



## 3/2 Engineering Program Frequently Asked Questions (FAQ)

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### Answers:

#### 1. What is the 3/2 program?

The 3/2 pre-engineering program is a cooperative agreement between Hendrix College and a small number of colleges that offer ABET-accredited engineering programs. The program is sometimes also called "combined degree" or "dual degree." The student begins at Hendrix College, and completes most or all of the graduation requirements for a B.A. in the first three years of college. During the third year at Hendrix, the student applies to the engineering school for the 3/2 program. If accepted, the student then attends school for two years at the engineering school. During those two years, the student completes the junior- and senior-level engineering classes. The student may also complete any courses needed to finish the degree at Hendrix College. At the end of the five years, the student will have a B.A. from Hendrix and a B.S. in engineering from the engineering school.

#### 2. What engineering schools are available?

Three engineering schools currently have cooperative agreements with Hendrix College. They are:

**Columbia University** in New York City, NY  
<http://undergrad.admissions.columbia.edu/apply/combined-plan>

**Vanderbilt University** in Nashville, TN  
<http://engineering.vanderbilt.edu/Home.aspx>

**Washington University in St. Louis** in St. Louis, MO  
<https://engineering.wustl.edu/prospective-students/dual-degree/>

### **3. What are the benefits of doing the 3/2 program?**

Academic: The first three years at Hendrix provide the academic foundation for the engineering study. By taking the foundation courses such as calculus, physics, and chemistry at Hendrix College, the student receives the benefit of small class sizes (20-30 students per class at Hendrix vs. 100-500 students per class at the engineering schools) and individual attention from the dedicated faculty at Hendrix College. The student also receives an excellent, well-rounded liberal arts education. Hendrix students have the opportunity to participate in the Hendrix Odyssey Program. The engineering schools provide an ABET-accredited engineering degree, which prepares the future engineer for industry or government work. The Hendrix liberal arts experience combined with the technology-focused education at the engineering schools provides the very best benefits of both types of schools.

Competitive Admissions: The engineering schools in our cooperative agreement have excellent engineering programs, and are highly competitive for admission into their programs. Each year, these schools reserve a small number of seats for students from Hendrix and other schools like us across the nation. The quality of student applications for these spots is extremely high, but the probability of receiving admission through the 3/2 program is much higher than the probability of receiving admission into the engineering program as a freshman.

Financial: Hendrix College is consistently ranked as one of the "best buys" for undergraduate education in the United States. As such, three years at Hendrix costs only slightly more than two years at the available engineering schools, especially when cost of living is included. The 2017 costs (before financial aid):

<b>School</b>	<b>tuition+ room &amp; board per year</b>	<b>3 years</b>	<b>2 years</b>
Hendrix	\$54,020	\$162,060	
Columbia	\$69,084		\$138,168
Vanderbilt	\$63,532		\$127,064
WUSTL	\$67,751		\$135,502

At Hendrix College, 100% of students receive some form of tuition assistance, with an average 89.7% of financial aid met in 2016. Financial aid is also available at the engineering schools.

#### **4. What types of engineering are available?**

There are many types of engineering. Most of these schools offer the standard types: mechanical, electrical, chemical, and computer. In addition, there are a variety of other types offered at some schools such as civil, systems, environmental, biomedical, and industrial engineering. Each school offers different types of engineering degrees. For the most complete and correct lists, please visit the links given in the answer to question #2 to see which engineering programs are offered by each partner school.

#### **5. What classes do I need to take at Hendrix?**

Each engineering school has a list of classes that must be completed at Hendrix before admission to the 3/2 engineering program. The list of classes is usually dependent on the type of engineering. These lists are here:

Columbia University

[https://undergrad.admissions.columbia.edu/sites/default/files/2017-18\\_combined\\_plan\\_curriculum\\_guide\\_v4.pdf](https://undergrad.admissions.columbia.edu/sites/default/files/2017-18_combined_plan_curriculum_guide_v4.pdf)

Vanderbilt: not available on their website at this time.

Washington University in St. Louis

<https://engineering.wustl.edu/prospective-students/dual-degree/Pages/default.aspx>

In general, students applying to the 3/2 program should complete the degree requirements for the major that most closely relates to the type of engineering they wish to study, plus multivariable calculus, linear algebra, and two computer science programming courses. A course in economics is also required for admission to Columbia.

#### **6. What major should I choose at Hendrix?**

The choice of major at Hendrix depends on the type of engineering degree being sought. The first step is to investigate the course requirements needed for admission into the desired type of engineering. Next, find the major at Hendrix that requires the largest number of those courses required for admission into the engineering program. For example, a person interested in civil, mechanical, or electrical engineering will typically major in physics. A person interested in chemical or biochemical engineering might major in chemistry, chemical physics, or biochemistry-molecular biology. A person interested in computer engineering should major in computer science. The courses required for each major offered at Hendrix can be found in the Hendrix Catalog at <http://www.hendrix.edu/catalog/>

#### **7. Can I do a double major or a minor or study abroad while at Hendrix and still do the 3/2 program?**

Finishing requirements for a Hendrix B.A. degree with one major in three years is difficult and requires careful preparation and planning. Students will not typically have time to also complete a second major or a minor or have time to take a complete semester to study abroad. However, if a student arrives at Hendrix with multiple transfer credits from taking college-level courses, it is possible to complete something beyond the one

major. Also, students will often have time to do a study abroad experience during a summer through the Hendrix Odyssey program.

### **8. How do I apply to the engineering school?**

During the junior year at Hendrix, students will apply to one or more of the engineering schools for admission into their 3/2 program. Each school has its admissions forms and applications available on its website. Students should schedule regular advising meetings with Dr. Wright during each year at Hendrix to receive help in this process.

### **9. What financial aid is available?**

Financial aid packages provided by Hendrix College provide assistance while the student is studying at Hendrix and do not continue while the student is at the engineering school. Outside scholarships may or may not apply to the engineering school tuition, depending on the details and requirements of each scholarship. Each engineering school offers its own financial aid packages, and it is the student's responsibility to apply for these programs at the time of application to the program at each school. Details for each school:

Columbia University

<http://cc-seas.financialaid.columbia.edu/>

Vanderbilt University

<http://www.vanderbilt.edu/financialaid/>

Washington University in St Louis

<https://engineering.wustl.edu/prospective-students/dual-degree/Pages/financial-assistance-scholarships.aspx>

### **10. What should I do in high school to be prepared for entry into the Hendrix 3/2 program?**

The most important preparation for a high school student who wishes to apply for the engineering program is a solid foundation in mathematics. The student must be ready to take Calculus I during their first semester at Hendrix in order to complete most of the majors that will prepare the student for a 3/2 program in three years. It is also desirable if the student has received one or more AP credits to apply toward course credit at Hendrix.

### **11. What if it takes longer than 3 years to complete the Hendrix degree?**

It is not unusual for a student to begin at Hendrix with the intention to do the 3/2 program, and then not complete the Hendrix degree in three years. For example, maybe the student decides that engineering or even science is not a good fit for their talents. Maybe the student develops a love for another discipline while at Hendrix. Or, perhaps the student really wants to pursue a minor or a double major and cannot fit all of the required classes into the three years. Other students decide that study abroad or an internship is important to them personally, and decide to take a half or full year to explore that option. A student who decides to pursue the 3/2 program after their freshman year has started often will not be able to complete all requirements in three years if they do not

begin the process until their second year. Still other students, especially athletes, wish to stay at Hendrix for four years so that they can enjoy all that Hendrix has to offer before moving on to the engineering school. All of these examples illustrate the fact that the 3/2 program is difficult and requires careful planning.

The good news is that there are several options available to these students. Students who lack only a few course credits or courses for their major may take those courses at the engineering school and transfer them back to Hendrix to complete the Hendrix degree. Washington University in St. Louis (but not Columbia and Vanderbilt) also offers the option of starting the engineering program after four years at Hendrix. There are significant financial aid consequences to this option, so please seek advice from the Hendrix pre-engineering liaison before planning for it. The final option is to finish the Hendrix degree in four years, then apply to any engineering college as an undergraduate transfer student or as a graduate student. While this final option is no longer covered by the Hendrix Dual Degree agreements with our three partner schools, it is an option that students have used to successfully pursue engineering after graduation from Hendrix.

Students who decide against engineering during their time at Hendrix may simply pursue a traditional degree in any major at Hendrix with no consequences.

### **12. How many Hendrix students have completed the 3/2 or 4/2 program?**

Since 2000, 19 students have completed the program (in chemical, electrical, biomedical, aerospace, and mechanical engineering) and 14 students are currently enrolled at Washington University in St. Louis and Columbia University.

### **13. Can I do engineering without doing the 3/2 program?**

Yes! You do not need to have a bachelor's degree in engineering to apply to an engineering graduate program. Hendrix physics and chemical physics majors have had very good success in admission and successful completion of graduate engineering degrees. Alumni have reported that they felt very prepared for their engineering courses in graduate school. The one advantage of completing a B.S. in engineering before graduate school is that a B.S. in an ABET-accredited school is needed if the student wants to take the Professional Engineer (PE) exam. This credential is most important for engineers who plan to work on government contracts or who plan to open their own engineering firm.

### **14. How do I get more information?**

Hendrix freshmen should talk with their academic advisor during their orientation advising session about their desire to pursue the 3/2 program and also request a meeting with Dr. Ann Wright. Questions from prospective students can be answered by your Hendrix admissions counselor and by Dr. Wright by e-mailing [wright@hendrix.edu](mailto:wright@hendrix.edu).