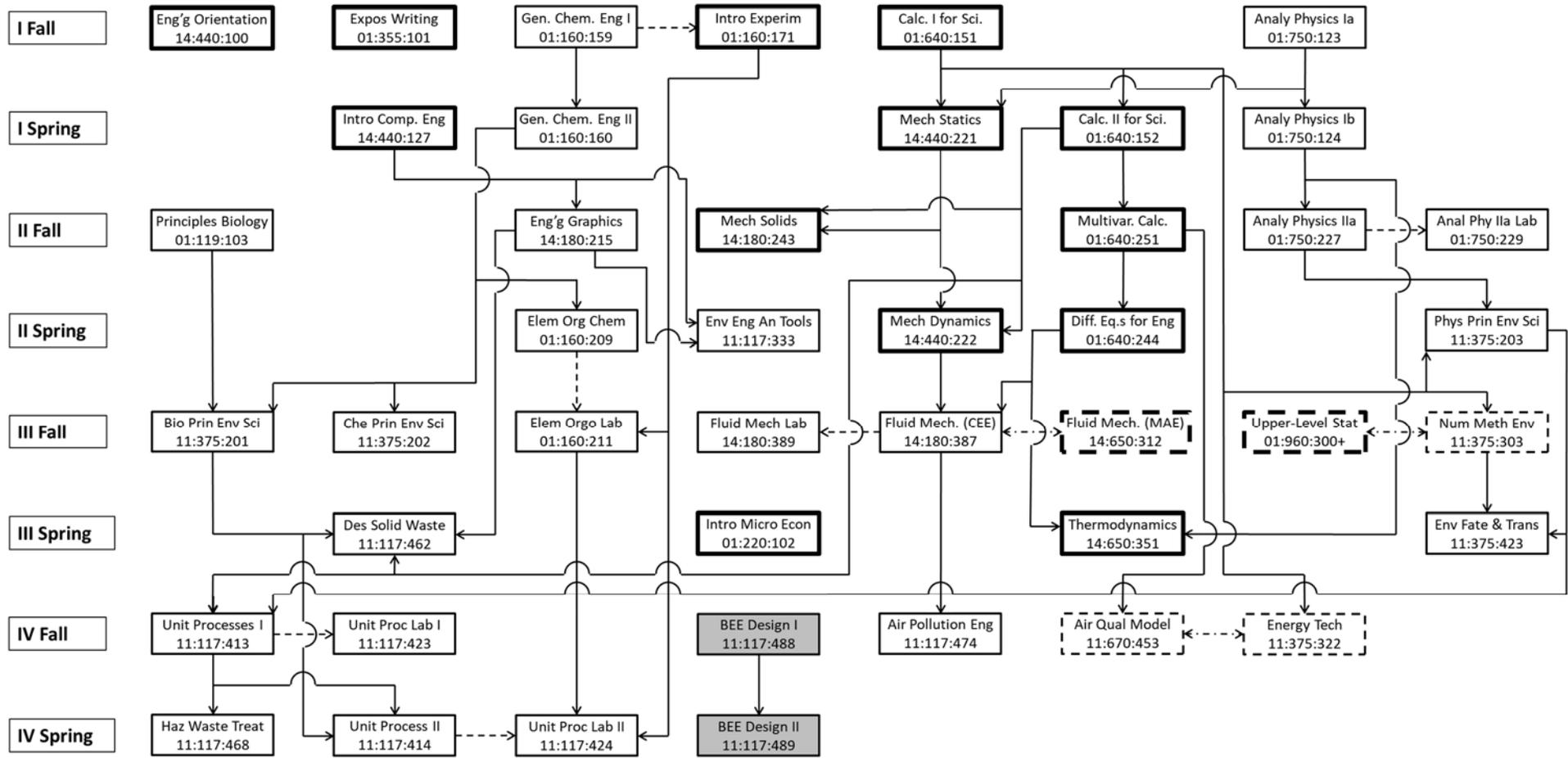
In the four-year program, students complete 18 credits of humanities/social science electives (see <http://soe.rutgers.edu/oas/geneds> and section C.1 in this handbook). In the five-year program, students complete SEBS core requirements that are in most cases not explicitly specified in the curriculum (see <https://sebs.rutgers.edu/core/> and section C.2 in this handbook). A few of these elective courses are built into the five-year curriculum; other requirements are fulfilled by courses selected by the students.

### **3. General Electives (SOE)**

A general elective is a 3-credit course used to fulfill the minimum number of required credits for graduation. Almost any course could potentially be taken as a general elective with a few exceptions (<http://soe.rutgers.edu/oas/electives>).

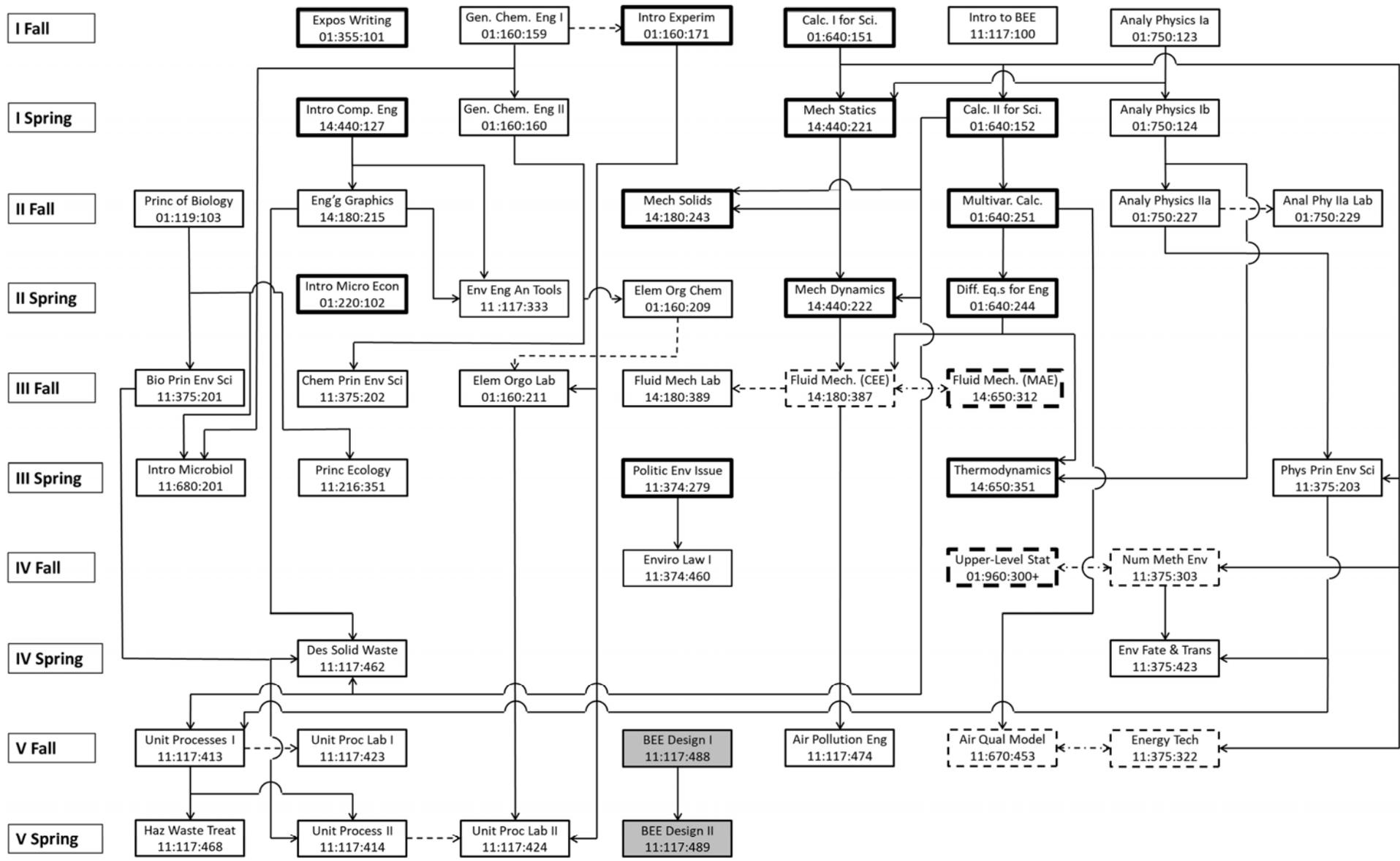
At SEBS, general electives are called free electives.

## BioEnvironmental Engineering 4-Year Curriculum Prerequisite Chart of Required Courses



<p><b>Key:</b></p> <p>→ Prerequisite</p> <p>← - - - - -&gt; Alternate Major Courses</p> <p>- - - - -&gt; Co-requisite</p> <p>- - - - -&gt; Alternate Major Course</p>	<p>█ Capstone Design (Seniors Only)</p> <p>█ Offered Fall and Spring</p>	<p><b>IMPORTANT:</b> This prerequisite chart omits additional graduation requirements for the 4-Year BEE Program including SOE H/S Requirements, 4 Technical Electives, 1 General Elective, and the Senior Survey. <b>DISCLAIMER:</b> This information is believed to be accurate but is not guaranteed. Students should verify this information for themselves.</p>
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## BioEnvironmental Engineering 5-Year Curriculum Prerequisite Chart of Required Courses



<p><b>Key:</b></p> <ul style="list-style-type: none"> <li>→ Prerequisite</li> <li>---→ Co-requisite</li> </ul>	<ul style="list-style-type: none"> <li>← - - - → Alternate Major Courses</li> <li>⌊ - - - ⌋ Alternate Major Course</li> </ul>	<ul style="list-style-type: none"> <li>▒ Capstone Design (Seniors Only)</li> <li>▭ Offered Fall and Spring</li> </ul>	<p><b>IMPORTANT:</b> This prerequisite chart omits additional graduation requirements for the 5-Year BEE Program including SEBS Core Requirements, 4 Technical Electives, 2 Free Electives, and the Senior Survey. <b>DISCLAIMER:</b> This information is believed to be accurate but is not guaranteed. Students should verify this information for themselves.</p>
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## **E. Course Registration**

### **1. General Registration Rules**

- Each semester students will receive emails detailing the undergraduate registration schedule. The earliest date (time slot) at which students may register for classes is specified by this schedule and corresponds to the number of degree credits earned thus far by the student; this does not include credits in progress. It is in the student's best interest to schedule all of his/her classes on this date.
- Students may not register for two courses that conduct lectures, laboratories, or recitations at the same time of day. Furthermore, students may not register for two courses on separate campuses without allowing for 50 minutes of travel time for daytime classes (40 minutes for nighttime classes). These conflicts can easily be avoided through the use of the Course Schedule Planner. Lists of Standard Class Periods for all New Brunswick campuses are presented in section E.2.
- Students are not allowed to register for any course without meeting the proper prerequisites. If a student wishes to take a course without having met the prerequisite(s), then he/she must request a prerequisite override (see section E.7).
- Students are not allowed to register for any section of any course that is already full. However, a student may be allowed into a section if the student can obtain a 6-digit special permission number (see section E.8).
- Students must register for AT LEAST 12 credits each semester in order to be considered full-time students of SEBS or SOE. Full-time status is a requirement for financial aid.
- Students may register for NO MORE THAN 19 credits each semester during the undergraduate registration period.
- Following the undergraduate registration period, students may begin a semester with NO MORE THAN 20 credits if enrolled in SEBS OR 21 credits if enrolled in SOE. Students may wish to consult with an advisor if they plan to exceed credit limits.
- Students may take less/more credits than allowed but need to obtain special permission from a dean. In SOE, students need to submit a Part-Time/Overload form to the Office of Academic Services, Busch Campus, Engineering Building, room B-100 (<http://soe.rutgers.edu/oas/pt-overload>).
- Students with prerequisite overrides, special permission numbers, maximum credit overrides, or other unique conflicts must add these courses IN-PERSON by visiting the Office of Academic Services, Busch Campus, Engineering Building, room B-100, Office of Academic Programs, Cook Campus, Martin Hall, room 205, or the Office of the Registrar at the Administrative Services Building on Busch. For the Environmental Sciences courses (375 courses) and Bioenvironmental Engineering courses (117 courses), the respective Undergraduate Program Directors can email any prerequisite overrides and the special permission numbers directly to the Registrar.
- Students may register for two Pass/No Credit courses (one per semester) (see the Pass/No-Credit section E.9).
- Students who fail a required course must retake it and earn a passing grade. A passing grade is considered a D or above, unless the course is offered on a Pass/No Credit basis.
- Undergraduates with senior standing and a cumulative GPA of 3.000 or higher may register to take a graduate course with the approval of the graduate instructor and/or director of the graduate

program. Forms for requesting permission are available in Martin Hall, room 205 (Cook Campus, SEBS), or Office of Academic Services in the Engineering Building, room B-100 (Busch Campus, SOE).

- If a student registers for and completes any two courses that duplicate each other in subject matter, degree credit will only be granted for one course. Warnings will often be shown in Degree Navigator (<http://nbdn.rutgers.edu/>) to prevent students from taking two or more duplicating classes in a subject matter.

## **2. Standard Periods**

### **80-Minute Classes (MOST CLASSES)**

Period	College Avenue	Busch/Livingston	Cook/Douglass
1	8:10 - 9:30 AM	8:40 - 10:00 AM	9:15 - 10:35 AM
2	9:50 - 11:10 AM	10:20 - 11:40 AM	10:55 AM - 12:15 PM
3	11:30 AM -12:50 PM	12:00 -1:20 PM	12:35 - 1:55 PM
4	1:10 - 2:30 PM	1:40 - 3:00 PM	2:15 - 3:35 PM
5	2:50 - 4:10 PM	3:20 - 4:40 PM	3:55 - 5:15 PM
6	4:30 - 5:50 PM	5:00 - 6:20 PM	5:35 - 6:55 PM
7	6:10 - 7:30 PM	6:40 - 8:00 PM	7:15 - 8:35 PM
8	7:40 - 9:00 PM	8:10 - 9:30 PM	8:45 - 10:05 PM
9	9:10 - 10:30 PM	9:40 - 11:00 PM	

### **55-Minute Classes**

Period	College Avenue	Busch/Livingston	Cook/Douglass
1	8:25 - 9:20 AM	8:55 - 9:50 AM	9:30 - 10:25 AM
2	10:05 - 11:00 AM	10:35 - 11:30 AM	11:10 AM - 12:05 PM
3	11:45 AM -12:40 PM	12:15 -1:10 PM	12:50 - 1:45 PM
4	1:25 - 2:20 PM	1:55 - 2:50 PM	2:30 - 3:25 PM
5	3:05 - 4:00 PM	3:35 - 4:30 PM	4:10 - 5:05 PM
6	4:45 - 5:40 PM	5:15 - 6:10 PM	5:50 - 6:45 PM
7	6:25 - 7:20 PM	6:55 - 7:50 PM	7:30 - 8:25 PM
8	7:55 - 8:50 PM	8:25 - 9:20 PM	8:45 - 9:40 PM
9	9:10 - 10:05 PM	9:40 - 10:35 PM	

### **3. Course Schedule Planner**

The Course Schedule Planner (CSP) is very helpful in planning a schedule for the next semester (<https://sims.rutgers.edu/csp/>). CSP allows students to: (1) build schedules for current/future semesters, (2) view saved schedules and export them to WebReg, and (3) view the course catalog and create a wish list of future courses. Note that CSP may not be accurate when using the last feature, because course availability might change.

The Schedule of Classes (past, current, future) can be found at <https://sis.rutgers.edu/soc/>.

### **4. Degree Credits**

Degree credits include all credits that count toward a degree and graduation at Rutgers University. Degree credits include credits for courses of the major, technical electives, humanities/social science electives, SEBS core requirements, and other electives that a student has successfully completed.

The number of degree credits a student has completed thus far in college, not including credits in progress, is used to determine when a student can register for classes he/she wants to take the following semester. A registration schedule is emailed to all students each semester, specifying the registration dates and times at which students with a given number of completed degree credits may register for classes.

### **5. Credit Prefixes**

There are several types of credit prefixes that may appear on a student's transcript.

E - No credit earned toward the degree and no grade computed in the cumulative GPA.

J - Credits are earned toward the degree, but the grade is not computed in the cumulative GPA.

K - Credits are not earned toward the degree, but the grade is computed in the cumulative GPA.

N - Assigned at the time the student initially registers for the course. It indicates no credit earned toward the degree, no grade computed in the grade-point average, no final exam taken and the student received a grade of "S" (satisfactory) or "U" (unsatisfactory).

P/NC - Indicates a course taken on a Pass/No Credit basis.

(Source: <http://nblogistrar.rutgers.edu/undergrad/enrol-nb.htm#special>)

### **6. WebReg**

WebReg is the system students use to register for classes during the Undergraduate Registration Period and the Unrestricted Add/Drop Period. A student must provide the index numbers of the course sections he/she wishes to register for. These numbers may be found in the Course Schedule Planner (CSP) or the Online Schedule of Classes (see section E. 3). If a student uses the Register icon in CSP, then the appropriate index numbers will appear automatically in WebReg.

WebReg may be used to register for filled classes only after students have obtained special permission numbers, but WebReg does not accommodate prerequisite overrides or credit overloads. Certain classes also require permission of the instructor prior to registration.

## **7. Request for Prerequisite Override**

In very few cases, if a student has not taken the prerequisite(s) for a course but feels prepared for the course, then he/she may request a prerequisite override from the undergraduate program director of the department offering the course. Generally, a student should email the instructor of the course to ask for permission before contacting the undergraduate program director. If the instructor/undergraduate program director agrees to grant a prerequisite override, then written verification must be brought to the academic office corresponding to the school the student is currently enrolled in (SEBS Office of Academic Programs on the second floor of Martin Hall (5-yr program enrolled in SEBS), SOE Office of Academic Services in the Engineering Building, room B-100 (4-yr or 5-yr program enrolled at SOE). Personnel in these offices will process the final prerequisite overrides and the course registration. General guidelines from the SOE Office of Academic Services for prerequisites and corequisites for SOE undergraduate courses are found at: <http://soe.rutgers.edu/oas/prerequisite>.

Deviating from the above described general procedure, each department has slightly different procedures of handling prerequisite overrides. Therefore, the website or the handbook of the department offering the course should be checked.

**Undergraduate Environmental Sciences (375) and Bioenvironmental Engineering (117) courses:** To request a prerequisite override after obtaining permission from the instructor, the following information should be emailed to the respective undergraduate program director:

**Name:**

**RUID:**

**Course title and number:**

**Index number:**

For undergraduate Environmental Sciences (375) and Bioenvironmental Engineering (117) courses, the undergraduate program directors will email the Registrar the prerequisite override and request course registration.

## **8. Request for Special Permission Number**

In the event that a course is full, not open to a student's major, or not open to a student's class year (e.g., "Junior/Senior-level standing only"), a student may request a special permission number from the undergraduate director of the department offering the course. Once a student has obtained a special permission number, he/she may register for the course by entering the number in WebReg or bring the number to the SEBS Office of Academic Programs (Cook Campus, 2nd floor in Martin Hall) or the SOE Office of Academic Services (Busch Campus, Engineering Building, room B-100) for registration assistance.

Deviating from the above described general procedure, each department has slightly different procedures of handling special permission numbers. Therefore, the website or the handbook of the department offering the course should be checked.

For undergraduate Environmental Sciences (375) and Bioenvironmental Engineering (117) courses, the undergraduate program directors will email the Registrar the special permission numbers and request course registration, if at the same time a prerequisite override is requested.

## **9. Pass/No Credit Courses**

Two courses (one per term) can be taken on a Pass/No Credit basis with the permission of the Office of Academic Programs (Cook Campus, second floor in Martin Hall), if enrolled at SEBS, or the Office of Academic Services (Busch Campus, Engineering Building, room B 100), if enrolled at SOE. The credits earned on a Pass/No Credit basis count toward graduation but are not included in a student's cumulative GPA. SEBS and SOE have different policies regarding eligible courses and application deadlines. Therefore, carefully review [https://sebs.rutgers.edu/academics/forms/Pass-No\\_Credit\\_Course\\_Application.pdf](https://sebs.rutgers.edu/academics/forms/Pass-No_Credit_Course_Application.pdf), if enrolled at SEBS, or <http://soe.rutgers.edu/oas/pnc-repeat> if enrolled at SOE. Once a course is designated on the transcript as Pass/No Credit it cannot be reversed.

## **10. Summer/Winter Session Registration**

Summer/Winter Sessions are an excellent way for students to catch up on courses required for their degree. Students may register for a Summer or Winter Session at Rutgers University on the New Brunswick, Newark, or Camden campuses using WebReg. Generally, first- and second-year courses are offered during the Summer or Winter Session along with unique colloquia, online courses, and seminars not offered during the fall or spring terms. During the Summer Session, students enrolled at SOE can take a maximum of 11 credits, and students enrolled at SEBS 12 credits. During the Winter Session students can only enroll for three credits. There are some restrictions which courses can be taken during the Summer and Winter sessions. Therefore, review <http://soe.rutgers.edu/oas/transfer-courses> carefully. It is highly recommended to discuss plans to take summer and winter courses with your advisor.

## **11. Special Problems/Topics Courses**

Special problems/topics courses allow students to pursue independent studies or research alongside faculty. Slade Scholars and George H. Cook students sign up for Special Problems courses to work on their research projects. Students who want to enroll in special problems/topics courses in BEE need to submit a written approval of the supervising professor to the Undergraduate Program Director. The Undergraduate Program Director will issue a special permission number. Students will not be permitted to take a special problems course that is the same as a course they have already received credit for.

Students should contact the Undergraduate Program Director or consult with their advisors/professors to find out about special problems/topics opportunities.

With permission of the Undergraduate Program Director, engineering internships or co-op experiences can count as Special Problems credits. Generally, in addition to the internship or co-op experience additional assignments given by a BEE faculty mentor need to be completed. This needs to be arranged before the internship or co-op experience starts.

## **12. Graduate Courses**

Undergraduates may register for graduate courses numbered 500 and above if they have attained senior standing and a cumulative grade point average of at least 3.000. Any undergraduate who successfully completes a graduate course will be awarded credit applicable towards his/her graduate school education. However, the undergraduate student must obtain approval of the graduate course instructor or the director of the graduate program offering the course, the administrator of the graduate school offering the course, and their faculty advisor. The Graduate Course Registration Form can be found at the end of this section.

Additionally, undergraduates need a special permission number to register for graduate courses.

## **13. Repeating Courses, E-Credit, Grade Replacement**

The academic policies concerning repeating courses, E-credit and grade replacement are slightly different for SEBS and SOE and therefore should be carefully reviewed. SOE's policies can be found at <http://soe.rutgers.edu/oa/pnc-repeat> and SEBS's policies at <https://sebs.rutgers.edu/academics/repeat-courses.html>.

Although specifics should be reviewed on the respective websites, a few general guidelines follow:

- Students must repeat any courses they have failed (earned a "F" in) that are required for graduation
- A "D" is a passing grade, but the student is allowed to retake the course
- If a student earns a grade of "C" or better in any course, then he/she is not allowed to retake it
- Both, the original grade of "D" or "F" and the new grade, remain on the student's transcript and both are included in the student's cumulative grade-point average
- However, for no more than four courses (up to 16 credits), under certain conditions, the failing grade will be removed from the cumulative grade-point average if the student repeats the course and earns a higher grade. The original failing grade will remain on the transcript with an "E" (E-credit) prefix attached, and the repeated course grade will have an "R" (repeated) prefix
- If a student wants to re-take any D/F course for E-credit, it must be re-taken and completed at Rutgers University
- At SOE, if a student wants to re-take any D/F course for E-credit, it must be re-taken before moving on to the next advanced course
- At SOE, there is a set of courses that if you fail any of them twice, you will not be able to register for a third time without approval from a dean
- At SOE, the Capstone Design course is not eligible for E-credit
- These policies will not be applied to any punitive grade of "F" given for reasons such as academic dishonesty or other violations of academic integrity



## **F. Taking a Course at Other Colleges/Universities**

Rutgers University students may take certain courses at other colleges/universities during the Summer or Winter session. If students choose to take courses at other college/university, **ONLY** the credits earned for these courses will be applied towards the degree at Rutgers University. Grades earned for these courses will **NOT** be applied towards the cumulative GPA. A grade of C or better is required for the credits to be applicable towards your degree.

There are restrictions which courses can be taken at other colleges/universities. More information about SEBS policies regarding taking courses outside of Rutgers University can be found at [https://sebs.rutgers.edu/academics/forms/Transfer\\_Course\\_Approval\\_Form.pdf](https://sebs.rutgers.edu/academics/forms/Transfer_Course_Approval_Form.pdf) and about SOE policies at <http://soe.rutgers.edu/oas/transfer-courses>.

### **Other Concerns**

- Visit NJ Transfer (<https://www.njtransfer.org/artweb/chgri.cgi>) to check if a course at a New Jersey Community College is equivalent to a course at Rutgers University **BEFORE** you register for the course

## **G. Transfer from an Outside College/University**

Any student who has completed a minimum of 12 transferable academic credits at a college or university at the time of their Rutgers University undergraduate application will be considered a transfer student at Rutgers University.

### **Information for Students Transferring to SEBS (Five-Year BEE)**

- Transfer Course Evaluation Form ([https://sebs.rutgers.edu/academics/forms/Transfer\\_Course\\_Evaluation\\_Form.pdf](https://sebs.rutgers.edu/academics/forms/Transfer_Course_Evaluation_Form.pdf))
- Frequently Asked Questions (<http://sebs.rutgers.edu/transfer/>)
- State-Wide Transfer Agreement (<http://sebs.rutgers.edu/transfer/NJTransferAgreement.pdf>)
- First-Year Transfer Credit and Placement Testing Exemptions (<http://sebs.rutgers.edu/new/first-year-transfer-credit.html>)
- Transfer Student Placement and Advising (<http://sebs.rutgers.edu/new/placement/transfer-students.html>)
- Transfer Student Transcript Appeals Process (<http://sebs.rutgers.edu/transfer/transcript-appeals-process.asp>)

### **Information for Students Transferring to SOE (Four-Year BEE)**

- Application, Requirements, Preparation, Credits and Course Evaluation ([http://soe.rutgers.edu/oas/transfer\\_external](http://soe.rutgers.edu/oas/transfer_external))

### **Advice to Transfer Students Entering the BEE Program**

- If students transfer into the BEE program at SEBS, it is recommended that they meet the SOE outside-of-Rutgers transfer requirements; 2 semesters of calculus, 1 semester of calculus-based physics, and 2 semesters of chemistry. Students should have earned a cumulative **AND** term GPA of at least 3.0 (out of 4.0) with no Ds and Fs. Students should also have a 3.0 (no Ds and Fs) in key courses including math, physics, and other science and engineering courses

- If possible, follow the BEE engineering curriculum prior to transferring to Rutgers University such as taking courses including Engineering Mechanics – Statics, MATLAB Programming, Microeconomics, Expository Writing/English Composition, and Calculus
- If coursework did not transfer as degree credit to your transcript, then you may wish to appeal the transcript decision. For example, if you completed Principles of Ecology at another college and it did not transfer as degree credit, but the course description and content sufficiently matches the equivalent course at Rutgers University, then you can appeal that decision and thereby avoid retaking the course if the appeal is accepted
- ONLY the credits from courses at your previous college or university will be applied towards your degree at Rutgers University. Grades earned will NOT be applied towards your cumulative GPA

## **H. School-to-School Transfer (5-Year Program)**

As part of the 5-yr program, BEE majors must transfer from SEBS to SOE (School-to-School Transfer), which should be initiated after their sophomore year. This School-to-School Transfer effectively enrolls students in SOE so that the student will receive both, a B.S. in Bioenvironmental Engineering from SOE and a B.S. in Bioenvironmental Engineering from SEBS. Note, once the student has successfully transferred into SOE, he/she is considered a SOE student for registration, financial aid, accounting, and other purposes. However, the student is still responsible for fulfilling both, the SEBS and the SOE graduation requirements of the major.

For the most recent information transferring to SOE, review [http://soe.rutgers.edu/oas/transfer\\_schooltoschool](http://soe.rutgers.edu/oas/transfer_schooltoschool).

### **School-to-School Transfer Application**

Students must complete a School-to-School Transfer Application ([http://soe.rutgers.edu/oas/transfer\\_schooltoschool](http://soe.rutgers.edu/oas/transfer_schooltoschool)) to initiate the transfer process.

Spring Transfer Application Window: October 1<sup>st</sup> to December 1<sup>st</sup>

Fall Transfer Application Window: February 1<sup>st</sup> to June 1<sup>st</sup>

### **SOE Transfer Requirements (Rutgers-New Brunswick)**

- Students must complete at least 12 credits at Rutgers University
- Students must complete and obtain C+ or better in: the equivalent of Calculus I & II (01:640:151 & 152), Analytical Physics Ia & Ib (01:750:123 & 124), and Chemistry I (01:160:159)
- Students must have earned a cumulative and term GPA of 2.5 (with no D's or F's) when the application is submitted
- Students must obtain a C+ AVERAGE in each of the key areas (math, chem, physics, other sciences and engineering courses, separately). For example, if a student took Calculus I and Calculus II and has a C in Calculus I, but a B in Calculus II, the student would meet the math requirement
- Review further details at [http://soe.rutgers.edu/oas/transfer\\_schooltoschool](http://soe.rutgers.edu/oas/transfer_schooltoschool)

# **I. Advising and Mentoring**

## **1. Faculty Advisors**

### **Undergraduate Program Director**

Dr. Uta Krogmann ENR Room 246	848-932-5729	krogmann@envsci.rutgers.edu
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### **Bioenvironmental Engineering Faculty**

Dr. A.J. Both ENR Room 248	848-932-5730	both@sebs.rutgers.edu
Dr. Donna E. Fennell ENR Room 231	848-932-5748	fennell@envsci.rutgers.edu
Dr. Weilin Huang ENR Room 258	848-932-5735	whuang@envsci.rutgers.edu
Dr. Uta Krogmann ENR Room 246	848-932-5729	krogmann@envsci.rutgers.edu
Dr. Val Krumins ENR Room 360	848-932-5781	krumins@envsci.rutgers.edu
Dr. Rob Miskewitz ENR 344	848-932-5707	rmiskewi@envsci.rutgers.edu
Dr. Christopher Obropta ENR Room 105	848-932-5711	obropta@envsci.rutgers.edu
Dr. Mete Talimcioglu	908-497-8900 x 173	ntalimci@hotmail.com
Dr. Christopher G. Uchrin ENR Room 262	848-932-5738	cuchrin@envsci.rutgers.edu

### **Advisors by graduation year:**

Drs. Both and Uchrin	Graduation in 2018
Drs. Obropta and Krogmann	Graduation in 2019
Drs. Fennell and Krumins	Graduation in 2020
Drs. Huang and Both	Graduation in 2021
Drs. Uchrin and Obropta	Graduation in 2022

**Note: Bioenvironmental Engineering students should see their advisor at least once per year to review progress.**

## **2. Deans and Academic Offices**

### **SEBS Office of Academic Programs, Cook Campus**

Courses, Credits, Scheduling, Degree Requirements for 5-yr BEE majors prior to SOE Transfer  
848-932-3000 -- Cook Campus, 2<sup>nd</sup> Floor Martin Hall, 88 Lipman Drive, New Brunswick, NJ  
(Online contact form: <https://sebs.rutgers.edu/contact/>)

### **SOE Office of Academic Services, Busch Campus**

Courses, Credits, Scheduling, Degree Requirements for 4-yr BEE majors and 5-yr BEE majors after SOE Transfer  
848-445-2212 -- Busch Campus, Engineering Building, room B-100, 98 Brett Rd, Piscataway, NJ  
(Online contact form: <http://soe.rutgers.edu/oas/contactus>)

### **Rutgers Office of the Registrar, Busch Campus**

Academic Records, Registration, Transcripts and Verifications, Posting of Grades and Degrees  
Administrative Services Buildings (ASB), 65 Davidson Road, Rooms 200-A, B, F, L, Piscataway, NJ  
(<http://nbregistrar.rutgers.edu>)

## **3. Fellow Students, Peer Mentors and Students for Environmental & Energy Development Club (SEED)**

- Upper-level BEE students are excellent resources for information regarding classes and registration. Network with your peers to find out where the opportunities are!
- Students are encouraged to participate in the activities of the Students for Environmental & Energy Development Club (SEED) (<https://rutgers.campuslabs.com/engage/organization/SEED/>). Look out for announcements. Consider also participating in other student organizations and clubs that are listed on the SEBS (<https://sebs.rutgers.edu/prospective/clubs.html>) and SOE (<http://soe.rutgers.edu/student-organizations>) websites. Douglas Women in Engineering Living-Learning Community (<https://rulc.rutgers.edu/content/douglass-women-engineering-living-learning-communities>) provides the opportunity for incoming women in SOE to connect with each other, while being a part of the unique environment of the Douglass Residential College for women. This program also offers a variety of extracurricular opportunities to its residents.
- Peer mentors and mentorship opportunities are offered through academic departments, honors programs, on-campus organizations (clubs, fraternities, etc), and residence halls. The best way to find out about these opportunities is to ask fellow students and faculty.
- Most fraternities and honor societies based on campus offer some form of mentorship.

## **J. Academic Policies**

### **1. Academic Integrity**

#### **Principles of Academic Integrity at Rutgers**

(This is taken word-for-word from <http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers/>)

- Properly acknowledge and cite all use of the ideas, results, or words of others
- Properly acknowledge all contributors to a given piece of work

- Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of unsanctioned materials or unsanctioned collaboration
- Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions
- Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress
- Uphold the canons of the ethical or professional code of the profession for which he or she is preparing (see for example: <https://www.nspe.org/resources/ethics/code-ethics>)

### **Violations of Academic Integrity**

(This is taken word-for-word from [https://slwordpress.rutgers.edu/academicintegrity/wp-content/uploads/sites/41/2014/11/AI\\_Policy\\_2013.pdf](https://slwordpress.rutgers.edu/academicintegrity/wp-content/uploads/sites/41/2014/11/AI_Policy_2013.pdf))

**Plagiarism:** Plagiarism is the use of another person's words, ideas, or results without giving that person appropriate credit. To avoid plagiarism, every direct quotation must be identified by quotation marks or appropriate indentation and both direct quotation and paraphrasing must be cited properly according to the accepted format for the particular discipline or as required by the instructor in a course. Some common examples of plagiarism are:

- Copying word for word (i.e. quoting directly) from an oral, printed, or electronic source without proper attribution.
- Paraphrasing without proper attribution, i.e., presenting in his/her own words another person's written words or ideas as if they were his/her own.
- Submitting a purchased or downloaded term paper or other materials to satisfy a course requirement.
- Incorporating into one's work graphs, drawings, photographs, diagrams, tables, spreadsheets, computer programs, or other nontextual material from other sources without proper attribution.

**Cheating:** Cheating is the use of inappropriate or prohibited materials, information, sources, or aids in any academic exercise. Cheating also includes submitting papers, research results and reports, analyses, etc. as one's own work when they were, in fact, prepared by others. Some common examples are:

- Receiving research, programming, data collection, or analytical assistance from others or working with another student on an assignment where such help is not permitted.
- Copying another student's work or answers on a quiz or examination.
- Using or possessing books, notes, calculators, cell phones, or other prohibited devices or materials during a quiz or examination.
- Submitting the same work or major portions thereof to satisfy the requirements of more than one course without permission from the instructors involved.
- Preprogramming a calculator or other electronic device to contain answers, formulas, or other unauthorized information for use during a quiz or examination.
- Acquiring a copy of an examination from an unauthorized source prior to the examination.
- Having a substitute take an examination in one's place.
- Submitting as one's own work a term paper or other assignment prepared by someone else.

**Fabrication:** Fabrication is the invention or falsification of sources, citations, data, or results, and recording or reporting them in any academic exercise. Some examples are:

- Citing a source that does not exist.
- Making up or falsifying evidence or data or other source materials.
- Falsifying research papers or reports by selectively omitting or altering data that do not support one's conclusions or claimed experimental precision.

**Facilitation of Dishonesty:** Facilitation of dishonesty is knowingly or negligently allowing one's work to be used by other students without prior approval of the instructor or otherwise aiding others in committing violations of academic integrity. A student who intentionally facilitates a violation of academic integrity can be considered to be as culpable as the student who receives the impermissible assistance, even if the facilitator does not benefit personally from the violation. Some examples are:

- Collaborating before a quiz or examination to develop methods of exchanging information.
- Knowingly allowing others to copy answers to work on a quiz or examination or assisting others to do so.
- Distributing an examination from an unauthorized source prior to the examination.
- Distributing or selling a term paper to other students.
- Taking an examination for another student.

**Academic Sabotage:** Academic sabotage is deliberately impeding the academic progress of others. Some examples are:

- Intentionally destroying or obstructing another student's work.
- Stealing or defacing books, journals, or other library or University materials.
- Altering computer files that contain data, reports or assignments belonging to another student.
- Removing posted or reserve material or otherwise preventing other students' access to it.

**Violation of Research or Professional Ethics:** Violations in this category include both violations of the code of ethics specific to a particular profession and violations of more generally applicable ethical requirements for the acquisition, analysis, and reporting of research data and the preparation and submission of scholarly work for publication. Some examples are:

- Violating a canon of the ethical or professional code of the profession for which a student is preparing.
- Using unethical or improper means of acquiring, analyzing, or reporting data in a senior thesis project, a master's or doctoral research project, grant-funded research, or research submitted for publication.
- Misuse of grant or institutional funds.
- Violating professional ethics in performing one's duties as a Teaching Assistant or Graduate Assistant.

**Violations Involving Potentially Criminal Activity:** Violations in this category include theft, fraud, forgery, or distribution of ill-gotten materials committed as part of an act of academic dishonesty. Some examples are:

- Stealing an examination from a faculty member's or University office or from electronic files.
- Selling or distributing a stolen examination.
- Forging a change-of-grade form.
- Falsifying a University transcript.

For more information regarding the Academic Integrity Policy and the Code of Student Conduct at Rutgers please visit <http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers/>.

## **2. Academic Review and Standing**

After each term, student grades are reviewed. Students whose grades fall below a certain level can receive a warning, be put on probation or be dismissed. SEBS's policies can be reviewed at [http://catalogs.rutgers.edu/generated/nb-ug\\_current/pg712.html](http://catalogs.rutgers.edu/generated/nb-ug_current/pg712.html) and SOE's policies at <http://soe.rutgers.edu/oas/scholasticstanding>.

Do not take any warning or probation lightly and seek help from your advisor and/or a dean.

## **3. Withdrawal (from Course or University)**

### **Withdrawing from a Course**

At SOE, you may withdraw from courses up to the 8<sup>th</sup> week of the term by phone or online, or withdraw with the permission of the Associate Dean prior to the 12<sup>th</sup> week of the term. Beyond the 12<sup>th</sup> week, the reason for withdrawal must be significant and beyond your control in order to warrant permission from the Dean. At SEBS, you may withdraw from courses up to the 8<sup>th</sup> week of the term online or in person. Beyond the 8<sup>th</sup> week, the reason for withdrawal must be due to extenuating circumstances and beyond your control in order to warrant permission from the Scholastic Standing Committee.

**Once a student withdraws from a course, he/she receives a "W" grade for that course, which appears on the transcript, but is not used to calculate the student's term or cumulative GPAs. However, it might affect the completion rate and therefore the financial aid.**

### **Withdrawal from All Classes/Rutgers OR Extended Leave of Absence (1 Semester or More)**

Students who wish to withdraw from Rutgers University should consult their faculty advisor and a dean in the SOE Office of Academic Services or the SEBS Office of Academic Programs. After these consultations are conducted, the student must fill out a withdrawal form stating the reasons for withdrawal. SEBS students will submit this form to the SEBS Office of Academic Programs; SOE students will submit this form to the SOE Office of Academic Services.

Withdrawing from the university will impact your financial aid. *A student receiving financial aid must wait for 60% of the semester (9<sup>th</sup> week of the term) to have passed before withdrawing completely from the university.* Otherwise, the student must pay back all financial aid received for that semester.

More information about SOE's policies about Withdrawal from All Classes/Extended Leave of Absence can be found at <http://soe.rutgers.edu/oas/withdrawal>.

## **4. Course Substitution**

Course substitutions should be avoided. If a course substitution is necessary, permission needs to be obtained by email from the Undergraduate Program Director prior to registration. The Undergraduate Director's permission of the course substitution must later be presented to the Assistant Dean(s) to ensure approval of the course substitution by the SOE and/or SEBS.

All course substitutions should substitute "like for like", i.e., the substitute course should have the same or similar subject matter to the original course. Unsuitable course substitutions may be denied.

## **K. Professional Development**

### **1. Internships and Co-ops**

Internships and co-ops give students practical, professional level experience in the field of their study. You can test out your career options and gain valuable experience for your future job or graduate school. Some use the terms "internship" and "co-op" interchangeably while others define internships as work experience for one term or one summer and a co-op as work experience over several terms. Internships and co-ops are excellent ways for students to gain the experience employers are looking for. Internships and co-ops may be full- or part-time, paid or unpaid, or for credit or no credit.

Some students find their internships or co-ops on their own, others find them via Rutgers resources. The Undergraduate Program Director emails various opportunities to the BEE students as they become available. Rutgers University also offers students several avenues to pursue internships and co-ops in their fields of study, which may range from laboratory research to hands-on experiences outside of academia. Opportunities pertaining to BEE majors include:

- [Aresty Research Center](#)
- [CareerKnight](#)
- Faculty Research Projects
- [Rutgers Center for Urban and Environmental Sustainability \(CUES\)](#)
- [Rutgers Energy Institute \(REI\)](#)
- [Rutgers Engineering Co-op Program \(SOE\)](#)
- [Rutgers Internship & Co-op Program \(RICP sponsored by SAS\)](#)
- [Student to Professional Internship Network \(SPIN for SEBS\)](#)
- [Rutgers Career Services Internship Fairs](#)

### **2. Study Abroad**

Students are encouraged to consider a summer or a semester abroad (see <https://global.rutgers.edu/study-abroad>). In today's interconnected world studying abroad is a very valuable experience. Discuss various opportunities with your advisor.

### **3. Professional Registration/Licensure**

Professional registration is the legal process by which practitioners become licensed professionals in their respective fields. Professional registration is highly recommended for all environmental engineers because they are ethically and (to a degree) legally responsible for their work as it impacts the safety, health, and welfare of the public. Environmental engineers that are not professionally licensed do not have the authority to take legal responsibility for engineering work and projects. Therefore, professional registration is fundamental to an environmental engineer's future career. The professional registration process for engineers in New Jersey consists of several steps:

1. Completion of an ABET accredited four-year Bachelor of Science degree in engineering.
2. Successful completion of a Fundamentals of Engineering Exam (FE) offered by the [National Council of Examiners for Engineering and Surveying](#) (NCEES) with a passing score.
3. Submittal of a completed Engineer-In-Training application, a full transcript sent directly from the university, and 3 references (one reference from a currently licensed professional engineer) to the New Jersey State Board of Professional Engineers (or another state board).
4. Acceptance by the State Board of Professional Engineers and Land Surveyors and issuance of an Engineer-In-Training (EIT) license.
5. Four years of professional experience as an EIT with (a) at least 2 years of experience gained in the U.S. and (b) at least 2 years of original engineering design experience that demonstrates increased responsibility and technical experience over time under the supervision of a licensed professional engineer. Completion of a master's degree is equivalent to one year required under (a). Completion of a doctorate degree is equivalent to one year required under (a) and some experience may be substituted for (b). All professional engineering experience will be reviewed by the State Board Professional Engineers and Land Surveyors.
6. Successful completion of the New Jersey Law Exam.
7. Successful completion of the Principles and Practices of Engineering Exam (PE) in the engineer's area of practice offered by NCEES with a passing score.
8. Submittal of a completed PE application, a full undergraduate transcript sent directly from your university, and 5 references (three references must be from currently licensed professional engineers) to the New Jersey State Board of Professional Engineers (or another state board).
9. Acceptance by the State Board of Professional Engineers and Land Surveyors and issuance of a Professional Engineer (PE) license.
10. Biennial license renewal and Continuing Professional Competency (CPC) credits. At least 15 CPC credits must be completed during the proceeding biennial period, and 2-8 of these credits shall be in professional practice ethics, in order for a PE to renew his/her license in New Jersey.

The first step for a BEE student, beyond completing his/her undergraduate degree, is completing the Fundamentals of Engineering (FE) exam offered by National Council of Examiners for Engineering and Surveying. Engineering students typically take the FE exam late in their senior year or immediately following graduation. Students who wait too long to take the FE exam often forget the material that they have learned in classes. Most students devote 3-6 weeks to studying for the FE exam; other students may prefer to devote 2 months to studying. BEE alumni that have taken the FE exam have said that they felt the BEE curriculum prepared them well for the FE exam.

Students can find the current FE exam specifications, references, pass rates, and more at <https://ncees.org/engineering/fe>.

Once students have successfully completed the FE exam, they should begin working on their EIT application. Many engineering firms expect their entry-level engineers to possess an EIT license or be able to acquire an EIT license soon after starting the job. Students might find the links below to be helpful when they begin their EIT application.

- [NJ State Board of Professional Engineers and Land Surveyors Home Page](#)
- [N.J.A.C. 13:40 - State Board of Professional Engineers and Land Surveyors](#)
- [Notice to All EIT Applicants and FE Candidates](#)
  
- [EIT Application Directions and Eligibility](#)
- [EIT Application Form](#)
- [EIT Reference Form](#)