

QUANTITATIVE REASONING

Students learn to comprehend and apply mathematical concepts in authentic contexts, developing tools for reasoning with data, logic, and quantitative methods.

Quantitative Reasoning (FC-QUANT) is a required Focus Capacity course in the IDEAs in Action curriculum (<https://catalog.unc.edu/undergraduate/ideas-in-action/#learningoutcomestext>).

A single course may be used to fulfill only one Focus Capacity requirement (not including lab).

Approved Courses

Code	Title	Hours
ANTH 404	 Agent-Based Modeling of Social-Ecological Systems	3
ANTH 419	 Anthropological Application of GIS	3
ANTH 520	 Linguistic Phonetics	3
ANTH 680	 Quantitative Methods in Archaeology	3
ASTR 100	 Understanding the Universe	3
ASTR 101	 Introduction to Astronomy: The Solar System ^H	3
ASTR 102	 Introduction to Astronomy: Stars, Galaxies & Cosmology ^H	3
ASTR 103	 Alien Life in the Universe	3
BIOL 75	 First-Year Seminar: Biodiversity and Citizen Science ^H	3
BIOL 115	 Reasoning with Data: Navigating a Quantitative World	3
BIOL 222	 Introduction to Programming with Biological Data	3
BIOL 465	 Global Biodiversity and Macroecology	3
BIOL 544L	 Laboratory in Diseases of the Cytoskeleton	3
CLAR 270	 Quantifying the Past: Big Data and Big Questions in Classical Archaeology	3
COMP 110	 Introduction to Programming ^H	3
COMP 283	 Discrete Structures ^H	3
COMP 550	 Algorithms and Analysis	3
DATA 110	 Introduction to Data Science ^H	3
ECON 400	 Introduction to Data Science and Econometrics ^H	4
ECON 445	 Industrial Organization	3
ECON 470	 Econometrics ^H	3
ECON 571	 Advanced Econometrics	3
EMES 203	 Data Analysis for Earth, Marine, and Environmental Sciences	3
ENEC 203	 Introduction to Environmental Science Problem Solving	3
ENEC 404	 Agent-Based Modeling of Social-Ecological Systems	3
ENEC 419	 Anthropological Application of GIS	3
ENEC 465	 Global Biodiversity and Macroecology	3
ENEC 473	 Business and Finance Fundamentals for Change Makers	3
ENGL 482	 Metadata, Mark-up, and Mapping: Understanding the Rhetoric of Digital Humanities	3
ENVR 135	 Environment-ECUIPP Lab: Connecting with communities through environmental research for Public Health	3
ENVR 335	 Adv Environ-ECUIPP Lab: Connecting with Communities Through Environmental Research for PH Protection	3
GEOG 215	 Introduction to Spatial Data Science	3
GEOG 370	 Introduction to Geographic Information	3
GEOG 410	 Modeling of Environmental Systems	3
GEOG 456	 Geovisualizing Change	3
GEOG 477	 Introduction to Remote Sensing of the Environment	3
GEOG 567	 Geospatial Data Analysis with Google Earth Engine	3
GEOG 577	 Advanced Remote Sensing	3
GEOG 591	 Applied Issues in Geographic Information Systems	3
GEOG 592	 Geographic Information Science Programming	3
GSL 402	 Voices of Diversity: Social Perspectives on Second Language Acquisition	3
LING 333	 Human Language and Animal Communication Systems	3
LING 401	 Introduction to Computational Linguistics	3
LING 402	 Voices of Diversity: Social Perspectives on Second Language Acquisition	3
LING 520	 Linguistic Phonetics	3
LING 540	 Mathematical Linguistics	3
LING 558	 Ancient Mayan Hieroglyphs	3
MATH 115	 Reasoning with Data: Navigating a Quantitative World	3
MATH 116	 Intuitive Calculus	3
MATH 117	 Aspects of Finite Mathematics	3
MATH 118	 Aspects of Modern Mathematics	3
MATH 119	 Introduction to Mathematical Modeling	3
MATH 130	 Precalculus Mathematics	3
MATH 152	 Calculus for Business and Social Sciences	3
MATH 210	 Mathematical Tools for Data Science	3
MATH 231	 Calculus of Functions of One Variable I ^H	4
MATH 232	 Calculus of Functions of One Variable II ^H	4
MATH 233	 Calculus of Functions of Several Variables ^H	4

2 Quantitative Reasoning

MATH 235	 Mathematics for Data Science	4	PSYC 535	 Programming for Psychologists: Computational Tools for Psychological Research	3
MEJO 379	 Advertising and Public Relations Research	3	PWAD 287	 Strategy and International Relations	3
MEJO 479	 Market Intelligence ^H	3	SOCI 180	 Introduction to Global Population Health	3
MEJO 570	 Data Driven Journalism	3	SOCI 251	 Research Methods	3
NAVS 301	 Naval Ships Engineering Systems	3	SOCI 252	 Data Analysis	3
NAVS 302	 Naval Weapons Systems	3	STOR 113	 Decision Models for Business and Economics	3
NSCI 419	 Behavioral Endocrinology	3	STOR 115	 Reasoning with Data: Navigating a Quantitative World	3
PHIL 105	 How to Reason and Argue: An Introduction to Critical Thinking	3	STOR 120	 Foundations of Statistics and Data Science ^H	4
PHIL 155	 Truth and Proof: Introduction to Mathematical Logic ^H	3	STOR 151	 Introduction to Data Analysis	3
PHIL 157	 Logic and Decision Theory ^H	3	STOR 155	 Introduction to Data Models and Inference ^H	3
PHIL 251	 Inductive Logic and the Scientific Method	3	STOR 215	 Foundations of Decision Sciences	3
PHIL 357	 Induction, Probability, and Confirmation	3	STOR 235	 Mathematics for Data Science	4
PHIL 455	 Symbolic Logic	3	STOR 305	 Introduction to Decision Analytics	3
PHIL 456	 Advanced Symbolic Logic	3	STOR 315	 Discrete Mathematics for Data Science	4
PHYS 55	 First-Year Seminar: Introduction to Mechatronics	4	STOR 320	 Methods and Models of Data Science	4
PHYS 101	 Basic Concepts of Physics	4			
PHYS 114	 General Physics I: For Students of the Life Sciences	4			
PHYS 115	 General Physics II: For Students of the Life Sciences	4			
PHYS 118	 Introductory Calculus-based Mechanics and Relativity ^H	4			
PHYS 119	 Introductory Calculus-based Electromagnetism and Quanta ^H	4			
PHYS 231	 Physical Computing ^H	4			
PLAN 363	 Personal Finance, Wealth Building, and Public Policy	3			
PLAN 364	 Personal Finance II: Investing and Public Policy	3			
PLAN 372	 Introduction to Urban Data Analytics	3			
PLAN 637	 Public Transportation	3			
PLCY 460	 Quantitative Analysis for Public Policy ^H	4			
PLCY 505	 Data Science for Public Policy and Decision Making	4			
POLI 209	 Analyzing Public Opinion ^H	3			
POLI 281	 Data in Politics I: An Introduction	3			
POLI 287	 Strategy and International Relations	3			
POLI 288	 Strategy and Politics	3			
POLI 439	 Analyzing European Public Opinion	3			
POLI 487	 Networks in International Relations	3			
PSYC 115	 Reasoning with Data: Navigating a Quantitative World	3			
PSYC 210	 Statistical Principles of Psychological Research ^H	3			

^H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.