

COMPUTATIONAL ECONOMICS MAJOR, BS

Campus: NYC, Westchester

The Computational Economics (BS) major is an interdisciplinary major that teaches cutting-edge quantitative skills using the power of computer science and information technology. Students will learn how to program, work with big data, and apply sophisticated quantitative techniques (i.e. AI, Machine Learning, Econometrics) to answer questions in economics and business practices. The major is STEM designated and provides students with highly demanded skills across a variety of industries and jobs in the private and public sector.

MAJOR COMPLETION SUMMARY

Requirement	Credits
University Core Requirements	44
Major Requirements	60-62
Open Electives	7-17
Total Credits	120

UNIVERSITY CORE REQUIREMENTS (44 CREDITS)

Code	Title	Credits
University Core Courses		
ENG 110	Composition	3
ENG 120	Critical Writing	4
ENG 201	Writing in the Disciplines	3-4
COM 200	Public Speaking	3
Math Options		
MAT 144	Introduction to Probability and Statistics for Economics	4-8
or MAT 131 & MAT 234	Calculus I and Introduction to Probability and Statistical Analysis	
or MAT 111 & MAT 134	Elementary Calculus I and Introduction to Probability and Statistics	
or MAT 104 & MAT 117	Finite Mathematics and Elementary Statistics	
CS 121	Introduction to Computer Science	4
or CIS 101	Introduction to Computing	
or CIS 103	Problem Solving Using Technology	
or CIT 110	Introduction to Information Technology	

MAJOR REQUIREMENTS (60-62 CREDITS)

Code	Title	Credits
Economics Core Courses		
ECO 105	Principles of Economics: Macroeconomics	0-3
ECO 106	Principles of Economics: Microeconomics	0-3
ECO 230	Intermediate Macroeconomics	3
ECO 234	Intermediate Microeconomics	3
ECO 240	Quantitative Analysis and Forecasting	3-4
ECO 380	Mathematical Economics	3-4
ECO 385	Econometrics: Models and Organizations	3
ECO 389	Economic Data Analysis (R & Python)	3
CS/CIT Core Courses		
CIT 312	Introduction to Programming I	4
CIT 241	Database Management	4
CS 377	Mathematical Foundations of Machine Learning	4
CIT 380	Applied AI with Deep Learning	4
CS/CIT Electives		8

Additional ECO or CS/CIT Electives		6-8
Capstone Course		
CS 489	Computational Economics Capstone	3
Course	Title	Credits
First Year		
Fall		
UNV 101	First-Year Seminar: Introduction to University Community	1
ENG 110	Composition	3
CS 121	Introduction to Computer Science	4
ECO 106	Principles of Economics: Microeconomics	3
Take Learning Community (LC) Course		3
Take the first Mathematics requirement. See advisor.		0-4
Credits		14-18
Spring		
ENG 120	Critical Writing	4
ECO 105	Principles of Economics: Macroeconomics	3
AOK		3
CIT 110	Introduction to Information Technology	3
Take the second Mathematics requirement. See advisor.		0-4
Credits		13-17
Second Year		
Fall		
ECO 230	Intermediate Macroeconomics	3
LANG I		3
AOK/WE		3
MAT 144	Introduction to Probability and Statistics for Economics (Only take if MAT requirement not fulfilled) <small>NYC Campus only</small>	4
ECO 380	Mathematical Economics	3-4
Credits		16-17
Spring		
LANG II		3
AOK/WE		3
AOK		3
CIT 241	Database Management	4
ECO 240	Quantitative Analysis and Forecasting	3-4
Credits		16-17
Third Year		
Fall		
COM 200	Public Speaking	3
CS 377	Mathematical Foundations of Machine Learning	4
LAB		3
ECO Elec		3
ECO 385	Econometrics: Models and Organizations	3
Credits		16
Spring		
ENG 201	Writing in the Disciplines	3-4
ECO 389	Economic Data Analysis (R & Python)	3
CS/CIT Elec		4
ECO 234	Intermediate Microeconomics	3
Credits		13-14

Fourth Year

Fall

ARE		3
CS 489	Computational Economics Capstone	3
AOK		3
Civic Engagement		3
CIT 380	Applied AI with Deep Learning	4
AOK		3

Credits 19

Spring

AOK		3
CS/CIT Elec		4
ARE		3
ECO Elec		3

Credits 13

Total Credits 120-131