

New Program Proposal

Data Science, Graduate Certificate

The graduate certificate in Data Science is a four-course (12 credit hours) program. It provides skills, both statistical and computational, and technologies for the growing and popular fields involving data science and analysis. All students must take the three required courses and one elective.

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.

Required Courses		
CMP SCI 4200	Python for Scientific Computing and Data Science	3
CMP SCI 5340	Machine Learning	3
CMP SCI 5342	Data Mining	3
Elective Courses		3
Choose one of the following:		
CMP SCI 5320	Evolutionary Computation	
CMP SCI 5370	Biological Data Science	
CMP SCI 5390	Deep Learning	
MATH 4005	Exploratory Data Analysis with R	
MATH 4200	Mathematical Statistics I	
MATH 4210	Mathematical Statistics II	
MATH 4220	Bayesian Statistical Methods	
Total Hours		12

Sign-offs from other departments affected by this proposal

Department	Contact Person	Phone #	Objections
S005150	Dinesh Mirchandani		No
S005900	Haitao Li		No
Rationale	New certificate parallel to the undergraduate certificate using similar undergraduate courses. Also a part of the new MS in CS with certificate option.		