ENGINEERING:

Is it a four- or five-year degree program?

You decide the answer before you arrive on campus for your first semester.

The answer usually depends upon whether you are prepared to enter Calculus I at the beginning of your freshman year. The purpose of this article is to expose the issue that can turn what could be a four-year program into a five-year program. This article applies to all four engineering programs offered at Cedarville University.

Why is Calculus I such a key course?

Engineering rests upon a solid foundation of mathematical skills for modeling the world around us — which makes calculus a prerequisite for most engineering courses. Similarly, engineering topics build sequentially on one another. Therefore, an unbroken chain of courses linked by prerequisites begins with Calculus I in the freshman year and extends through all eight semesters of the program. If you do not complete Calculus I by the end of the fall semester of your freshman year, you will slip out of the sequence. Since we offer our courses only once during each academic year, you will need to wait until the next academic year to get back into sequence. Although, you will not lose the time you spend waiting to get back into the engineering sequence — you will be taking courses toward your degree in the interim — the delay will cause your program to extend through a fifth year.

Students with an ACT math score above 27 are typically well-prepared for Calculus I.

A five-year program is not as bad as it sounds — some students choose to stretch our 139-hour programs into five years for a more relaxed pace. Others choose a five-year program to give them time for other activities such as varsity sports, ROTC, or to add a minor. However, if you wish to complete an engineering degree in four years, we have some advice before you come to Cedarville.

Being ready to take Calculus I when you arrive is key.

While you may have taken precalculus or calculus in high school, many high school math courses are neither as complete nor as rigorous as college-level calculus. There are many excellent AP calculus courses; however, the AP calculus exam that most high school programs use (the AB exam) is biased toward precalculus topics. The best indication of calculus readiness is the math sub-score of the ACT exam. After years of correlating scores, we have noted that students who score 24 or below on the math portion of the ACT have struggled significantly in engineering. We have also observed that an ACT math score of 27 or above is a good indication that the student is ready for Calculus I.

So what should you do if you have an ACT math score below 27?

The best thing you can do is to complete a precalculus course from a college or university regardless of what math you took in high school. Taking a college-level precalculus course will help you in several ways: It will solidify the concepts necessary for success in calculus, guarantee that you can begin in Calculus I when you arrive on campus, and make it possible to successfully complete an engineering program in four years.

To learn more about the engineering programs at Cedarville University, visit cedarville.edu/engineering.

School of ENGINEERING and COMPUTER SCIENCE
CEDARVILLE UNIVERSITY

Take Precalculus Online From Cedarville

Cedarville University offers Precalculus during the summer in an online format that is ideal for preparing for your first semester on campus. We would encourage you to take advantage of this course to get your education off to a good start (no transfer of credit required). For more information about our precalculus or other summer online courses, please contact our admissions office. If you have questions concerning our programs or this article, feel free to call our engineering office at **937-766-7680** or send us a note at **engineering@cedarville.edu**.