

Applied Computer Science

The **Advanced Certificate in Applied Computer Science (ACACS)** is designed both for those students looking to build a foundation for the Master of Applied Computer Science (MACS) at the School of Continuing & Professional Studies (CAPS) and for experienced professionals who already hold an advanced degree in a related field or in business and who need a targeted cluster of courses in computer science for career enhancement. The certificate provides a strong, interdisciplinary foundation in computer science for working professionals who come from non-mathematical or non-engineering disciplines. The program focuses on in-demand, practical, and hands-on computational skills including databases, networks, web development, security, systems administration, and software development. Online course delivery provides a flexible educational experience for working adults.

This program is part of a partnership between the School of Continuing & Professional Studies and the Sever Institute in the McKelvey School of Engineering. The partnership serves working adults in the St. Louis region, bringing critical skills to students who want to further their academic credentials and who are interested in a new career in computing. A significant aspect of this program is to provide an academic bridge for students from overlooked communities. This program is partially funded through a grant from the MS Pathways to Computing Consortium, a group of 14 U.S. universities seeking to broaden access to the computing field.

Requirements

Advanced Certificate in Applied Computer Science

The online Advanced Certificate in Applied Computer Science (ACACS) is a 15-unit program (five courses total), which, upon completion, can be applied to the Master of Applied Computer Science (MACS) degree.*

Required courses (15 units; course numbers and listings to come):

- Foundations of Computer Science and Programming (3 Units)
- Foundations of Discrete Math and Structures (3 Units)
- Foundations of Object-Oriented Programming (3 Units)
- Foundations of Data Engineering (3 Units)
- Introduction to Cloud Computing (3 Units)

This program is offered either mostly or fully online. Students entering the U.S. on an F-1 or J-1 Visa must enroll in a program full time. F-1 students are only permitted to enroll in one online course per semester and J-1 students may only enroll in non-credit online courses that do not count toward their degree program. The School of Continuing & Professional Studies (CAPS) cannot guarantee face-to-face enrollment options each semester of full time enrollment, therefore cannot issue an I-20 or DS 2019 to F-1 and J-1 students for this program. If you are an F-1 or J-1 student and wish to enroll in a CAPS program while here on a Visa,

please contact our recruitment team to discuss your options for face-to-face program enrollment. F-1 and J-1 students should not enroll in online courses or programs without first consulting the university's Office for International Students and Scholars (OISS).

* **Note for students who wish to continue from the ACACS on to the MACS degree:** The courses "Foundations of Computer Science and Programming" and "Foundations of Discrete Math and Structures" serve as bridge courses (Bridge part I) or "on-ramps" to the master's program. The remaining three courses are the first three core courses required for completion of the MACS degree (Bridge part II). Successful completion of four more core courses and three elective courses after earning the Applied Computer Science certificate will lead to the Master of Applied Computer Science degree.