

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
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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.