UMSL | Computer Science
University of Missouri–St. Louis

Undergraduate Certificate in Data Science – Computational Track

The undergraduate certificate in Data Science is a five-course (15 credit hour) program. It provides skills, both statistical and computational, and technologies for the growing and popular fields involving data science and analysis. A student pursuing this certificate can choose from one of two tracks, this computational track or the statistical track. Each track consists of three required courses (9 credit hours) and two additional elective courses (6 credit hours). A minimum GPA of 2.5 is required for admission.

A minimum of three courses must be taken from UMSL. Courses may be substituted with the permission of the certificate coordinator. For more information, contact the department chair or email info@arch.umsl.edu.

Required core courses	Computational track	Availability
CMP SCI 4200	Python for Scientific Computing and Data Science	FP
CMP SCI 4340	Introduction to Machine Learning	F
CMP SCI 4342	Introduction to Data Mining	P
Choose two of the electives		
CMP SCI 3411	Introduction to Data Visualization	F
CMP SCI 4030	Introduction to Intelligent Web	E
CMP SCI 4151	Introduction to Stat Methods for Data Science	F
CMP SCI 4300	Introduction to Artificial Intelligence	FP
CMP SCI 4320	Introduction to Evolutionary Computation	P
CMP SCI 4370	Introduction to Biological Data Science	F
CMP SCI 4390	Introduction to Deep Learning	P
MATH 4005	Exploratory Data Analysis with R	F
MATH 4090	Introduction to High-dimensional Data Analysis	P
MATH 4220	Bayesian Statistical Methods	TBD
MATH 4225	Introduction to Statistical Computing	TBD
MATH 4250	Introduction to Stat Methods in Learning and Mod.	P
MATH 4260	Introduction to Stochastic Processes	TBD
Total courses (credit hours)		**5(15)**

For more info about Computer Science visit umsl.edu/cs, for careers visit umsl.edu/cs/careers.
For electronic version visit http://umsl.edu/cs/certificates.
Availability: Summer (**S**), Fall (**F**), Spring (**P**)
Mode: Online (O) Evening (E)
For course rotation visit https://www.umsl.edu/cmpsci/undergraduate-studies/3yearcourse.html

v6/26/2022