Environmental Engineering

Undergraduate Program
Student Handbook

RUTGERS–NEW BRUNSWICK
School of Environmental and Biological Sciences

RUTGERS–NEW BRUNSWICK
School of Engineering

Summer 2025

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

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Updates available online at https://cee.rutgers.edu/environmental-engineering-undergraduate-degree

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A. Introduction

The intention of this handbook is to inform Environmental Engineering (EnvE, code 366) undergraduate students about academic policies, procedures and requirements that are particular to the EnvE 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/).

Every effort was made to provide correct and up-to-date information in this student handbook. In case of discrepancies between what is described in this handbook and what is available through other means (web sites, personal interactions, etc.), please consult with your academic advisor and/or the EnvE Undergraduate Program Director or Co-Director.

Note, the EnvE program was designed to succeed the Bioresource Engineering (BRE) and BioEnvironmental Engineering (BEE) programs that used program codes 116 and 117. We are in the process of (slowly) converting these older program codes into the new 366 code. Note that some course numbers and titles still use this older terminology.

B. Program Overview

Environmental engineers utilize engineering principles and tools from the physical, chemical, and biological sciences to address and correct environmental challenges caused by human activities. Environmental engineers typically work in a variety of engineering fields including, but not limited to, air pollution control, bioremediation, environmental health and safety, hazardous waste management, contaminated site remediation, solid waste management, climate change mitigation, renewable energy generation, stormwater treatment, groundwater management, 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 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 environmental engineers
2. Qualified graduates will pursue advanced study if they so desire
3. Graduates will pursue leadership positions in their profession and/or communities

2. Student Outcomes

Graduates of the EnvE program will have demonstrated that they have attained the following Student Outcomes associated with the practice of Environmental Engineering and that were devised by the

Accreditation Board for Engineering and Technology (ABET; for additional information see https://www.abet.org/accreditation/):

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

C. Degree Programs

The EnvE program is a joint program of the School of Engineering (SoE) and the School of Environmental and Biological Sciences (SEBS). This programmatic organization is unique within Rutgers University. The program offers students a strong foundation in engineering, math, chemistry, physics, and biological sciences. In addition, upper-level courses provide graduates the environmental engineering tools and the ability to apply them to various environmental engineering fields.

Students matriculate into the joint four-year EnvE program through SoE. This means that EnvE undergraduate students have to meet the application requirements for admittance to SoE. The Bachelor of Science (B.S.) program in Environmental Engineering is accredited by the Engineering Accreditation Commission of ABET under the commission's General Criteria and Program Criteria for Environmental Engineering. The EnvE undergraduate program prepares graduates for taking the Fundamental of Engineering (FE) examination pursuant to becoming a licensed professional engineer (PE).

The Graduate and Undergraduate Programs in Environmental Engineering offer four degree options: A B.S degree in EnvE, a combined B.S. - M.S. Program (4+1 Program), a M.S. degree in EnvE, and a Ph.D. degree in EnvE.

1. EnvE B.S. Degree Program

Graduates in this program have to complete 129 credits before they can graduate. These credits include the General Education Requirements for SoE. The full list of General Education Requirements can be found at: https://soe.rutgers.edu/academics/undergraduate/engineering-curriculum.

a. 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) https://soe.rutgers.edu/academics/undergraduate/engineering-curriculum#tab=panel-5&chapter=humanities-social-science-amp-economics-electives-682 . Two of these courses (6 credits) are fulfilled by Expository Writing (355:101) and Engineering Economics (540:343), students may choose other H/SS courses to meet the remaining 12 credits. Note that at least two H/SS courses must be upper level (200+) courses.

As part of the EnvE undergraduate program, students are also required to take a 3-credit General Elective (see definition below). There are several courses that **MAY NOT** be used as a General Elective. https://soe.rutgers.edu/academics/undergraduate/engineering-curriculum#tab=panel-5&chapter=general-electives-690

The scholastic requirements for graduation are a cumulative grade-point average (GPA) of 2.000 and an EnvE major GPA of 2.000.

b. Curriculum

An overview of the four-year curriculum is presented on the next page.

ENVIRONMENTAL ENGINEERING (366) – for classes 2026-2028

Version 1/2023

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 14:440:127	Expository Writing I **OR** Introduction to Computers	3	01:355:101 14:440:127	Expository Writing I **OR** Introduction to Computers	3
01:640:151	Calculus I	4	01:750:124	Analytical Physics I-B	2
01:750:123	Analytical Physics Ia	2	14:440:221	Eng'g Mechanics: Statics	3
14:440:100	Eng'g Orientation Lect.	1	_____	Hum/Soc Elective	3
_____	Hum/Soc Elective	3			

SOPHOMORE YEAR					
01:119:103	Principles of Biology	4	01:160:209	Elementary Organic Chem	3
01:640:251	Multivariable Calculus	4	01:640:244	Differential Eqs (w/lin alg)	4
01:750:227	Analytical Physics IIa	3	11:117:333	Env. Eng. Anal. Tools	3
01:750:229	Analy Physics IIa Lab	1	14:180:243	Mechanics of Solids	3
14:180:215	Engineering Graphics	1	_____	General elective	3
14:440:222	Eng'g Mech: Dynamics	3			

JUNIOR YEAR					
01:160:211	Elem Organic Chem Lab	1	11:117:462	Des Solid Waste Trtmt	3
11:375:201	Environmental Biology	3	11:117:323	EnvE Fate & Transport	3
11:375:202	Environmental Chemistry	3	14:540:343	Engineering Economics	3
11:375:303	Num Methods (or 960:3xx/4xx)	3	14:650:351	Thermodynamics	3
14:180:387	Fluid Mechanics (or 650:312)	3	14:180:448	Elements of Hydrology	3
14:180:389	Fluid Mechanics Lab	1	_____	Hum/Soc Elec (200+)	3

SENIOR YEAR					
11:117:413	Unit Proc Env Eng I	3	11:117:414	Unit Proc in Env Eng II	3
11:117:423	EnvE Unit Processes Lab I	1	11:117:424	EnvE Unit Processes Lab II	1
11:117:474	Air Pollution Engineering	3	11:117:489	Env Eng'g Design II**	2
11:117:488	Env Eng'g Design I**	2	_____	Option Elective	3
11:375:322	Energy Technology	3	_____	Option Elective	3
_____	Option Elective	3	_____	Hum/Soc Elec 200+	3

Total credits: 129

****NOTE: SENIOR DESIGN**

For the Water Resources Option, students may take 14:180:431 Design of Environmental Engineering Facilities (4 credits) instead of 11:117:488,489 Environmental Engineering Design I and II (2 credits each)

ENVIRONMENTAL ENGINEERING (366) – for class of 2029+

Version 5/2025

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	14:440:102	ID3EA (Applications)	2
01:640:151	Calculus I	4	01:750:124	Analytical Physics I-B	2
01:750:123	Analytical Physics Ia	2	14:440:221	Eng'g Mechanics: Statics	3
14:440:101	ID3EA (Intro)	2	_____	Hum/Soc Elective	3
_____	Hum/Soc Elective	3			

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

JUNIOR YEAR					
01:160:211	Elem Organic Chem Lab	1	11:117:462	Des Solid Waste Trtmt	3
11:375:201	Environmental Biology	3	11:117:323	EnvE Fate & Transport	3
11:375:202	Environmental Chemistry	3	14:540:343	Engineering Economics	3
11:375:303	Num Methods (or 960:3xx/4xx)	3	14:650:351	Thermodynamics	3
14:180:387	Fluid Mechanics (or 650:312)	3	14:180:448	Elements of Hydrology	3
14:180:389	Fluid Mechanics Lab	1	_____	Hum/Soc Elec (200+)	3

SENIOR YEAR					
11:117:413	Unit Proc Env Eng I	3	11:117:414	Unit Proc Env Eng II	3
11:117:423	EnvE Unit Processes Lab I	1	11:117:424	EnvE Unit Processes Lab II	1
11:117:474	Air Pollution Engineering	3	11:117:489	Env Eng'g Design II**	2
11:117:488	Env Eng'g Design I**	2	_____	Option Elective	3
11:375:322	Energy Technology	3	_____	Option Elective	3
_____	Option Elective	3	_____	Hum/Soc Elec 200+	3

Total credits: 129

****NOTE: SENIOR DESIGN**

For the Water Resources Option, students may take 14:180:431 Design of Environmental Engineering Facilities (4 credits) instead of 11:117:488,489 Environmental Engineering Design I and II (2 credits each)

2. Combined B.S. - M.S. Degree Program (4+1 Program) for Environmental Engineering

The Graduate and Undergraduate Programs in Environmental Engineering (EnvE) offers a Combined B.S. - M.S. Program enabling qualified EnvE undergraduate students to be accepted into the EnvE graduate program in an expedited way, thus providing those students the possibility to earn an M.S. degree in a shortened time frame. EnvE undergraduates who have attained an overall GPA of 3.2 or higher and have completed (or are completing) their sixth semester are eligible to apply to the B.S. - M.S. program. Students usually apply during their sixth semester or right before their seventh semester. Interested students must have completed at least 96 credits of coursework by the end of their sixth semester of undergraduate study. Details can be found at https://envsci.rutgers.edu/academics/bee_grad/four-plus-one.html.

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. When a course requires a student to have completed specific prerequisites, that means that a student is only able to register for that course when all the prerequisites have been completed. As a result, EnvE students need to carefully plan the order in which they take certain courses if they want to stay on track. This is especially important considering that not all courses are offered every semester. In addition, few junior and senior courses are offered during the Summer or Winter sessions.

The prerequisite chart of the undergraduate curriculum provides 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 what prerequisites are required. The prerequisite chart is presented on the next page.

D. Electives

1. Option Electives

Courses identified as option electives allow students to learn about a specific topic in more depth. The curriculum options are Water Resources, Environmental Unit Processes and Remediation, Air Quality, and Sustainable Environmental Systems. Option electives consist of engineering, math, or science related courses that are appropriate for environmental engineers. Environmental engineering students are required to complete 9 credits of option electives (generally three 3-credit courses).

Students who select option courses from a single option will receive a certificate at graduation. Students who select the three option electives from different options will not receive a certificate.

Check with the Undergraduate Program Director before registering for an option elective course that is not on the approved list of option electives. The approved list of option electives can be found on the Environmental Engineering website.
https://environmental.rutgers.https://environmental.rutgers.edu/electivesedu/electives

2. Humanities/Social Science Electives

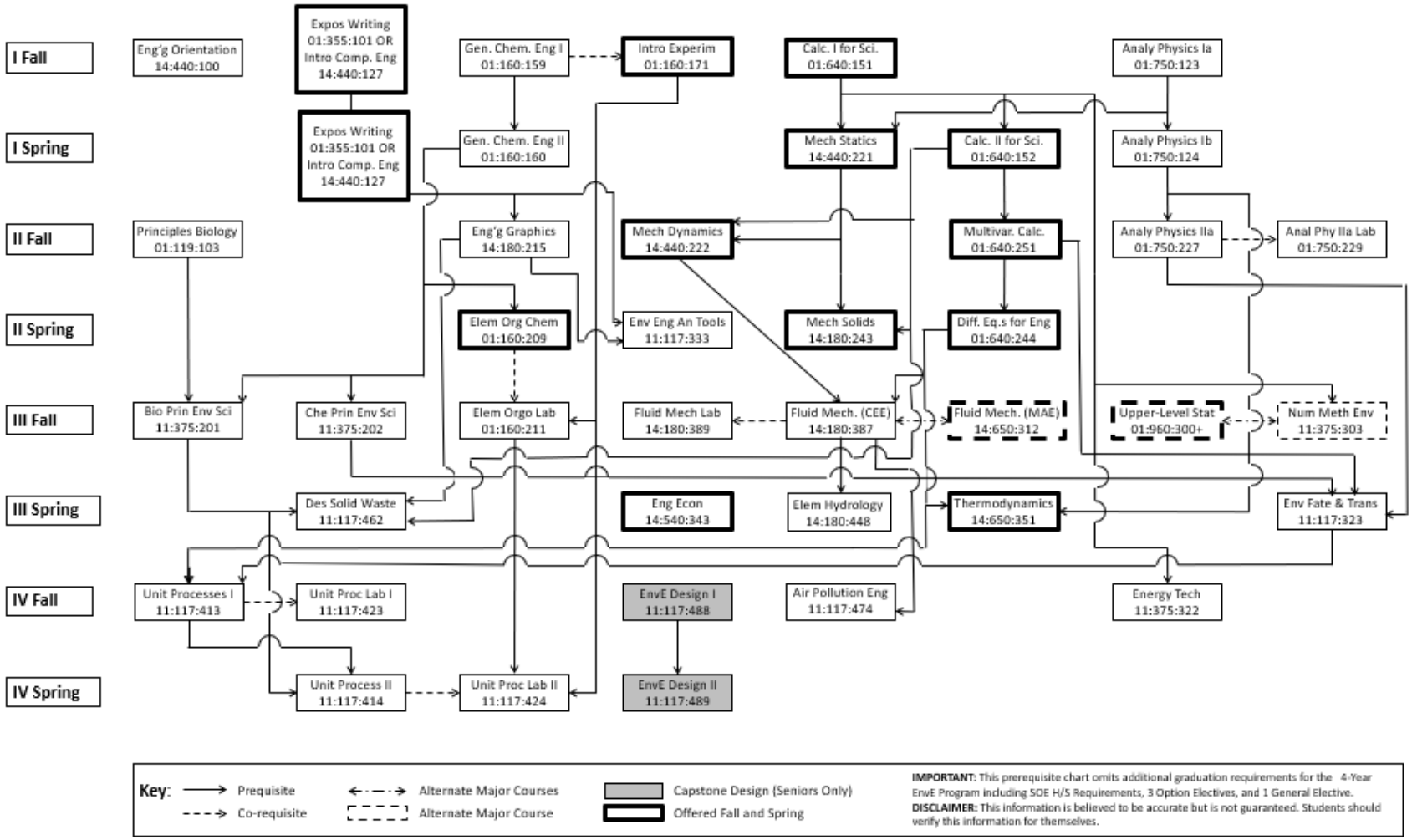
The purpose of humanities/social science electives is to help students "develop an understanding of the societal problems, a historical consciousness, a sense of values, knowledge of other cultures, an appreciation of the fine arts, and an ability to think logically and communicate effectively" (https://soe.rutgers.edu/academics/undergraduate/engineering-curriculum).

EnvE students must complete 18 credits of humanities/social science electives (see https://soe.rutgers.edu/academics/undergraduate/engineering-curriculum and section C.1 in this handbook).

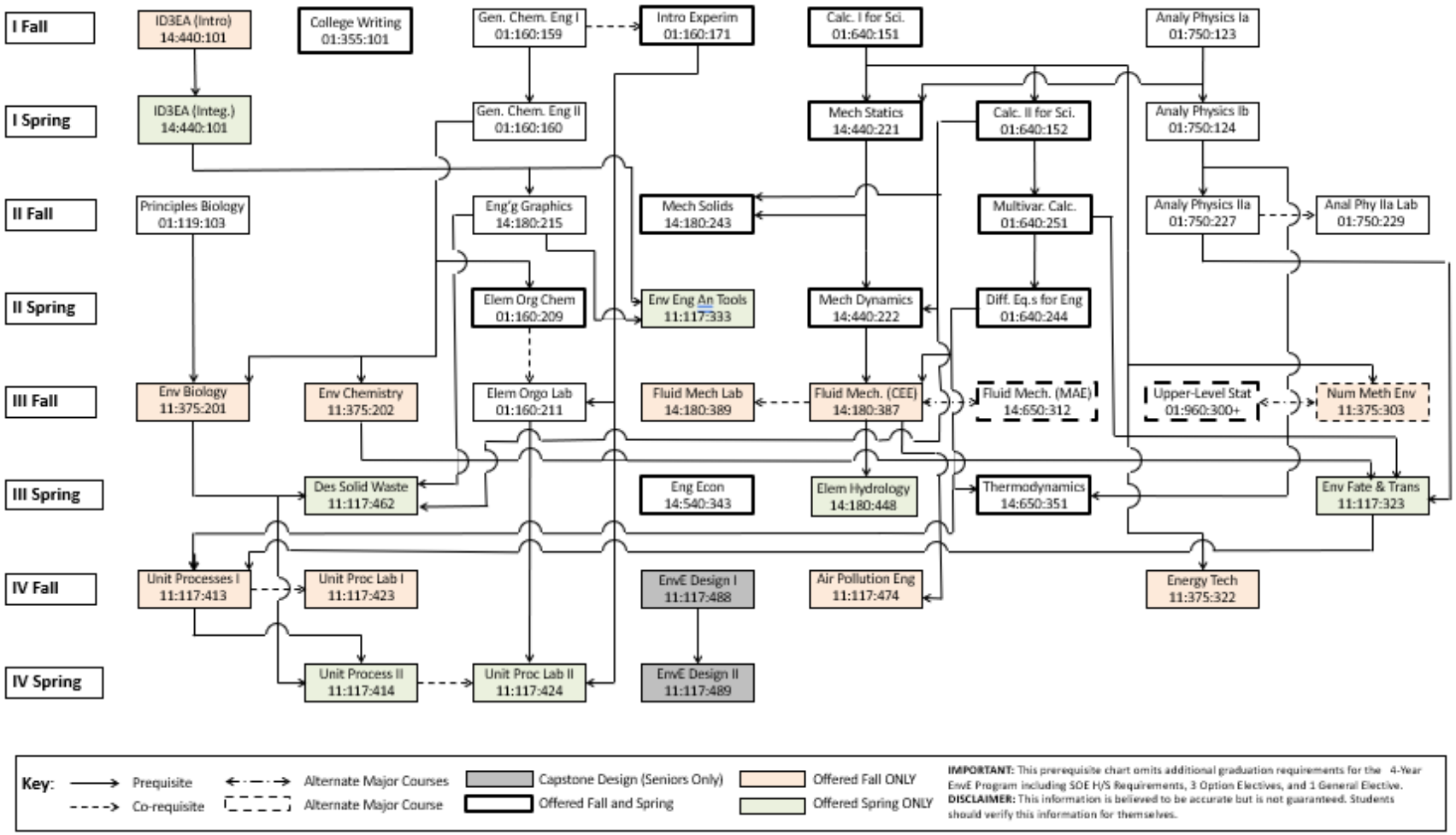
3. General Electives

A general elective is a 3-credit course used to fulfill the minimum number of required credits for graduation (129 credits). Almost any course could potentially be taken as a general elective with a few exceptions (https://soe.rutgers.edu/academics/undergraduate/engineering-curriculum).

Environmental Engineering 4-Year Curriculum Prerequisite Chart of Required Courses



Classes of 2024-2028



Classes of 2029+

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 in this schedule and corresponds to the number of degree credits earned thus far by the student; this does not include credits in progress. Students are urged to register for all their classes during their allocated registration time slot.
- Students may not register for two courses that conduct lectures, laboratories, or recitations at the same time of day. Furthermore, WebReg will require 40 minutes of travel time between classes on different campuses (exceptions are College Ave/Downtown NB and Busch/Livingston). 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 they 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 (SPN) (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. Additional credits (for a total of up to 21) may be added after the registration period has closed and only if the particular course is not yet filled or a student has received special permission to register for the additional credits.
- Following the undergraduate registration period, students may begin a semester with NO MORE THAN 21 credits if enrolled in SoE. Students must 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, School of Engineering Building, Rm. B100 (https://soe.rutgers.edu/academic-advising-and-policies/academic-policies/credit-loads).
- Students with prerequisite overrides for general first year courses, special permission numbers for general first year courses, maximum credit overrides, or other unique circumstances can use the online forms (https://soe.rutgers.edu/academic-advising-and-policies/academic-policies/special-permission-numbers). If needed, students can address issues in-person by visiting the Office of Academic Services, Busch Campus, School of Engineering Building, Rm. B100, or the Office of the Registrar at the Administrative Services Building on Busch Campus.
- Students may register for two Pass/No Credit elective courses (no more than 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 offering the course. Special permission numbers can be requested by email from the director of the graduate program that offers the course.
- If a student registers for and completes any two courses that duplicate each other in any 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 Class Periods

Period	80-min classes		55-min classes		180-min classes
1	8:30 – 9:50am	1*	8:45 – 9:40am	1,2	8:30 – 11:30am
2	10:20 – 11:40am	2*	10:35 – 11:30am	2,3	10:20am – 1:20pm
3	12:10 – 1:30pm	3*	12:25 – 1:20pm	3,4	12:10 – 3:10pm
4	2:00 – 3:20pm	4*	2:15 – 3:10pm	4,5	2:00 – 5:00pm
5	3:50 – 5:10pm	5*	4:05 – 5:00pm	5,6	3:50 – 6:50pm
6	5:40 – 7:00pm	6*	5:55 – 6:50pm	6,7	5:40 – 8:40pm
7	7:30 – 8:50pm	7*	7:45 – 8:40pm	Grad Eve	6:00 – 9:00pm
8	9:20 – 10:40pm	8*	9:35 – 10:30pm	7,8	7:30 – 10:30pm

3. Course Schedule Planner

The Course Schedule Planner (CSP) is very helpful in planning a schedule for future semesters (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 completely accurate when using the last feature, because course availability might change (e.g., when an instructor is not available to teach a course during a particular semester).

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, option electives, humanities/social science electives, 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 courses they want to take the following semester. A registration schedule is emailed to all students each semester, specifying the registration dates and times during which students with a certain number of completed degree credits may register for courses.

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://nbregistrar.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 they wish to register for. These numbers may be found in the Course Schedule Planner (CSP; see section E.3) or the Online Schedule of Classes (https://sis.rutgers.edu/soc/#home). 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

Pre-requisite overrides are extremely rarely granted for required major courses, but may be reasonable for an elective course taken through another department/degree program. Students can request a prerequisite override from the undergraduate program director **of the program or 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 sent directly to the Registrar for SEBS (for junior and senior year students) or be submitted through SoE's prerequisite webform at https://soe.rutgers.edu/oas/specialregistration (for first and sophomore year students; i.e., for students who have completed an equivalent course but that course is not listed as the pre-req on SoC/WebReg). Personnel in the respective academic office 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.

Programs or departments sometimes have slightly different procedures for handling prerequisite overrides that deviate from the above-described general procedure. Therefore, the website or the handbook of the department offering the course should be checked.

For all undergraduate Environmental Sciences (375) and Environmental Engineering (117/366) courses, the following information should be emailed to the respective undergraduate program director:

Name:

RUID:

Course title and number:

Index number:

Reason for the prerequisite override request:

For undergraduate Environmental Sciences (375) and Environmental Engineering (117/366) courses, after a prerequisite override is requested and approved, 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 (SPN) from the undergraduate director **of the program/department offering the course**. Once a student has obtained a special permission number, they may register for the course by entering the SPN in WebReg, or by either bringing the number to the SEBS Office of Academic Programs (Cook Campus, Rm. 109 in Martin Hall) or by contacting the office via Online Chat at sebs.rutgers.edu, or by entering it in SoE's prerequisite webform at https://soe.rutgers.edu/academic-advising-and-policies/registration-and-scheduling.

Programs or departments sometimes have slightly different procedures for handling special permission

numbers that deviate from the above-described general procedure. Therefore, the website or the handbook of the program or department offering the course should be checked.

For undergraduate Environmental Sciences (375) and Environmental Engineering (117/366) courses, after a special permission number is requested and approved, the undergraduate program directors will email the Registrar the special permission numbers and request course registration.

9. Pass/No Credit Courses

Two elective courses (no more than one per semester) can be taken on a Pass/No Credit basis with the permission of the Office of Academic Services (Busch Campus, School of Engineering Building, Rm. B-100). 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/pass-no-credit-course-application, 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 major. 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 semesters. 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. Students are strongly encouraged 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. Students pursuing an Honors thesis, a James J. Slade Scholars project (https://soe.rutgers.edu/student-experience/student-research/james-j-slade-scholars-program), or a George H. Cook Scholars project (https://sebshonors.rutgers.edu/gh-cook-scholars/) students need to register for Special Problems courses to work on their research projects. Students who want to enroll in special problems/topics courses in EnvE 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 covers the same topic(s) as a course they have already received credit for.

Students should contact the Undergraduate Program Director and 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 EnvE faculty adviser need to be completed. Note that approval needs to be arranged **before** the internship or co-op experience starts.

12. Graduate Courses

Undergraduate students 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 their graduate school education. However, the undergraduate student must obtain approval of the graduate course instructor and/or the director of the graduate program offering the course. For registering for graduate courses, consult section E.1.

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 https://soe.rutgers.edu/academic-advising-and-policies/academic-policies/repeating-courses and SEBS's policies at https://catalogs.rutgers.edu/generated/nb-ug_current/pg793.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 they are 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.
- 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 another college/university, ONLY the credits earned for those courses will be applied towards the degree at Rutgers University. Grades earned for

those 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 for which courses can be taken at other colleges/universities. More information about SEBS policies regarding taking courses outside Rutgers University can be found at https://sebs.rutgers.edu/academics/transfer-course-preapproval.php and about SoE policies at http://soe.rutgers.edu/oas/transfer-courses.

Additional Information

- 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. It is recommended to talk to your academic advisor before considering taking courses at other universities/colleges for which you want to transfer credits to your degree program.

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 SoE from outside of Rutgers University

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

Advice for Transfer Students Entering the EnvE Program

- It is recommended that transfer students meet the SoE external (outside-of-Rutgers) transfer requirements, including 2 semesters of calculus, 1 semester of calculus-based physics, and 1 semester of chemistry (https://soe.rutgers.edu/oas/transfer_external). 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 EnvE engineering curriculum prior to transferring to Rutgers University such as taking courses including Engineering Mechanics – Statics, MATLAB Programming, Expository Writing/English Composition, and Calculus.
- If coursework did not transfer as degree credit to your Rutgers transcript, then you may wish to appeal the transcript decision. For example, if you completed Principles of Biology 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 with the Transfer Dean and thereby avoid retaking the course if the appeal is approved.
- 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.

I. Advising and Mentoring

1. Faculty Advisors

Undergraduate Program Directors

Dr. Donna Fennell ENR Room 252A	848-932-5748	fennell@envsci.rutgers.edu
Dr. Nicole Fahrenfeld RWHE Room 328D	848-445-8416	nfahrenf@soe.rutgers.edu

Environmental Engineering Faculty

Dr. A.J. Both ENR Room 248	848-932-5730	both@sebs.rutgers.edu
Dr. Nicole Fahrenfeld RWHE Room 328D	848-445-8416	nfahrenf@soe.rutgers.edu
Dr. Donna E. Fennell ENR Room 252A	848-932-5748	fennell@envsci.rutgers.edu
Dr. Weilin Huang ENR Room 258	848-932-5735	whuang@envsci.rutgers.edu
Dr. Xiaomeng Jin ENR Room 230	848-932-5781	xiaomeng.jin@rutgers.edu
Dr. George Guo RWHE 328F	848-445-2983	qguo@soe.rutgers.edu
Dr. Uta Krogmann ENR Room 246	848-932-5729	krogmann@envsci.rutgers.edu
Dr. Yalin Li RWHE 328A	848-445-2870	yalin.li@rutgers.edu
Dr. Monica Mazurek RWHE 322F	848-445-2871	mmazurek@soe.rutgers.edu
Dr. Rob Miskewitz ENR 344	848-932-5707	rmiskewi@envsci.rutgers.edu

Dr. Elodie Passeport ENR 346	848-932-6740	ep756@envsci.rutgers.edu
Dr. Efthymios Nikolopoulos, RWHE	848-445-9338	efthymios.nikolopoulos@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. Sid Roy ENR 360	848-932-5780	sr2002@envsci.rutgers.edu
Dr. Roger Wang RWHE 328E	848-445-4288	rq.wang@rutgers.edu

Advisors by graduation year:

Drs. Obropta and Wang	*Graduation in 2025*
Drs. Both and Nikolopoulos	Graduation in 2026
Drs. Krogmann & Guo	Graduation in 2027
Drs. Passeport & Mazurek	Graduation in 2028
Drs. Jin & Li	Graduation in 2029

Department Chairs:

Environmental Sciences: Dr. Donna Fennell, ENR Room 252A, fennell@envsci.rutgers.edu

Civil & Environmental Engineering: Dr. Nenad Gucunski, RWHE 304C, gucunski@soe.rutgers.edu

Note: Environmental Engineering students should see their academic advisor once per semester and no less than once per academic year to review academic progress, plan internships, and get general career advice.

2. Deans and Academic Offices

SEBS Office of Academic Programs, Cook Campus

Courses, Credits and Scheduling after transfer to SEBS

848-932-3000 -- Cook Campus, Rm. 109 Martin Hall, 88 Lipman Drive, New Brunswick, NJ

Online Chat at sebs.rutgers.edu during weekdays

(Online contact form: https://sebs.rutgers.edu/academics)

SOE Office of Academic Services, Busch Campus

Courses, Credits and Scheduling before transfer to SEBS, Degree Requirements

848-445-2212 -- Busch Campus, Engineering Building, Rm. B100, 98 Brett Rd, Piscataway, NJ

(Online contact form: https://soe.rutgers.edu/academic-advising-and-policies/advising-resources)

Rutgers Office of the Registrar (Busch Campus)

Academic Records, Registration, Transcripts and Verifications, Posting of Grades and Degrees

732-445-3536 -- Dr. Samuel Dewitt Proctor Hall, Busch Campus, 65 Davidson Road, Piscataway, NJ 08854 (http://nbregistrar.rutgers.edu)

3. Degree Navigator

Degree Navigator is a tool that students are required to use to determine the course requirements for graduation (https://soe.rutgers.edu/oas/degreenavigator). Students are encouraged to consult the Degree Navigator System regularly to monitor progress, although it is not a substitute for a consultation with an academic advisor. Instructions for how to use degree navigator are available at: https://success.rutgers.edu/tips-tutorials.

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

- Upper-level EnvE students are excellent resources for information regarding courses and registration. Network with your peers to learn about informative insights.
- Students are encouraged to participate in the activities of the Students for Environmental & Energy Development (SEED) club (https://rutgers.campuslabs.com/engage/organization/SEED/) and/or Rutgers American Water Works Association (AWWA) student chapter (https://www.facebook.com/RutgersUniversityAWWA/). Look out for announcements. Consider also participating in other student organizations and clubs that are listed on the SEBS (https://sebs.rutgers.edu/student-organizations-programs) and SoE (http://soe.rutgers.edu/student-organizations) websites. For example, service clubs such as Engineers without Borders and Engineers in Action may be of interest. In addition, the Reilly Douglas Engineering Living-Learning Community (https://douglass.rutgers.edu/wise/stem-llcs) provides

opportunities for incoming women in SoE to connect with each other, while being a part of the unique environments of the Douglass Residential College and the School of Engineering community. 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

The Principles of Academic Integrity at Rutgers require that students:

(*This is taken word-for-word from http://nbacademicintegrity.rutgers.edu/*)

- Make sure that all work submitted for a course, academic research, or other activity is the student's own and created without the aid of impermissible technologies, materials, or collaborations.
- Properly acknowledge and cite all use of the ideas, results, images, or words of others.
- Properly acknowledge all contributors to a given piece of work.
- Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with the student's interpretation or conclusions.
- Treat all other students ethically, respecting their integrity and right to pursue their educational goals without interference. This principle requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- Uphold the ethical standards and professional code of conduct in the field for which the student is preparing.

Violations of Academic Integrity

(This is taken word-for-word from https://nbacademicintegrity.rutgers.edu/academic-integrity-policy***)***

Plagiarism: Plagiarism is the use of another person's words, ideas, images, or results, no matter the form or media, without giving that person appropriate credit. To avoid plagiarism, a student must identify every direct quotation using quotation marks or appropriate indentation and cite both direct quotation and paraphrasing 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 one's own words another person's written words or ideas as if they were one's own, regardless of the nature of the assignment.

• Incorporating into one's work graphs, drawings, photographs, diagrams, tables, spreadsheets, computer programs, or other non-textual material from other sources, regardless of format, without proper attribution.

Cheating: Cheating is the use or possession of inappropriate or prohibited materials, information, sources, or aids in any academic exercise. Cheating also includes submitting papers, research results or

reports, analyses, and other textual or visual material and media as one's own work when others prepared them. Some common examples are:

- Prohibited collaboration: 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 having access to books, notes, calculators, cell phones, technology, 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 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 before the examination.
- Having a substitute take an examination in one's place.
- Submitting a purchased or downloaded term paper or other materials to satisfy a course requirement.
- Submitting as one's own work a term paper or other assignment prepared, in whole or in part, 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 include the following:

- Citing a source that does not exist.
- Making up or falsifying evidence or data or other source materials.
- Falsifying research papers, reports, or other documents by selectively omitting or altering data that do not support one's conclusions or claimed experimental precision.
- Falsifying patient or client records.
- Falsely documenting experiential and/or internship opportunities that did not occur.
- Providing falsified excuses, documents, or other information to excuse late or missed assignments, or to justify regrading

Facilitation of Dishonesty: Facilitation of dishonesty is deliberately or carelessly 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 deliberately facilitates a violation of academic integrity can be subject to the same sanctions 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 complete a quiz or examination or assisting others to do so.
- Distributing an examination from an unauthorized source before the examination.
- Distributing or selling a term paper to other students.
- Taking an examination for another student.
- Allowing other students access to your work in violation of course policies.

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.

• Misrepresenting the contributions of others in the group to give more credit to one particular student for one's gain.

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 code of the profession for which a student is preparing.
• Using unethical or improper means of acquiring, analyzing, or reporting data in a course research project, 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 illicitly obtained materials committed as part of an act of academic dishonesty. Some examples are:

• Unauthorized acquisition of an examination from a faculty member or electronic files.
• Selling, buying, or distributing an 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://nbacademicintegrity.rutgers.edu/**

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 https://sebs.rutgers.edu/academics/scholastic-standing 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 8th week of the semester by phone or online, or withdraw with the permission of the Associate Dean prior to the 12th week of the semester. Beyond the 12th 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 8th week of the term online or in person. Beyond the 8th 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, they receive a "W" grade for that course, which appears on their transcript, but is not used to calculate the student's term or cumulative GPAs. However, it might affect their course completion rate and therefore 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 need to submit this form to the SEBS Office of Academic Programs; SoE students need to 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 (9th 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 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 as the original course. Unsuitable course substitutions will 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 semester or one summer and a co-op as work experience over several semesters. 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 (through the process outlined for Special Problems) or no credit.

Some students find their internships or co-ops on their own, others find them via Rutgers resources. Throughout the year, the Undergraduate Program Director emails various opportunities to the EnvE 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. Internship/co-op opportunities pertaining to EnvE majors include:

- Aresty Research Center
- Rutgers- New Brunswick Handshake

- Faculty Research Projects (please contact individual faculty members to discuss opportunities)
- Rutgers Center for Advanced Infrastructure & Transportation (CAIT)
- Rutgers Center for Urban and Environmental Sustainability (CUES)
- Rutgers Climate & Energy Institute (RCEI)
- 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 strongly 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. Students are advised to begin planning early if study abroad is of interest so that required coursework can be completed on time. Students are encouraged to discuss various opportunities with their academic 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 can be fundamental to an environmental engineer's career. The professional registration process for engineers in New Jersey consists of several steps (review requirements by state for the registration procedures followed by other states):

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. Note that this exam is not administered by Rutgers University and students have to make their own arrangements to take the exam.
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.
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 of 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.
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 their license in New Jersey.

The first step for an EnvE student, beyond completing their undergraduate degree, is completing the Fundamentals of Engineering (FE) exam offered by the 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 their courses. Most students devote 3-6 weeks to studying for the FE exam; other students may prefer to devote 2 months to studying. EnvE alumni that have taken the FE exam have said that they felt the EnvE 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
- EIT Application Form
- EIT Reference Form