Arizona State University (Tempe campus)

Data Science, Analytics and Engineering (Computational Mathematics and Data), MS

Study details

Course type: Master's degree
Degree: Data Science, Analytics and Engineering (Computational Mathematics and Data), MS ESDSECMDMS
Study mode: Full time
Duration: 24 Month

Cost of study

Cost : 29 880 USD
Reg. fee : 115 USD
Scolarship :
Insurance : 2 765 USD

Intake/s

Jan/Aug

Requirements
Admission requirements

- Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.
- Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree in computing, engineering, mathematics, statistics, operations research, information technology or a related field from a regionally accredited institution.
- Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable master's degree program.

Applicants are required to submit:

1. graduate admission application and application fee
2. official transcripts
3. written statement
4. professional resume
5. two letters of recommendation
6. proof of English proficiency

Additional Application Information

An applicant whose native language is not English must provide proof of English proficiency regardless of their current residency. Applicants demonstrate proficiency in the English language by scoring at least 90 on the TOEFL iBT® (taken in a testing center), 7 on the IELTS or 115 on the Duolingo English test.

All applicants must demonstrate relevant coursework or experience in the following three areas:

- familiarity with Matlab, Python, SQL, R or other relevant programming skills (in the professional resume)
- undergraduate statistics or probability (e.g., IEE 380 Probability and Statistics for Engineering Problem Solving, STP 420 Introductory Applied Statistics, STP 421 Probability, EEE 350 Random Signal Analysis)
- undergraduate upper-division linear algebra (e.g., MAT 343 Applied Linear Algebra)

In addition, applicants without an undergraduate degree in computer science, computer engineering, software engineering, information technology, industrial engineering, operations research, statistics or a related computing field must show evidence (in the professional resume) of at least one of the following certifications or equivalent experience:

- AWS-certified cloud practitioner
- Google data analytics certificate
- Google IT support certificate

Accommodation

Provided by partner agencies;

On-campus housing and meals $18,933

Speciality
STEM-OPT for international students on F-1 visas

This program may be eligible for an Optional Practical Training extension for up to 24 months. This OPT work authorization period may help international students gain skills and experience in the U.S. Those interested in an OPT extension should review ASU degrees that qualify for the STEM-OPT extension at ASU's International Students and Scholars Center website.

The OPT extension only applies to students on an F-1 visa and does not apply to students completing a degree through ASU Online.

Additional information

Program description

Degree awarded: MS Data Science, Analytics and Engineering (Computational Models and Data)

Data scientists are consistently ranked among the top jobs in the USA, and there is an increasing need for applied mathematicians to make use of data science tools like statistics, machine learning, artificial neural networks and artificial intelligence. Beyond the application of these tools, the fast-moving field of data science requires an understanding of the mathematical background of the

algorithms behind these tools and the mathematical concepts that make these tools useful.

The MS program in data science, analytics and engineering with a concentration in computational mathematics and data provides an advanced education in high-demand data science and computational mathematical modeling. A focus on computational skills in optimization, machine learning, stochastic processes and dynamical systems is enhanced by mathematical modeling in all application areas that use large scale data, including social sciences, astronomy, neuroscience, biosciences, engineering and epidemiology.

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:

- Data Science, BS

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.

Career opportunities

Applied mathematicians with a background in data science can pursue opportunities in a variety of fields to model, analyze and control dynamical processes that generate large data sets, including in the energy and power systems industry and pharmaceutical, semiconductor and communications industries. Graduates may also work in government labs such as the Centers for Disease Control and Prevention, the National Institutes of Health, and the National Oceanic and Atmospheric Administration.