

FAQ: Lawrence Mathematics and Computer Science.

Is there a mathematics placement exam?

No. We can help you figure out what to take based on speaking with you and looking at your pre-college record.

What courses are usually taken by freshmen who are serious about mathematics or computer science?

Depending on your prior coursework (high school, AP, IB, A-levels, etc.) you will ramp into our three-term calculus sequence: math 140, 150, 160. If you have had calculus previously, you probably start at the second or third term. These courses lead into the sophomore level courses.

There are two introductory computer science courses: cmsc 150 is a formal introduction to computer science as a discipline; cmsc 110 introduces the kind of programming applied in the sciences. Either course is fine for mathematics majors; cmsc 150 is needed by math/cs majors.

Our main concern is that you are comfortable with the level of the courses you enroll in. We will talk with you individually if there are questions about that, perhaps looking at your high school record.

Do you give credit for calculus or computer science taken in high school? For AP courses? For courses taken at other colleges?

For AP Calculus: if you scored a 4 or 5 on the AB exam, you get credit for one calculus course (math 140); if you scored a 4 or 5 on the BC exam, you get credit for two calculus courses (math 140 and math 150). Students who score 3 *sometimes* get credit – we make a case by case decision. Our main concern is that you are comfortable with the level of the course you start in.

For AP Computer Science: a score of 4 or 5 on the AP exam gives you credit for cmsc 150. As with calculus, we are open to case by case decisions.

Calculus courses or computer science courses taken at other colleges transfer to Lawrence as well.

If you had a particularly strong high school calculus or computer science that was not an AP course, or you took an AP course but didn't take the AP exam, you can ask us about getting credit, and we'll come up with a plan.

What sort of preparation do I need to study mathematics or computer science at Lawrence?

Good grades in the standard high school mathematics courses: algebra, pre-calculus (functions or analytic geometry), and trigonometry. Almost all students have to do some review during the freshman year; your instructors will help you cover any gaps in your preparation.

Success in computer science is more about learning to think in algorithms than it is about using previously learned material.

Do I need a calculator? Special software? A PDA?

Most students have their own computers, but you don't need a computer or any particular software to study mathematics or computer science at Lawrence. As you might expect, your computer needs will probably change as your level of sophistication grows.

Our computer science lab provides a variety of software tools and operating system environments for doing computation. The lab is accessible almost all the time.

Mathematics instruction at Lawrence emphasizes the conceptual rather than the computational. Of course, you will certainly do some algebra and graphing, but we want to help you develop the kind of analytic thinking that will transfer to your other courses and that will transcend your college career, rather than to have you just memorize and apply formulas. Students use calculators very occasionally in our calculus course. Most students have a graphing calculator from their high school work – but a non-graphing calculator with the scientific functions would be sufficient.

Do you have internships or summer research options?

Internships are coordinated through our career center, and many of our students have taken advantage of these opportunities. We give internship credit as “independent study.”

We routinely place our majors in the National Science Foundation “REU” summer programs: students are paid handsomely to spend the summer at various campuses, participating in research with a team of other students from all over the country.

Occasionally, students work on summer projects at Lawrence, supported by the various grants obtained by faculty for that purpose.

What do Lawrence mathematics majors do after graduation?

There is a lot of variety here. About a third of our graduates go on to graduate school right away and not always in mathematics. The vast majority of our majors get graduate training eventually – either in mathematics, statistics, computer science, in an MBA program, or in a professional program in law or medicine. Many of our students pursue careers in business in some form, both on the technical and managerial side.

We offer secondary certification in teaching mathematics, as well. We have a unique teaching tutorial available for you to practice course preparation and the use of various media before you student-teach.

Our graduates express a high degree of satisfaction with the mathematics major; they enjoyed the challenge and had a sense of accomplishment in learning a difficult subject, and they find that the thinking skills transfer to a wide variety of settings.

Does the department have a “personality”?

We are informal, friendly, and supportive. We enjoy the challenge of a difficult problem, the joy of discovering a solution, and we love to communicate our work to others.

The department sponsors a weekly informal “tea” for socializing. And we have the longstanding tradition of a spring picnic, put on by the sophomore majors.