Arizona State University (Polytechnic Campus)

Data Science, Analytics and Engineering (Human-Centered Applications), MS

Study details

Course type: Master's degree
Degree: Data Science, Analytics and Engineering (Human-Centered Applications), MS ESDSEHCAMS
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 their first bachelor's degree program or 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 nine semester hours of graduate coursework from a U.S. institution; or a cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable conferred master's degree program from a regionally accredited college or university.

Applicants are required to submit:

1. graduate admission application and application fee
2. official transcripts
3. written statement
4. professional resume
5. three 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 must 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:

- 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 linear algebra (e.g., MAT 242 Elementary Linear Algebra)
- familiarity with Matlab, Python, SQL, R, or other relevant programming skills (in the professional resume)

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 IT support certificate
- Google data analytics certificate

If the applicant does not meet the minimum GPA requirements, the application may still be considered. In certain cases, demonstrated aptitude through professional experience or additional postbaccalaureate education is considered.

Unofficial transcripts may be submitted at the time of application. If admitted, applicants must then submit official transcripts to ASU Graduate Admission Services.

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 (Human Centered Applications)

There is an increasing need for all engineers to make use of data science tools like statistics, machine learning, artificial neural networks and artificial intelligence. Yet the majority of engineering occupations require subject matter expertise beyond data science.

The MS program in data science, analytics and engineering with a concentration in human-centered applications provides students with advanced education in high-demand data science with an understanding of human systems. A focus on probability and statistics, machine learning, data mining and data engineering is complemented by courses focusing on human capabilities and understanding human bias to ensure increased breadth and depth in data science applications. Students learn how to address problems, such as biases in machine learning due to select input data, determining useful human feedback for interactive machine learning, ethical issues in machine learning applications, and the use of artificial intelligence to support human weaknesses without hindering human strengths. In interdisciplinary courses, students can work with colleagues to solve client-driven data science problems that address human needs and capabilities.

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

Data scientists are consistently among the top jobs in the USA. Human-centered engineers with a background in data science can pursue opportunities in a variety of industries to manage and analyze data and extract knowledge from large data sets for decision-making, including in the following fields:

- clinical data managers
- computer and information research scientists
- human factors engineers and ergonomists
- statisticians