



Engineering Dual Degree

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Introduction

Building on the strengths of majors in physics, mathematics, computer science, chemistry, and biology, the University of Richmond offers students with special career goals the ability to pursue two bachelor's degrees in a five or six-year period. This program allows a student to earn a Bachelor degree of their choosing from Richmond and an additional Bachelor of Science in Engineering from Columbia University.

The students time at Richmond provides the benefits of a small liberal arts education with small class sizes, strong faculty-student connections and a breadth of curriculum before entering a more focused engineering program at Columbia.

3-2 Program at Columbia

In the 3-2 program a student will receive two bachelor's degrees within a five-year period. During the first 3 years the student attends the University of Richmond and takes courses to fulfill all major and general education requirements for a University of Richmond degree as well as specified pre-engineering coursework (see planning for a dual degree). Courses in the fourth and fifth year at Columbia University complete requirements for a second bachelor's degree from Columbia University.

The majority of student completing the dual program choose the 3-2 option. However, this often requires the student to enroll in some summer courses to complete the University of Richmond courses and pre-engineering courses in three years.

4-2 Program at Columbia

A 4-2 program would be of interest to students who wish to complete four years at Richmond before moving on to complete a bachelor's degree in engineering at Columbia University. During the first 4 years the student attends the University of Richmond and takes courses to fulfill all major and general education requirements

for a University of Richmond degree as well as specified pre-engineering coursework. Courses in the fifth and sixth year at Columbia University complete requirements for a second bachelor's degree from Columbia University. Some students choose to apply to this program while also applying to graduate programs.

Planning for a Dual Degree

For students interested in the 3-2 program, it is important to start your planning in the first year at Richmond, if possible. The dual degree program has a common set of requirements which should be completed during the student's time at Richmond:

- All of the Richmond general education requirements must be met.
- All of the Richmond major requirements must be met.
- Mathematics 211, 212 and 235 must be completed.
- Physics 131 and 132, Chemistry 141, and Computer Science 150 must be completed.
- Each engineering major requires additional course work. Details can be found at preengineering.richmond.edu.

Natural majors for those interested in engineering are physics, chemistry, mathematics, and computer science, although any major can work. It is important that students interested in these programs consult with the dual degree advisor as early as possible.

Program Applications and Financial Aid

Students complete the application for the Columbia dual degree program early in the spring semester of the third or fourth year. It is important to note that financial aid and scholarships through the University of Richmond do not transfer, although student loans can likely continue. Students can apply to Columbia for financial aid.

Consider the Options

The dual degree program is an important option for students who are not sure about their career goals. The advantage of coming to Richmond is that students will receive a liberal arts education and do not have to commit to engineering from day one. They have time to test their interests in science and mathematics courses. Students may discover other things that interest them; however, if they remain excited about an engineering career, the option is here at Richmond.

In addition, many graduates choose to apply directly to Master's and Ph.D. engineering programs after graduation from the University of Richmond.

Graduate School in Engineering

Each year graduates from the University of Richmond are accepted into graduate programs in engineering and related fields. Many of these students major in physics, interdisciplinary physics, or chemistry to provide them a strong background before they begin graduate work. Below is an abbreviated list of programs attended by recent graduates:

- Carnegie Mellon University: Mechanical Engineering
- Cornell University: Biomedical Engineering
- McMaster University: Mechanical Engineering
- Northwestern University: Materials Science and Engineering
- Ohio State University: Aerospace Engineering
- Old Dominion University: Nuclear Engineering

Columbia University

The Fu Foundation School of Engineering and Applied Science:

- 1500 undergraduate students
- 16 fields of study

Requirements for Transfer to Columbia:

- Successfully complete both the foundational coursework and the major-specific coursework encouraged for admission into Columbia by the end of the spring semester of application.
- Complete all UR degree and major requirements at UR by the end of the spring semester of application.
- Students should strive to maintain a minimum overall and pre-engineering GPA of 3.30 and a minimum grade of a B (3.0) on the first attempt of each suggested course (both foundational and major-specific).

Programs Available at Columbia:

- Applied Mathematics
- Applied Physics
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Earth and Environmental Engineering
- Electrical Engineering
- Engineering Management Systems
- Engineering Mechanics
- Financial Engineering
- Industrial Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Operations Research



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