

QUANTITATIVE REASONING

Courses in this category explore contextual problems involving quantitative relationships by means of numerical, symbolic, and visual representations. These courses foster critical analysis of the uses and constraints of quantitative information and its representations. Finally, they focus on discussing models; making appropriate assumptions; and deducing consequences or making predictions. Quantitative Reasoning courses are designated QR in this catalog and each semester's registration materials.

STUDENT LEARNING OUTCOMES

Courses with QR designation are designed to develop the student's ability to do the following:

1. Frame contextual questions using mathematical representation.
2. Apply models to deduce consequences or make predictions.
3. Communicate quantitative arguments using clear prose.
4. Critique quantitative arguments with respect to assumptions, constraints, and logical coherence.

Courses with QR designation address all of the above learning outcomes.

Code	Title	Credits
BIOL 108	ECOLOGY OF ECOSYSTEMS	3
BIOL 285	PRINCIPLES OF ECOLOGY	5
COMP 160	BEG. PROGRAMMING AND PROBLEM-SOLVING	4
COMP 161	BEGINNING PROGRAMMING: OBJECTS	4
ECON 210	PRINCIPLES OF ECONOMICS	4
ECON 341	ENVIRONMENTAL ECONOMICS	4
ECON 342	NATURAL RESOURCE ECONOMICS	4
ECON 353	LABOR ECONOMICS	4
ECON 371	EXPERIMENTAL ECONOMICS	4
ECON 372	BEHAVIORAL ECONOMICS	4
ECON 412	INTERMEDIATE MACROECONOMICS	4
ECON 416	ECONOMETRICS	4
ENGR 316	CIRCUITS AND ELECTRONICS II (ALSO LISTED AS PHYS 316)	4
ENVS 207	ENERGY AND SUSTAINABILITY (ALSO LISTED AS PHYS 207)	3
ENVS 230	INTRODUCTION TO GIS	4
ENVS 307	ENERGY & SUSTAINABILITY (ALSO LISTED AS PHYS 307)	4
ENVS 430	EPIDEMIOLOGY	3
HHPA 297	INTRODUCTION TO RESEARCH IN PHYSICAL ACTIVITY	3
HHPA 430	EPIDEMIOLOGY	3
MATH 110	GREAT IDEAS IN MATHEMATICS	3
MATH 120	INTRO TO GAME THEORY	3
MATH 125	INTRODUCTION TO VOTING THEORY	3
MATH 130	PROBLEM SOLVING	3
MATH 135	MATHEMATICS FOR ELEMENTARY TEACHER I	4
MATH 140	INTRODUCTION TO STATISTICS	3
MATH 210	ORDINARY DIFFERENTIAL EQUATIONS	4
MATH 310	NONLINEAR ODE'S & DYNAMIC SYSTEMS	3

MATH 340	PROBABILITY AND STATISTICS I	4
MATH 360	OPERATIONS RESEARCH	3
MATH 365	GAME THEORY	3
PHIL 190	LOGIC	4
PHYS 207	ENERGY AND SUSTAINABILITY (ALSO LISTED AS ENVS 207)	3
PHYS 210	INTRODUCTION TO MECHANICS	5
PHYS 211	INTRODUCTION TO ELECTROMAGNETISM	5
PHYS 307	ENERGY & SUSTAINABILITY (ALSO LISTED AS ENVS 307)	4
PHYS 316	CIRCUITS AND ELECTRONICS II (ALSO LISTED AS ENGR 316)	4
PHYS 325	COMPUTATIONAL PHYSICS	4
POLS 230	RESEARCH METHODOLOGY	4
PSYC 251	QUANTITATIVE METHODS FOR PSYCHOLOGY	4
SOAN 307	SOCIAL RESEARCH METHODS	4