

# ECONOMICS

## Overview

*"Economics is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor to draw correct conclusions."*  
- John Maynard Keynes

The goal of the Economics program at New College is to provide students with analytical tools that will enable them to better understand and assess the events and decisions that affect society at large as well as impact their own professional and personal lives. An understanding of economic principles is crucial to evaluating major national policy issues such as health care reform and international policy issues such as the desirability of free trade agreements. Students who master the "economic way of thinking" will be equipped to make intelligent decisions in their professional lives, whether they become entrepreneurs, financial advisors, lawyers, administrators for non-profit organizations, or seek to pursue any number of other occupational careers. On a personal level, an understanding of basic economics is useful in making such critical decisions as whether to pursue a graduate education, whether to buy a house, or how best to invest one's retirement portfolio.

The Economics Area of Concentration (AOC) offers two tracks to meet a range of student interests and provide solid training for future study or work in the discipline. Students can pursue an Economics AOC, a Quantitative Economics AOC, a joint Economics AOC, or a secondary field (minor) in Economics. Owing to extensive overlap in course requirements, students cannot pursue a double AOC in Economics and Quantitative Economics. The economics faculty also offers a joint AOC in Finance and a secondary field (minor) in Finance.

## Faculty in Economics

Tracy Collins (<https://www.ncf.edu/directory/tracy-collins/>), Associate Professor of Economics

Tarron Khemraj (<https://www.ncf.edu/directory/tarron-khemraj/>), Professor of Economics and International Economics/William and Marie Selby Chair

Andrew Humphries (<https://www.ncf.edu/directory/andrew-humphries/>), Visiting Assistant Professor of Economics

Sherry Yu (<https://www.ncf.edu/directory/sherry-x-yu/>), Associate Professor of Economics and Finance

## Requirements for the AOC in Economics Economics Track <sup>1</sup>

A minimum of ten (10) academic units.

Code	Title
<b>Introductory Economics Courses</b>	
Select Principles of Economics <b>or</b> the sequence of Introductory Microeconomics and Introductory Macroeconomics:	
ECON 2110	Principles of Economics
ECON 2100 & ECON 2150	Introductory Microeconomics* and Introductory Macroeconomics*
<b>Intermediate Economics Courses</b>	
ECON 3500	Intermediate Microeconomics
ECON 3550	Intermediate Macroeconomics
<b>Mathematics Tools for Economics</b>	
MATH 2055 or MATH 2311	Math Tools for the Social Sciences* Calculus I*

### Introductory Course in Quantitative Data Analysis or Statistics

Select **one** from the following examples:

ECON 3480	Introductory Econometrics and Big Data Applications
STAT 2100	Introduction to Applied Statistics*
STAN 2700	Dealing with Data I*
STAN 2800	Dealing with Data II
POLS 2500	Quantitative Political Analysis I*
POLS 3550	Quantitative Political Analysis II

### Additional Courses

Select **five** additional courses in Economics, with at least one course primarily focused on quantitative analysis. Only one of the additional courses can be a tutorial.

### Highly Recommended

Intermediate-level Statistics course

Internships or Summer Research Projects for experience in the world of work

### Additional Requirements

Senior Thesis or Professional Field Experience Internship in Economics, and Baccalaureate Exam <sup>2</sup>

<sup>1</sup> Except for a few very limited circumstances, courses must be taken at New College even if you took a similar class elsewhere. A New College faculty advisor may offer an exception after reviewing the course outline and assignments of the course you wish to transfer.

<sup>2</sup> A member of the Economics faculty must be a signatory to the Thesis Prospectus/Area of Concentration form and the thesis sponsor, and at least one other member of the Economics faculty must serve on the thesis committee.

## Quantitative Economics Track <sup>1</sup>

The Quantitative Economics AOC allows students to graduate with a STEM degree by focusing on empirical and applied economics, as well as developing solid econometrics and mathematical modeling skills to analyze economic issues. This AOC provides students with a quantitative curriculum with advanced training in Econometrics, Mathematics, and/or Computer Science. Empirical and data analytical skills are increasingly demanded by employers, and graduates with this AOC will be able to solve sophisticated economic problems using both analytical and applied approaches. This AOC is also recommended for students interested in pursuing graduate studies in Economics, Finance, Statistics, and Data Analytics. Students are expected to conduct empirical research and must include a substantial quantitative economics component in their thesis project.

A minimum of twelve (12) academic units.

Code	Title
<b>Introductory Economics Courses</b>	
Select Principles of Economics <b>or</b> the sequence of Introductory Microeconomics and Introductory Macroeconomics:	
ECON 2110	Principles of Economics
ECON 2100 & ECON 2150	Introductory Microeconomics* and Introductory Macroeconomics*
<b>Intermediate Economics Courses</b>	
ECON 3500	Intermediate Microeconomics
ECON 3550	Intermediate Macroeconomics

**Calculus Courses**

MATH 2311	Calculus I*
MATH 2312	Calculus II*
MATH 2313	Calculus III
or MATH 4226	Real Analysis I*

**Econometrics Course**

ECON 4100	Econometrics
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**Probability or Linear Algebra Course**

Select Probability courses or Linear Algebra:

MATH 2500 & MATH 3510	Probability I and Probability II* (combined to be one unit)
MATH 3105	Linear Algebra

**Introductory Course in Quantitative Data Analysis or Statistics**

Select **one** from the following examples:

ECON 3480	Introductory Econometrics and Big Data Applications
STAT 2100	Introduction to Applied Statistics*
POLS 2500	Quantitative Political Analysis I*
POLS 3550	Quantitative Political Analysis II

**Additional Courses**

Select **three** additional courses in Economics, only one of which can be a tutorial

**Additional Requirements**

Senior Thesis in Quantitative Economics and Baccalaureate Exam <sup>2</sup>

<sup>1</sup> Except for a few very limited circumstances, course must be taken at New College even if you took a similar class elsewhere. A New College faculty advisor may offer an exception after reviewing the course outline and assignments of the course you wish to transfer.

<sup>2</sup> A member of the Economics faculty must be a signatory to the Thesis Prospectus/Area of Concentration form and the thesis sponsor, and at least one other member of the Economics faculty must serve on the thesis committee.

## Requirements for the Joint AOC in Economics

A minimum of seven (7) academic units.

Code	Title
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**Introductory Economics Courses**

Select Principles of Economics or the sequence of Introductory Microeconomics and Introductory Macroeconomics:

ECON 2110	Principles of Economics
ECON 2100 & ECON 2150	Introductory Microeconomics* and Introductory Macroeconomics*

**Intermediate Economics Courses**

ECON 3500	Intermediate Microeconomics
ECON 3550	Intermediate Macroeconomics

**Introductory Course in Quantitative Data Analysis or Statistics**

Select **one** from the following examples:

ECON 3480	Introductory Econometrics and Big Data Applications
STAT 2100	Introduction to Applied Statistics*

POLS 2500	Quantitative Political Analysis I*
POLS 3550	Quantitative Political Analysis II

**Additional Courses**

Select **three** additional courses in Economics, with at least one course primarily focused on quantitative analysis. Only one of the additional courses can be a tutorial.

**Highly Recommended**

Intermediate-level Statistics course

Internships or Summer Research Projects for experience in the world of work

**Additional Requirements**

Senior Thesis with a substantial Economics component, and a Baccalaureate Exam <sup>2</sup>

<sup>1</sup> Except for a few very limited circumstances, course must be taken at New College even if you took a similar class elsewhere. A New College faculty advisor may offer an exception after reviewing the course outline and assignments of the course you wish to transfer.

<sup>2</sup> A member of the Economics faculty must be a member of the thesis committee.

## Requirements for a Secondary Field in Economics

A minimum of five (5) academic units.

Code	Title
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**Introductory Economics Courses**

Select Principles of Economics or the sequence of Introductory Microeconomics and Introductory Macroeconomics:

ECON 2110	Principles of Economics
ECON 2100 & ECON 2150	Introductory Microeconomics* and Introductory Macroeconomics*

**Intermediate Economics Course**

ECON 3500 or ECON 3550	Intermediate Microeconomics Intermediate Macroeconomics
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**Additional Courses**

Select **three** additional courses in Economics, none of which can be a tutorial

**Additional Requirement**

At least one member of the Economics faculty must be a signatory to the Thesis Prospectus/Area of Concentration form.

## Finance as a Secondary Field

### Requirements for an AOC in Economics and a Secondary Field in Finance

A minimum of thirteen (13) academic units.

The student must fulfill all the normal requirements for a disciplinary concentration in Economics along with completing the courses required for a secondary field in Finance.

Code	Title
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**Required Courses in Finance <sup>1</sup>**

ECON 2520	Introduction to Accounting and Financial Statement Analysis*
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ECON 3170	Corporate Finance
ECON 3150	Money, Banking, and Financial Markets
ECON 2510	Introduction to International Business*
ECON 3110	Public Finance: Taxation
ECON 4100	Econometrics

**Introductory Economics Courses**

Select Principles of Economics **or** the sequence of Introductory Microeconomics and Introductory Macroeconomics:

ECON 2110	Principles of Economics
ECON 2100 & ECON 2150	Introductory Microeconomics* and Introductory Macroeconomics*

**Intermediate Economics Courses**

ECON 3500	Intermediate Microeconomics
ECON 3550	Intermediate Macroeconomics

**Mathematics Tools for Economics**

MATH 2055 or MATH 2311	Math Tools for the Social Sciences* Calculus I*
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**Introductory Course in Quantitative Data Analysis or Statistics**

Select **one** from the following examples:

ECON 3480	Introductory Econometrics and Big Data Applications
STAT 2100	Introduction to Applied Statistics*
STAN 2700	Dealing with Data I*
STAN 2800	Dealing with Data II
POLS 2500	Quantitative Political Analysis I*
POLS 3550	Quantitative Political Analysis II

**Additional Courses**

Select **five** additional courses in Economics, only one of which can be a tutorial

**Additional Requirements**

Senior Thesis in Economics/Finance and Baccalaureate Exam

<sup>1</sup> Only three of these courses may be double-counted for the Economics or Quantitative Economics AOC and the secondary field (minor) in Finance. Except for a few very limited circumstances, courses must be taken at New College even if you took a similar class elsewhere. A New College faculty advisor may offer an exception after reviewing the course outline and assignments of the course you wish to transfer.

## Requirements for the AOC in Quantitative Economics and a Secondary Field in Finance

A minimum of fifteen (15) academic units.

Code	Title
<b>Required Courses in Finance</b> <sup>1</sup>	
ECON 2520	Introduction to Accounting and Financial Statement Analysis*
ECON 3170	Corporate Finance
ECON 3150	Money, Banking, and Financial Markets
ECON 2510	Introduction to International Business*
ECON 3110	Public Finance: Taxation

**Required Courses in Quantitative Economics**

Select Principles of Economics **or** the sequence of Introductory Microeconomics and Intermediate Macroeconomics:

ECON 2110	Principles of Economics
ECON 2100 & ECON 2150	Introductory Microeconomics* and Introductory Macroeconomics*

**Intermediate Economics Courses**

ECON 3500	Intermediate Microeconomics
ECON 3550	Intermediate Macroeconomics

**Calculus Courses**

MATH 2311	Calculus I*
MATH 2312	Calculus II*
MATH 2313 or MATH 4226	Calculus III Real Analysis I*

**Econometrics Course**

ECON 4100	Econometrics
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**Probability or Linear Algebra Course**

Select Probability courses **or** Linear Algebra:

MATH 2500 & MATH 3510	Probability I and Probability II* (combined to be one unit)
MATH 3105	Linear Algebra

**Introductory Course in Quantitative Data Analysis or Statistics**

Select **one** from the following examples:

ECON 3480	Introductory Econometrics and Big Data Applications
STAT 2100	Introduction to Applied Statistics*
POLS 2500	Quantitative Political Analysis I*
POLS 3550	Quantitative Political Analysis II
STAN 2700	Dealing with Data I*
STAN 2800	Dealing with Data II

**Additional Courses**

Select **three** additional courses in Economics, only one of which can be a tutorial

**Additional Requirements**

Senior Thesis in Quantitative Economics/Finance and Baccalaureate Exam

<sup>1</sup> Only two of these courses may be double-counted for the Quantitative Economics AOC and a secondary field (minor) in Finance. Except for a few very limited circumstances, courses must be taken at New College even if you took a similar class elsewhere. A New College faculty advisor may offer an exception after reviewing the course outline and assignments of the course you wish to transfer.

## Requirements for the AOC in Other Discipline and a Secondary Field in Finance

A minimum of seven (7) academic units.

Code	Title
<b>Required Courses</b> <sup>1</sup>	
ECON 2110	Principles of Economics
ECON 2520	Introduction to Accounting and Financial Statement Analysis*
ECON 3170	Corporate Finance

ECON 3150	Money, Banking, and Financial Markets
ECON 2510	Introduction to International Business*
ECON 3110	Public Finance: Taxation
<b>Introductory Course in Quantitative Data Analysis or Statistics</b>	
Select <b>one</b> from the following examples:	
ECON 3480	Introductory Econometrics and Big Data Applications
STAT 2100	Introduction to Applied Statistics*
POLS 2500	Quantitative Political Analysis I*
POLS 3550	Quantitative Political Analysis II

**Additional Requirement**  
At least one member of the Economics faculty must be a signatory to the Thesis Prospectus/Area of Concentration form.

<sup>1</sup> Except for a few very limited circumstances, courses must be taken at New College even if you took a similar class elsewhere. A New College faculty advisor may offer an exception after reviewing the course outline and assignments of the course you wish to transfer.

## Recommended Courses for Students Seeking Graduate Education in Economics

Students interested in attending graduate programs in Economics are strongly recommended to take—at minimum—Econometrics, Calculus I, Calculus II, Calculus III, Linear Algebra, Functional Analysis, Real Analysis, Differential Equations, Numerical Methods, Mathematical Statistics and/or Probability Theory, advanced courses in Statistics, as well as one or two computer programming courses.

## Sample Pathways to Complete AOC Requirements

New College students must satisfy both the general education (Chart Your Course: CYC) and Economics AOC requirements. In addition to the economics classes, you will need nine CYC classes. With so many opportunities each term, the pathway below is provided as an example of how a student could complete the requirements for graduation. We have put some checkpoints in place so that you make the most of your time at New College. Each term you will meet with a faculty advisor to discuss courses, tutorials, internships, and/or other academic experiences. Schedule a meeting with your faculty advisor to discuss which courses to take as well as how best to sequence them. Each student completes a Provisional AOC plan in the fifth contract to select an AOC, and each student submits a Thesis Prospectus/AOC form in the sixth contract.

**Note:** CYC courses are part of a college-wide requirement for graduation.

### A Sample Four-Year Pathway in Economics

<b>First Year</b>		
<b>Fall Term</b>	<b>ISP</b>	<b>Spring Term</b>
CYC Course 1	Group ISP is recommended	Intro Macro
CYC Course 2		CYC Course 3
Intro Micro		Econ Topics Course 1
Intro Stats		Math for Economics or Equivalent

<b>Second Year</b>		
<b>Fall Term</b>	<b>ISP</b>	<b>Spring Term</b>
CYC Course 4	Econ related ISP or internship	CYC Course 5
Intermediate Micro		Intermediate Macro
Econ Topics Course 2		Econ Topics Course 3
Student Choice 1		Student Choice 2
<b>Third Year</b>		
<b>Fall Term</b>	<b>ISP</b>	<b>Spring Term</b>
CYC Course 6	Econ related ISP or internship	CYC Course 7
Econ Topics Course 4		Econ Topics Course 5
Student Choice 3		CYC Course 8
Student Choice 4		Student Choice 5
<b>Fourth Year</b>		
<b>Fall Term</b>		<b>Spring Term</b>
Make decision: (i) internship/ industry study + oral bacc. exam or (ii) senior thesis + oral bacc. exam		Write up of Academic Senior thesis or industry study or Internship
CYC Course 9		Oral bacc. exam
Thesis Tutorial		
Student Choice 6		
Student Choice 7		

### A Sample Four-Year Pathway in Quantitative Economics

<b>First Year</b>		
<b>Fall Term</b>	<b>ISP</b>	<b>Spring Term</b>
CYC Course 1	Group ISP is recommended	CYC Course 2
Intro Micro		Intro Macro
Statistics for Economics or equivalent		Econ Topics Course 1
Calculus I		Calculus II
<b>Second Year</b>		
<b>Fall Term</b>	<b>ISP</b>	<b>Spring Term</b>
CYC Course 3	Econ related ISP or quant internship	LAC Course 4
Intermediate Micro		Intermediate Macro
Probability I & II (one unit)		Econometrics
Student Choice 1		Student Choice 2
<b>Third Year</b>		
<b>Fall Term</b>	<b>ISP</b>	<b>Spring Term</b>
CYC Course 5	Econ related ISP or quant internship	CYC Course 6
Econ Topics Course 1		Econ Topics Course 2
Econ Topics Course 2		CYC Course 7
Student Choice 3		CYC Course 8
<b>Fourth Year</b>		
<b>Fall Term</b>		<b>Spring Term</b>
Must have a senior thesis topic		Thesis Writing
Econ Topics Course 3		Oral bacc. exam
Thesis Tutorial		
CYC Course 9		
Econ Topics Course 4		

### A Sample Four-Year Pathway in Economics for Students Intending to Attend Graduate School

<b>First Year</b>		
<b>Fall Term</b>	<b>ISP</b>	<b>Spring Term</b>
CYC Course 1	Group ISP is recommended	CYC Course 2
Intro Micro		Intro Macro
Intro Stats		Econ Topics Course 1
Calculus I		Calculus II

**Second Year**

Fall Term	ISP	Spring Term
CYC Course 3	Econ related ISP or internship	CYC Course 4
Intermediate Micro		Intermediate Macro
Econ Topics Course 2		Econ Topics Course 3
Real Analysis I		Real Analysis II

**Third Year**

Fall Term	ISP	Spring Term
CYC Course 5	Econ related ISP or internship	Econometrics
Econ Topics Course 4		CYC Course 6
Linear Algebra		Programming Course 2
Intro to Programming		CYC Course 7
		CYC Course 8

**Fourth Year**

Fall Term		Spring Term
CYC Course 9		Thesis Writing
Thesis Tutorial		Suggestion: more advanced math
Upper level Math or Stats class		Bacc. exam
Student Choice		

**Sample Two-Year Pathway for Economics: Transfer Students****Third Year**

Fall Term	ISP	Spring Term
Intro Micro	Independent Study	Intro Macro
Intro Stats		Math for Social Sciences
Econ Topics Course 1		Econ Topics Course 2
CYC Course 1		CYC Course 2

**Fourth Year**

Fall Term	ISP	Spring Term
Intermediate Micro	ISP or internship	Internship
Econ Topics Course 3		Intermediate Macro
CYC Course 3		CYC Course 4
Econ Topics Course 4		Econ Topics Course 5
Senior Practicum Tut.		

**Alternative Thesis Project: Professional Field Experience Internship**

The economics discipline offers students two options in completing their final senior project: (1) completion of an academic research project; or (2) under the co-sponsorship of Dr. Sherry Yu and Dr. Tarron Khemraj, the completion of a senior project in the form of a professional field experience internship accompanied by a written analytic/research component related to economic issues and policies. Everyone must take the oral baccalaureate exam.

The economics discipline promotes dialogue between academic research and new professional practices in professional settings that may include consultancy firms, business entities, regulatory authorities, public administrations, not-for-profit organizations, and communities. The general goal of this option is to provide students with an opportunity to apply and expand knowledge under professional supervision within a structured learning experience. Students are expected to commit a minimum of 180 hours to the practicum. Students choosing this option to fulfill their senior thesis project must adhere to the following guidelines.

Transfer students are encouraged to participate in the internship option for graduation at the two-year limit. However, transfers choosing the traditional academic senior thesis must have a thesis topic and thesis

tutorial by the Fall of their first year. Students are strongly advised to speak with their academic advisor as soon as possible.

**Timeline**

In the Fall semester of the senior year, students must enroll in the Senior Practicum for Economics tutorial co-sponsored by NCF's Center for Career Engagement and Opportunity (CEO) and their thesis sponsor(s). During this semester, students will conduct a search and apply for field experiences/practicums in partnership with their CEO career coach and thesis sponsor.

In the Spring semester and/or ISP period of the senior year, students will be engaged in the Senior Practicum by following the current internship guidelines provided by the CEO. An oral baccalaureate exam will also take place in the Spring semester for students to present their internship experience and respond to questions and answers from their thesis committee members.

**Analytic/Research Component**

The written requirement for this senior project is critical for students to demonstrate their writing, research, and analytical skills. Students should engage in active research on topics related to their practicum site by utilizing theoretical knowledge obtained from courses taken in the Economics discipline and apply them to their specific field experience. Examples may include: industry research and assessment, economic risks, economic issues, externalities, business ethics, market efficiency, competition, economic growth, resource allocation, risk mitigation, taxation, socioeconomic factors, inequality, social welfare, environmental economic policies/issues, incentives, market imperfections, and more. Students are strongly encouraged to identify economic issues encountered in their field experience, analyze and provide policy recommendations to address these issues. This analytic/research component should be written with high quality and be approximately 20 pages in length. Students should also explain what skills and knowledge they have applied from NCF coursework, discuss how this internship will help them with future career goals, and offer suggestions (to both NCF or the employer) to improve the professional field experience.

**Oral Baccalaureate Exam**

The baccalaureate examination, conducted by the baccalaureate committee, is an oral defense of the student's performance in three areas: senior project, area of concentration, and the undergraduate education in general. Students are expected to prepare a slideshow presentation and orally report on their field experience. Students will demonstrate their ability to apply the concepts and principles of economics in the internship, the ability to work effectively with the host organization on related economic issues, offer recommendations and solutions to economic problems based on their academic knowledge, and provide insights on how to improve the field experience in the future. The baccalaureate committee members will follow up with rounds of Q&A to assess students' ability to express ideas and information orally. A satisfactory Baccalaureate Examination Report signed by all of the members of the committee will need to be submitted to the Office of the Registrar.

**Recent Thesis Projects in Economics**

- Uncle Sam's Diet: The Economic Effects of Progressive Income Taxation on Efficiency, Distribution, and Growth
- The New Millennium—A Comprehensive Study of the Chinese Housing Market and the Effect of the One-Child Policy
- Lessons from the South African Expanded Public Works Programme

- The Fall of King Coal: An Analysis of the Factors Leading to the Decline of the U.S. Coal Industry
- Corporate Cuba American Money and the Creation of Castro's Communism
- Modeling International Reserves Composition: Central Bank Demand for Gold
- A Chairman by Chairman analysis of a Dynamic Taylor Rule: Does the Classical Model Stand the Times?
- Social and Economic Consequences of a Natural Experiment in Argentina's Professional Soccer League
- Analysis of the Environmental and Economic Aspects of the United States Acid Rain Program
- The Troubles and Peace: Economics and Politics in Northern Ireland
- Financial Inequality in Modern European Football: Identifying and Bridging the Gap between Europe's Elite and Other Clubs
- Microfinance in Bolivia: An Industry Evaluation
- Paths to Success: The Relationship between Health and Education in Developing Countries
- The Political Determinants of China's Foreign Direct Investment