

Computational Mathematical Sciences, BS

LACMSBS

Do you have a passion for math and a desire to apply it to practical challenges? As you discover applications of mathematics through the use of computational technology, you'll gain skills to solve today's most complex problems.


Program description

This BS program in computational mathematical sciences is a fusion of mathematics, science and computing. Students in this program learn how to translate science and engineering problems into mathematical problems and solve them using computing algorithms.

Students develop strong problem-solving, analytical and programming skills as they work across diverse areas of science and mathematics. They have the opportunity to work with applied scientists in associated fields such as cancer modeling, seismic data interpretation, environmental modeling and weather forecasting, all of which involve computational mathematical sciences.

In addition to reviewing the guidelines in the Concurrent Program Options section below, students interested in pursuing concurrent or second baccalaureate degrees in The College of Liberal Arts and Sciences are advised to visit [The College's website](#) for more information and requirements.

At a glance

- **College/School:** [The College of Liberal Arts and Sciences](#)
- **Location:** [Tempe](#)
- **Second language requirement:** No
- **First required math course:** MAT 270 - Calculus w/Analytic Geometry I
- **Math intensity:** Substantial 

Required courses (Major Map)

Concurrent program options

Students pursuing concurrent degrees (also known as a "double major") earn two distinct degrees and receive two diplomas. Working with their academic advisors, students can create their own concurrent degree combination. Some combinations are not possible due to high levels of overlap in curriculum.

Accelerated program options

This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an [accelerated bachelor's plus master's degree](#) with:

[Mathematics, MA](#)

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program. Interested students can learn about eligibility requirements and [how to apply](#).

Admission requirements

General university admission requirements:

All students are required to meet general university admission requirements.

[First-year](#) | [Transfer](#) | [International](#) | [Readmission](#)

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

Change of Major Requirements

A current ASU student has no additional requirements for changing majors.

Students should visit the [Change of Major form](#) for information about how to change a major to this program.

Transfer options

ASU is committed to helping students thrive by offering tools that allow personalization of the transfer path to ASU. Students may use [MyPath2ASU®](#) to outline a list of recommended courses to take prior to transfer.

ASU has [transfer partnerships](#) in Arizona and across the country to create a simplified transfer experience for students. These pathway programs include exclusive benefits, tools and resources, and they help students save time and money in their college journey.

Program learning outcomes

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Employ appropriate mathematical models to analyze and simulate various real world phenomena and processes.
- Apply computational tools for effective implementation of modeling of real world phenomena and processes.
- Analyze quantitative problems and draw conclusions by applying proper mathematical theories.

Global opportunities

Global experience

Students gain valuable experience through study abroad programs. They can tailor their program to their unique interests and skill sets, and gain hands-on experience. Whether in a foreign country, in the U.S. or online, students are able to build communication skills, are challenged to adapt and persevere, and are exposed to differences, enhancing their ability to work with diverse groups of people.

Each of the more than 300 [Global Education program](#) options available around the world provides students with the opportunity to develop a valuable skill set that can give them an advantage in their career, as well as personal enrichment.

Career opportunities

According to Research.com (<https://research.com/degrees/best-college-majors-to-pursue>), mathematics and computer science rank among the top 25 college majors in terms of salary and job growth. The computational mathematical sciences program brings these disciplines together.

A bachelor's degree in computational mathematical sciences offers graduates many career options, including in:

- business
- computer technology
- engineering
- medical research
- teaching and education

Some pursue graduate education in areas such as biophysics, economics, medicine, statistics and data science.

Example job titles and salaries listed below are not necessarily entry level, and students should take into consideration how years of experience and geographical location may affect pay scales. Some jobs also may require advanced degrees, certifications or state-specific licensure.

Career	*Growth	*Median salary
<u>Clinical Trial Manager</u> ☀	4.8%	\$144,440
<u>Computer Network Analyst</u>	3.5%	\$126,900
<u>Computer Scientist</u> ☀	22.7%	\$136,620
<u>Information Security Analyst</u> ☀	31.5%	\$112,000
<u>Intelligence Officer</u>	1.5%	\$86,280
<u>Mathematician</u>	2.2%	\$112,110
<u>Statistician</u> ☀	31.6%	\$98,920

* Data obtained from the Occupational Information Network (O*NET) under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA).

☀ [Bright Outlook](#)

Contact information

[Schedule an advisor appointment](#)

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