QUANTITATIVE ANALYSIS CONCENTRATION

Emphasizes the skills needed to analyze market data in fast-paced industries such as manufacturing, financial services, and advertising, and provides the technical training required to engage in consulting. There is also a continued need for quantitative analysis by lawyers, accountants, engineers, health service administrators, urban planners, and local, national, and international government agencies. The concentration prepares students for jobs that entail forecasting, data analysis and quantitative economics, and provides a solid foundation for graduate study in economics and business.

ECON 440	Advanced Econometrics	4
STAT 331	Statistical Computing with R	4
Approved Electives:		
Select from the following courses: [1]		20
Analytics		
BUS 393	Database Systems in Business	
BUS 421	Marketing Analytics and Business Intelligence	
BUS 441	Computer Applications in Finance	
BUS 491	Decision Support Systems	
ECON 339	Econometrics [2]	
ECON 395	Programming for Economics and Analytics [3]	
or BUS 392	Business Application Development	
or CSC 101	Fundamentals of Computer Science	
Statistics and Decision Analysis		
ECON 406	Applied Forecasting	
ECON 409	Probability Models for Economic Decisions	
IME 301	Operations Research I	
IME 305	Operations Research II	
STAT 323	Design and Analysis of Experiments I	
STAT 324	Applied Regression Analysis	
STAT 330	Statistical Computing with SAS	
STAT 416	Statistical Analysis of Time Series	
STAT 419	Applied Multivariate Statistics	
STAT 425	Probability Theory	
STAT 426	Estimation and Sampling Theory	
STAT 427	Mathematical Statistics	
Mathematical Foundations		
ECON 408	Mathematical Economics	
MATH 142	Calculus II	
MATH 143	Calculus III	
MATH 206	Linear Algebra I	
MATH 241	Calculus IV	
MATH 242	Differential Equations I	
MATH 244	Linear Analysis I	
MATH 248	Methods of Proof in Mathematics	
MATH 304	Vector Analysis	
MATH 306	Linear Algebra II	
MATH 344	Linear Analysis II	
MATH 406	Linear Algebra III	
MATH 412	Introduction to Analysis I	
MATH 413	Introduction to Analysis II	
MATH 414	Introduction to Analysis III	
MATH 416	Differential Equations II	
MATH 418	Partial Differential Equations	
MATH 437	Game Theory	
MATH 451	Numerical Analysis I	
MATH 452	Numerical Analysis II	
MATH 453	Numerical Optimization	
Total units		**28**

[1]   Consultation with an advisor is recommended prior to choosing Approved Electives. Courses in Analytics or in Statistics and Decision Analysis provide a focus in analytics. Courses in Statistics and Decision Analysis or in Mathematical Foundations are recommended for students pursuing post-baccalaureate studies.

[2]   Economics majors cannot count ECON 339 toward electives in the Quantitative Analysis concentration.

[3]   Economics majors cannot count ECON 395 or BUS 392 or CSC 101 toward electives in the Quantitative Analysis concentration.