Complex Adaptive Systems Science (Graduate Certificate)

Do you want to gain skills that together serve as a bridge between disciplines? These concepts and tools will enable you to promote the collaborations needed for solving some of today's most pressing and complex global challenges.

Program Description

Degree Awarded: Certificate Complex Adaptive Systems Science (certificate)

Complex adaptive systems science is the study of interactive and dynamic systems that change over time, producing their own emergent properties. The complex adaptive systems science graduate certificate can be pursued along with any doctoral degree program at Arizona State University. Students in the certificate program pursue their chosen field of study while addressing complex global challenges.

Complex adaptive system concepts and methods provide a common language that enable the interdisciplinary collaborations needed to come to grips with the intellectual and societal challenges of the 21st century. The program aims to train the next generation of scientists in advanced concepts and methods needed for approaching diverse phenomena in the social and life sciences. The program is tightly integrated with diverse, ongoing university-wide research on complex adaptive system science at Arizona State University and emphasizes the value of a complex adaptive systems perspective to give science better insight and a more active role in seeking solutions to a broad array of critical issues facing society today. Students become fluent in the common language of complexity while also receiving a solid foundation in the domain knowledge of existing academic disciplines.

Students pursuing the certificate must have a complex adaptive systems science faculty member on their supervisory committee.

At a Glance
Degree Requirements

15 credit hours

Required Core (12 credit hours)

Electives (3 credit hours)

Additional Curriculum Information
Students should contact the academic unit about appropriate coursework.

Admission Requirements

Applicants must fulfill the requirements of both the Graduate College and the College of Global Futures.

Applicants are eligible to apply to the program if they are either enrolled in or accepted into an ASU doctoral degree program and they must be in good standing within the program.

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 applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:

1. graduate admissions application and application fee
2. official transcripts
3. statement of intent
4. letter of support from an ASU faculty member (for existing ASU students) or other faculty member (for incoming students)
5. proof of English proficiency

Additional Application Information
An applicant whose native language is not English must provide proof of English proficiency regardless of current residency.

International students who need an F1 or J1 visa first need to apply to and be accepted into a graduate degree program prior to being considered for the certificate program. International students residing in the USA on other types of visas must adhere to all Graduate College policies and procedures regarding admission to be considered for admission to this certificate program.
Application Deadlines

Fall
Spring

Career Opportunities

A complex systems approach to the program means graduates possess the ability to understand the interconnections within and between technological, economic, societal, biomedical and environmental systems and have developed cutting-edge digital skills like modeling and network science. This gives them an edge in diverse careers in science, technology and data analytics, especially compared with peers in their field of study who lack such expertise.

Graduates who hold this certificate can apply the skills learned to any field or profession, although advanced degrees or certifications may be required. Career area examples include:

- business intelligence analytics
- consulting
- corporate social responsibility and sustainability
- data and microsystem engineering
- data science
- education
- military intelligence systems
- nongovernmental and nonprofit organizations
- policymaking in government and regulatory agencies
- research and development

Contact Information

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