

# Artificial Intelligence, Graduate Certificate

The graduate certificate in Artificial Intelligence is a four-course (12 credit hour) program. It provides skills and training necessary to start and/or advance in the growing areas of AI, with a range of electives to focus more specifically in one's desired direction of study. All students must take two required courses and two electives.

A minimum of three courses must be taken from UMSL. A maximum of two courses can be used from the 4000-level. Courses may be substituted with the permission of the certificate coordinator. For more information, students can contact the department chair or email [info@arch.umsl.edu](mailto:info@arch.umsl.edu).

## Required Courses

CMP SCI 5130	Advanced Data Structures and Algorithms	3
CMP SCI 5300	Artificial Intelligence	3

<b>Elective Courses</b>		<b>6</b>
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Choose **2** two of the following:

CMP SCI 4610	Database Management Systems	
CMP SCI 5151	Statistical Methods for Data Science	
CMP SCI 5320	Evolutionary Computation	
CMP SCI 5340	Machine Learning	
CMP SCI 5342	Data Mining	
CMP SCI 5370	Biological Data Science	
CMP SCI 5390	Deep Learning	
CMP SCI 5420	Digital Image Processing and Computer Vision	
CMP SCI 6320	Advances in Evolutionary Computation	
CMP SCI 6340	Genetic Programming	

<b>Total Hours</b>		<b>12</b>
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## Justification for request:

Adding to electives a new course on statistics for CS and an existing DB course