DATA SCIENCE & QUANTITATIVE ECONOMICS (M.S.)

Requirements

The M.S. in data science & quantitative economics requires completion of 30 credits, as follows:

Course	Title	Credits
Economics Core		
ECON 6010	Microeconomic Theory I	3
ECON 6020	Macroeconomic Theory I	3
ECON 6910	Applied Econometrics	3
or ECON 6950	Financial Econometrics	
Data Science Core		
CISC 5790	Data Mining	3
CISC 5800	Machine Learning	3
Math Core		
ECON 5710	Mathematical Analysis in Economics	3
or CISC 5450	Mathematics for Data Science	
Electives		
One Economics elective drawn from any of the following areas: [1]		3
Applied Microeconomics		
Finance		
Special Topics		
One Data Science elective [2]		3
One Economics OR Data Science elective [1]		3
Capstone/Internship/Thesis (one of the following)		3
Capstone Project Option		
CISC 6080	Capstone Project in Data Science	
or ECON 6080	Capstone Project in Economics	
Internship Option		
CISC 6081	Data Science Practicum	
or ECON 6081	Economics Practicum	
Thesis Option [3]		
Select one of the following:		
CISC 6085 & CISC 6086	Master's Thesis in Data Science I and Master's Thesis in Data Science II	
ECON 6085 & ECON 6086	Master's Thesis in Economics I and Master's Thesis in Economics II	
Total Credits		**30**

[1] See below for lists of courses fulfilling this requirement. Economics electives can be drawn from any of the three areas.

[2] See list below of courses that fulfill this requirement.

[3] Completion of a thesis requires 6 credits. Students who complete a 6-credit thesis will take one less elective as part of the degree.

Economics Electives

Applied Microeconomics elective courses

Courses in this group have the EDAM attribute.

Course	Title	Credits
ECON 5105	Topics in Economic History	3
ECON 5260	Epidemics and Development Policy	3
ECON 5280	Urban Economics	3
ECON 5415	Gender & Economic Development	3
ECON 5590	Health Economics	3
ECON 5600	Health and Development	3
ECON 6440	Development Economics	3
ECON 6460	Agriculture and Development	3
ECON 6480	Environmental and Resource Economics	3
ECON 6970	Applied Microeconometrics	3

Finance elective courses

Courses in this group have the EDFI attribute.

Course	Title	Credits
ECON 5006	Programming Economics and Finance	3
ECON 6240	Financial Economics	3
ECON 6340	Financial Theory	3

Specialized Topics elective courses

Courses in this group have the EDST attribute.

Course	Title	Credits
ECON 5730	Econometrics and Finance Using R - Part I	3
ECON 5750	Game Theory	3
ECON 5760	Computational Macroeconomics/Finance	3
ECON 6310	Monetary Policy	3
ECON 6320	Monetary Theory	3
ECON 6470	Growth and Development	3
ECON 6510	International Trade	3
ECON 6530	International Economics of Growth and Development	3
ECON 6560	International Finance	3
ECON 6990	Topics in Econometric Theory	3

Data Science Electives

Courses in this group have the EDDS attribute.

Course	Title	Credits
CISC 5325	Database	3
CISC 5500	Data Analytics Tools and Scripting	3
CISC 5550	Cloud Computing	3
CISC 5640	Nosql Database Systems	3
CISC 5835	Algorithms for Data Science	3
CISC 5900	Information Fusion	3
CISC 5950	Big Data Computing	3
CISC 6000	Deep Learning	3
CISC 6210	Natural Language Processing	3

CISC 6525	Artificial Intelligence	3
CISC 6745	Data Visualization	3