

“2+2” or PRE-ENGINEERING PROGRAM
College of Arts and Sciences at Rutgers-Camden
(April 2013)

The School of Engineering at Rutgers–New Brunswick offers a pre-engineering program through the College of Arts and Sciences at Rutgers–Camden. Students spend their first two years at Rutgers–Camden taking pre-professional courses that will prepare them for the engineering major. Upon successful completion of prerequisite classes at Rutgers–Camden, students are eligible to apply for transfer to the School of Engineering in New Brunswick to complete their Bachelor of Science degree.

1. Transfer Requirements

Minimum requirements for all majors include completion of **Calc I & II (50:640:121 & 122); Elements of Physics I & Lab (50:750:131 & 133); Intro. Sci. Comp. (50:750:140); and Chem I, II & lab (50:160:115, 116, & 125)**. Other courses to take include **English Composition (50:350:101)** and **Mechanics I (50:750:253)**. Note that Chem II (50:160:116) is not required for the ECE major but it can be used as a tech elective at ECE.

A cumulative GPA of at least 3.0 is expected with “C+” or better in all the key courses in math, engineering, or sciences subjects. To transfer, submit an online application for a school-to-school transfer through Rutgers Admissions (<http://admissions.rutgers.edu/schooltoschool>).

2. Can I transfer to the SOE with junior status and graduate after 2 additional years?

If your goal is to transfer to the School of Engineering with junior status and plan to graduate after 2 additional years, there are certain critical second-year courses for each major that should be completed before enrolling at SOE in New Brunswick (in addition to the second-year math & science courses listed on your 2+2 curriculum):

All Majors

50:640:221, Unified Calculus III
50:640:314, Elementary Diff. Eqs.
50:750:132 & 134, Elements of Physics II & Lab
50:220:102, Micro-Econ Principles (Note that Macro-Econ is no longer required at the SOE)

Civil Engineering

14:440:222, Dynamics, 50:750:254 at CCAS, or NB Summer
14:180:243, Mechanics of Solids, 50:750:291 at CCAS or NB Summer
50:750:232, Modern Physics, not required for Civil but acceptable as tech elective

Electrical & Computer Engineering (ECE)

14:332:221/223, Prin EE I, 50:750:233/235 at CCAS
14:332:222/224, Prin EE II, 50:750:234/236 at CCAS or NB Summer
14:332:231/233, DLD, 50:750:308/312 or 50:198:333/334 at CCAS or NB Summer
14:332:252/254, Prog Meth I, 50:198:113/114 at CCAS or NB Summer
14:332:226, Probability & Random Proc, 50:960:283 at CCAS

For the **EE option in ECE**, the last three courses are not essential for junior status, but must be made up with junior & senior courses if not completed before the transfer. For the **Computer option in ECE**, DLD & Prog Meth I should be completed in order to be guaranteed for the junior status. Due to differences in programming languages in Camden (Python) and NB (JAVA, C++), students who want to complete the **Computer Option in ECE** should complete 50:198:111/112, 113, and 213 in Camden, or wait to take 14:332:252/254 and 351 in NB (which may require an extra year). In addition, 50:750:232 (Modern Physics) is not required for ECE, but acceptable as technical elective; and 50:160:116 (Chem II) is not required for ECE, but accepted as math/science elective.

Mechanical Engineering

14:440:222, Dynamics, 50:750:254 at CCAS or NB Summer
14:650:291, Intro Mech of Matls, 50:750:291 at CCAS or NB Summer
14:332:373/375, Elements of EE, 50:750:233/235 is acceptable
14:650:231, ME Comp Analysis & Design, NB Summer (helpful but not essential for junior status)

Chemical Engineering

50:160:335/339/336/340, Organic Chem I, II, & Labs
14:155:201, Chem Engineering Analysis I, NB Summer
14:155:208, ChE Thermo, NB Summer.
50:750:232, Modern Physics, not required but acceptable as tech elective.

Packaging Engineering/Applied Sciences in Engineering

50:750:232, Modern Physics
50:160:335, Organic Chemistry
14:440:222, Dynamics, 50:750:254 at CCAS or NB Summer

Other majors available are **Bioenvironmental Engineering**, **Biomedical Engineering**, **Materials Science & Engineering**, and **Industrial Engineering**. In some cases second and third year major courses may be taken together at NB for students who wishes to complete in two more years. But in most cases for these majors, it is **recommended** to transfer after completing the first-year pre-engineering curriculum at Rutgers-Camden.

3. Curriculum requirements and academic policies at the SOE

Curriculum requirements for each program: soe.rutgers.edu/oa/degree_programs
Requirements on electives (Gen., H/SS, Tech., & Dept.): soe.rutgers.edu/oa/electives
General academic policies and procedures: soe.rutgers.edu/oa

4. Housing

Once your application for transfer has been approved you may submit an application to be on the waiting list for on campus housing (ruoncampus.rutgers.edu). Call 732-932-1001 with any questions. Housing is offered to school-to-school transfers on a space available basis and is not guaranteed. It is advisable to consider off-campus housing as an alternative if necessary (ruoffcampus.rutgers.edu).