#### Status: PENDING

## **PROGRAM REQUEST**

Last Updated: Haddad, Deborah Moore Quantitative Economics Minor 10/10/2017

Economics - D0722 Fiscal Unit/Academic Org Administering College/Academic Group Arts and Sciences

Co-adminstering College/Academic Group

Semester Conversion Designation New Program/Plan

**Proposed Program/Plan Name** Quantitative Economics Minor

Type of Program/Plan Undergraduate minor

Program/Plan Code Abbreviation **QECON** 

**Proposed Degree Title** Quantitative Economics Minor

#### **Credit Hour Explanation**

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program				15	
Required credit hours offered by the unit	Minimum			15	
	Maximum			16	
Required credit hours offered outside of the unit	Minimum				
	Maximum				
Required prerequisite credit hours not included above	Minimum			8	
	Maximum				

### **Program Learning Goals**

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

**Program Learning Goals** 

- Students improve their substantive knowledge of economics and public policy issues.
- Students improve their analytic and quantitative abilities, including their mathematics and statistical ability and logical thinking skills.
- Students improve their preparation for graduate education and/or employment.

#### Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? No

## Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

## Pre-Major

Status: PENDING

## PROGRAM REQUEST Quantitative Economics Minor

Last Updated: Haddad, Deborah Moore 10/10/2017

#### Does this Program have a Pre-Major? No

#### **Attachments**

PolScieRe\_ Quantitative Econ Minor Concurrence.pdf: Concurrence Pol Scie

(Support/Concurrence Letters. Owner: Ramirez,Ana G)

Sociology Re\_ Quantitative Econ Minor Concurrence.pdf: Concurrence Sociology

(Support/Concurrence Letters. Owner: Ramirez, Ana G)

AEDE FW\_ Quantitative Econ Minor Concurrence.pdf: Concurrence AEDE

(Support/Concurrence Letters. Owner: Ramirez, Ana G)

Psychology Re\_ Quantitative Econ Minor Concurrence.pdf: Concurrence Psych

(Support/Concurrence Letters. Owner: Ramirez,Ana G)

■ Intlstds concurrenceRE\_ Quantitative Econ Minor Concurrence.pdf: Concurrence Intlstds

(Support/Concurrence Letters. Owner: Ramirez,Ana G)

• JohnGlennFW\_ Quantitative Econ Minor Concurrence.pdf: Concurrence JGCPA

(Support/Concurrence Letters. Owner: Ramirez,Ana G)

• FCOB RE\_ Quantitative Econ Minor Concurrence.pdf: Concurrence FCOB

(Support/Concurrence Letters. Owner: Ramirez,Ana G)

• Math RE\_ Quantitative Econ Minor Concurrence.pdf: Concurrence Math

(Support/Concurrence Letters. Owner: Ramirez,Ana G)

Curriculum Map Update 2017.xlsx: Econ Curriculum Map

(Curricular Map(s). Owner: Ramirez,Ana G)

• Update Quant Econ Minor Concurrence Request.docx: Updated Concurrence List

(Other Supporting Documentation. Owner: Ramirez, Ana G)

• update Quantitative Minor Sheet AU2017.docx: Revised Minor Sheet

(Quarter Advising Sheet(s). Owner: Ramirez,Ana G)

• updated QuanEcon\_Minor MughanYe rev9-17.docx: Proposal

(Program Proposal. Owner: Ramirez,Ana G)

#### Comments

Revision made per 9-20-17 email.

Add expected enrollment in plan (by Ramirez, Ana G on 10/10/2017 03:25 PM)

- 9/25: Returned to A. Ramirez at her request. (by Haddad, Deborah Moore on 09/25/2017 04:21 PM)
- See 9-20-17 email to T. Logan and A Ramirez. (by Vankeerbergen, Bernadette Chantal on 09/20/2017 11:55 AM)

Status: PENDING

PROGRAM REQUEST
Quantitative Economics Minor

Last Updated: Haddad, Deborah Moore 10/10/2017

## **Workflow Information**

Status	User(s)	Date/Time	Step
Submitted Ramirez,Ana G		05/25/2017 01:00 PM	Submitted for Approval
Approved Ye,Lixin (		05/25/2017 01:47 PM	Unit Approval
Approved	Haddad, Deborah Moore	05/25/2017 04:21 PM	College Approval
Revision Requested	Vankeerbergen,Bernadet te Chantal	09/20/2017 11:55 AM	ASCCAO Approval
Submitted	Ramirez, Ana G	09/25/2017 12:06 PM	Submitted for Approval
Approved	Ye,Lixin	09/25/2017 01:28 PM	Unit Approval
Revision Requested	Haddad, Deborah Moore	09/25/2017 04:21 PM	College Approval
Submitted	Ramirez, Ana G	10/10/2017 03:25 PM	Submitted for Approval
Approved	Ramirez,Ana G	10/10/2017 03:26 PM	Unit Approval
Approved	Haddad, Deborah Moore	10/10/2017 04:43 PM	College Approval
Pending Approval	Nolen,Dawn Vankeerbergen,Bernadet	10/10/2017 04:43 PM	ASCCAO Approval
	te Chantal		
	Oldroyd,Shelby Quinn		
	Hanlin, Deborah Kay		
	Jenkins, Mary Ellen Bigler		

#### **Quantitative Economics Minor Proposal**

To: ASC Curriculum Committee

From: Trevon Logan, Chair, Department Economics

#### **Background:**

The Department of Economics has about 6000 students enrolled each semester during autumn and spring. The majority of enrollments come from the economics principles courses (Econ 2001 and 2002), constituting about of half of the enrollments about 2900 in Spring 2017. These 2 courses are prerequisites for many non-Econ majors. Since the economics minor consists of 5 courses, many of students continue enrolling in Econ courses after completing the principles courses. In any given semester there are over 400 students enrolled in Econ courses with the intention of completing the Econ minor. The curriculum requires a minimum of 15 credit-hours or 5 Econ courses, 6 credits of which can be transfer or EM credit. It is possible for a student to complete the coursework within 3 semesters of enrollment.

#### **Current Economics Minor Requirements:**

- Econ 2001.01, 2001.02 or 2001.03H (3-credit hours)
- Econ 2002.01, 2002.02 or 2002.03H (3-credit hours)
- Econ 4400, 4001.01, 4001.02, 4002.01 or 4002.02 (3-credit hours)
- Two electives from 3000-level or higher economics courses
   Minimum 15 credit hours

While the distinction is made between Econ-BA and Econ-BS majors, the current minor curriculum does not differentiate the type of skills students obtain. Students enrolling in the challenging calculus-based courses receive the same plan designation on their transcripts as the students enrolling for the non-calculus courses. The calculus-based courses require students to be prepared with advanced math and statistical skills. As the minor plan is currently designed students taking different courses could obtain the minor credit for very different course loads, as illustrated in, for example, the following table:

Minor Student A	Minor Student B
2001.01 – Principles of Microeconomics	2001.01 – Principles of Microeconomics
2002.01 – Principles of Macroeconomics	2002.01 – Principles of Macroeconomics
4001.01 – Intermediate Microeconomics	4001.02 – Intermediate Microeconomics
	(Calculus-based)
3820 – Economics of Gender in Labor Market	4002.02 – Intermediate Macroeconomics
	(Calculus-based)
4537 – Middle Eastern Economic Development	5410 Econometrics I
Prereq: College algebra	Prereq: Math 1131 or 1151 and Stats 2450 or
	higher level stats course

#### **Rationale**

The rationale for creating a separate quantitative minor track is to recognize different aptitudes and skills that students develop while studying economics. The students from disciplines with similar rigorous quantitative requirements to the Econ-BS students are already self-selecting into the calculus-based economics courses. SP17 intermediate economics theory courses (Econ 4001 and 4002) and the advance econometrics courses

(Econ 5410 and 5420) consisted of 621 enrollments from BS designated majors such business, engineering and math. Based on the AY2015-16 enrollments by non-Econ majors in Econ 4001.02, Econ 4002.02 and Econ 5410, the department estimates within two years there would be 100 students pursuing the quantitative economics minor.

During AY2015-16 enrollment by non-Econ majors in Econ 4001.02, Econ 4002.02 and Econ 5410 consisted of 100 students. The department believes there is sufficient student interest. In the first year we estimate 25 students would declare the quantitative minor, by the second year 60 students and by the third year 100 students could be pursuing the new minor

#### Curriculum

The current proposal is for a minimum 15-credit hour plan beginning spring 2018. The quantitative economics minor plan is a more structured plan than the current Econ minor. There is more required coursework and students have 2 pathways toward completion. Option 1 requires two principles courses, two calculus-based intermediate theory courses and one 5000-level elective. Option 2 requires two principles courses and Econ 5410, but allows student enrollment in the non-calculus based intermediate theory courses (Econ 4001.01 and 4002.01).

The motivation for creating 2 pathways for the quantitative economics minor emerges from the limited teaching resources for the calculus-based theory courses. The departmental preference is for faculty to be primary instructors for the calculus-based sections. Consequently, these courses are only offered in autumn and spring semesters, usually 2 sections of calculus-based microeconomic theory and 1 section of calculus-based macroeconomic theory. The non-calculus courses are offered in spring, summer and autumn semesters with graduate students and non-PhD lecturers serving as the primary instructors. Autumn and spring offerings consists of 6 sections of Econ 4001.01 and 2 sections of Econ 4002.01. Given the current number of Econ minors, an enrollment bottle-neck could arise in the calculus-based curriculum for students pursuing the quantitative minor and students pursuing the Econ -BS degree in which the calculus-based theory courses are a requirement. Option 2 with the Econ 5410 requirement maintains the quantitative vigor of the new minor plan while allowing alternative courses for the economic theory component of the plan. Econ 4400 (Elementary Econometrics) is excluded since it is part of the Econ-BA curriculum.

#### Option 1:

- Econ 2001.01, 2001.02 or 2001.03H (3-credit hours) and
- Econ 2002.01, 2002.02 or 2002.03H (3-credit hours) and
- Econ 4001.02 or 4001.03 (3-credit hours) and
- Econ 4002.02 or 4002.03 (3-credit hours) and
- One 3-4 credit hour elective from the 5000-level course
   Minimum 15 16 Total Credit Hours

#### Option 2:

- Econ 2001.01, 2001.02 or 2001.03H (3-credit hours) and
- Econ 2002.01, 2002.02 or 2002.03H (3-credit hours) and
- Econ 4001.01 (3-credit hours) and
- .Econ 4002.01 (3-credit hours) and
- Econ 5410 (3-credit hours)
   Minimum 15 Total Credit Hours

Prerequisites: Math 1131, 1151, 1161.01, 1161.02, 1181H or higher level math for Econ 4001.02/.03 and 4002.02/.03. Stats 2450 or higher level stats for Econ 5410 and other 5000-level electives.

## **Course Synopses**

#### Principles

Catalog #	Course Title	Course Description
2001.01	Principles of Microeconomics	Introduction to economic theory: supply and demand for goods and services; market structure; the distribution of income. Su, Au, Sp sem. First required course for students planning to take 4000-level courses in econ. GEC soc sci human, natural, and economic resources course. SS Admis Cond course.
2001.02	Principles of Microeconomics	Introduction to economic theory: supply and demand for goods and services; market structure; the distribution of income. Au, Sp sem. Prereq: Designates an advanced version for major and minors. Requires declared major or minor or permission of instructor First required course for students planning to take 4000-level courses in econ. GEC soc sci human, natural, and economic resources course. SS Admis Cond course.
2002.01	Principles of Macroeconomics	Theory of national income determination; economic fluctuations; money; government policy; international economics. Su, Au, Sp sem. GEC soc sci organizations and polities course.
2002.02	Principles of Macroeconomics	Theory of national income determination; economic fluctuations; money; government policy; international economics. Au, Sp sem. Prereq: Designates an advanced version for major and minors. Requires declared major or minor or permission of instructor. GEC soc sci organizations and polities course.
2001.03H	Principles of Microeconomics	Introduction to economic theory: supply and demand for goods and services; market structure; the distribution of income. Au, Sp sem. First required course for students planning to take 4000-level courses in econ. Available to students enrolled in an honors program or by permission of department or instructor. GEC soc sci human, natural, and economic resources course. SS Admis Cond course.
2002.03Н	Principles of Macroeconomics	Theory of national income determination; economic fluctuations; money; government policy; international economics. Au, Sp sem. Available to students enrolled in an honors program or by permission of department or instructor. GEC soc sci organizations and polities course.

#### Intermediate Theory

Catalog #	Course Title	Course Description
4001.01	Intermediate Microeconomic Theory	Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Intermediate Microeconomic Theory. Prereq: 2001 and 2002 or equivs. Not open to students with credit for 4001.02 or 4001.03 (501.01 or 501.02)
4001.02	Intermediate Microeconomic Theory	Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Intermediate Microeconomic Theory. Prereq: 2001 and 2002, or equivs. Prereq: Designates a calculus based version which requires Math 1131 or 1251 or 1252 or 1261 or 2262 or H2262 or H4250, or equiv, or permission of instructor. Not open to students with credit for 4001.01 or 4001.03 (501.1 or 501.02)
4001.03	Intermediate Microeconomic Theory	Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Intermediate Microeconomic Theory. Prereq: 2001 and 2002 or equivs. Prereq: Designates an advanced calculus based version which requires Math 1131 or 1251 or 1252 or 1261 or 2262 or H2262 or H2260, or equiv, or permission of instructor. Not open to students with credit for 4001.01 or 4001.02 (501.01 or 501.02)
4002.01	Intermediate Macroeconomic Theory	Analysis of the determinants of national output, income and employment levels; theory of economic growth and progressive equilibrium in an economy. Intermediate Macroeconomic Theory. Prereq: 2001 and 2002 or equivs. Not open to students with credit for 4002.02 or 4002.03 (502.01 or 502.02)
4002.02	Intermediate Macroeconomic Theory	Analysis of the determinants of national output, income and employment levels; theory of economic growth and progressive equilibrium in an economy. Intermediate Macroeconomic Theory. Prereq: 2001 and 2002, or equivs. Prereq: Designates a calculus based version which requires Math 1131 or 1251 or 1252 or 1261 or 2262 or H2262 or H4250, or equiv, or permission of instructor. Not open to students with credit for 4002.01 or 4002.03 (502.01 or 502.02)

		Analysis of the determinants of national output, income and employment levels; theory of economic growth and progressive equilibrium in an economy. Intermediate Macroeconomic Theory. Prereq: 2001 and 2002, or equivs. Prereq: Designates an
		advanced calculus based version which requires Math 1131 or 1251 or 1252 or 1261 or 2262 or H2262 or H4250, or equiv, or permission of instructor. Not open to
4002.03	Intermediate Macroeconomic Theory	students with credit for 4002.01 or 4002.02 (502.01 or 502.02)

#### 5000-level Courses:

Catalog #	Course Title	Course Description
5001	Game Theory in Economics	Game theory and applications to strategic situations. Prereq: 4001 and Math 1131 or 1251 or 1252 or 1261 or 2262 or H2262 or H4250, or equiv.
		General survey from discovery of America to present; European economic background; westward movement and its effects; development of economic institutions in the United States. Prereq: 4400 or 5410, or Stat 2450, 4001 and 4002;
5130	Economic History of the United States	or grad standing.
5140	Economic History of Western Europe	Survey from 1750 through the post-World War II period; from Britain in the West to Russia in the East. Prereq: 4400 or 5410, or Stat 2450, 4001 and 4002; or grad standing.
5150	Economic Transitions in the 20th Century	Surveys major themes in transitioning economies in the 20th century; focus on planned economies and developing economies as they integrate into world economy. Prereq: 4400 or 5410 or Stat 2450, and Econ 4001 or 4002 or permission of instructor.
5250	National and International Money Markets	Organization, functions, and control of money markets and their submarkets; flow of funds in these markets and investment policies of market participants. Prereq: 4400or 5410, 4001, and 4002.
5410	Econometrics I	The general linear regression model; multiple correlation, path analysis, analysis of variance and tests of significance; specification errors. Prereq: 4001 and Stat 2450 or equivs.
5420	Econometrics II	Application of economic and statistical principles to economic problems; applications include topics in labor economics, industrial organization, macro models, and international trade. Prereq: 4001, 4002, 5410, and Math 1131; or equivs.
5650	International Commodity Flows: Theory and Policy	Comparative advantage and the gains from trade; tariffs and other trade restrictions; economic effects of protective policies; U.S. commercial policies; regional economic integration. Prereq: 4400 or 5410 and 4001.
5660	Financial Aspects of International Trade	International payments and receipts; foreign exchange markets; balance-of-payments adjustment under different monetary systems; macroeconomic policy; international monetary reforms; foreign investments; multinational corporations. Prereq: 4400 or 5410, and 4002.
5700	Structure of Industry	Nature, role, and regulation of competition; market structure and social performance; antitrust laws; current economic, legal, and policy problems in the antitrust area. Prereq: 4400 or 5410, and 4001, or grad standing.
5720	Economic Analysis of Japanese Firms and Markets	Applications of economic analysis to Japanese industrial organization including the firm's internal incentive structure, labor markets, and financial institutions. Prereq: 4001 or 501 or 4700.
5850	Labor Economics	Labor demand and supply; wages, unemployment, and inflation; economics of the household's allocation of time. Prereq: 4001 or equiv.
5860	Health Economics	An introductory course to the field of health economics. Students will apply concepts form introductory and intermediate microeconomics to problems that are faced in health and medical care. The focus is on individual demand for medical care; health insurance, markets for and institutional features of health care providers; measuring and pricing quality and healthcare reform. Prereq: 4001 and Stat 1450 or 2450
3000	Neuroeconomics and Decision	The focus of this course will be on the psychology and neuroscience underlying economic behavior. Discussion will cover various domains of economic decision making and what Neuroeconomics has taught us about them. Prereq: AEDEcon 2005, Stat 1450, 2450, Psych 2220, or Econ 3400; and Math 1148 or higher; and Econ 4001.01, 4001.02, 4001.03, AEDEcon 4001, Psych 3313, 3513, or 4508. Not open to
5870	Neuroscience	students with credit for Psych 5870. Cross-listed in Psych.
5194	Group Studies	Advanced courses in economics and related fields. Repeatable to a maximum of 10 cr hrs.

The quantitative minor would be open to all undergraduate students who are not Econ-BA or Econ-BS majors. No more than 3 hours of Econ 5194 could be applied to the minor and only with permission of the Director of

Undergraduate Studies. Transfer and EM credit would be allowed with no more than six credit hours coming from non-OSU credit. A minimum grade of C- must be obtained for course to count towards the minor. Any hours above 12 credits can actually overlap with a major or another minor. A minimum 2.00 cumulative point-hour ratio is required for the minor.

#### **Administrative**

The minor will be listed as a quantitative economics minor offered by the Economics Undergraduate Studies Program. Students could file the minor form at the time their graduation application is submitted to the college/school counselor. Department of Economics approval is NOT required as long as students have completed the courses as indicated on the minor program description.

#### Competition

In a canvass of the Ohio colleges and universities, there are no Econ programs that have a quantitative economics minor. There are management economics, international economics, and environmental economics minors that focus on the application or policy aspects of economics. With a less intensive web search of US institutions, Drake University, Western New England University and the University of West Florida were found to have specifically listed a quantitative economics minor.

# The Ohio State University College of Arts and Sciences Quantitative Economics Minor (QUANT ECON-MN)

Department of Economics 410 Arps Hall, 1945 North High Street Columbus, OH 43210-1120 Telephone: 614-292-6701

https://economics.osu.edu/

Economics offers an understanding of how the economy operates and provides a basis for informed opinions on many public issues. An undergraduate minor in quantitative economics provides good preparation for careers in government, business, organized labor, trade associations, or teaching in the social sciences. It also provides an excellent base for graduate work in any of the social sciences or in professional schools such as law and business administration.

The minor in quantitative economics consists of 15 to 16 credit hours, depending on the course work selected. Four courses (Economics 2001, 2002, 4001, and 4002) and one course at the 5000 level. No more than three credit hours of Economics 5193 and/or 5194 may be applied to the minor. Economics 5797 may be used only with the permission of the Director of Undergraduate Studies. There are 2 plan options.

#### Option 1

#### **Required Core Courses (12 credit hours)**

Economics 2001 (2001.01, 2001.02 or 2001.03H) and Economics 2002 (2002.01, 2002.02 or 2002.03H) and Economics 4001 (4001.01, 4001.02 or 4001.03) and Economics 4002 (4002.01, 4002.02 or 4002.03)

#### Additional 5000-Level Courses (3-4 credit hours)

Any 3 or 4 credit economics course at the 5000-level if students enroll and complete Econ 4001.02 or 4001.03 and 4002.02 or 4002.03 with grade of C- or better.

#### Option 2

#### Required Core Courses (15 credit hours)

Economics 2001 (2001.01, 2001.02 or 2001.03H) and Economics 2002 (2002.01, 2002.02 or 2002.03H) and

Economics 4001.01 and Economics 4002.01 and Economics 5410

Economics 5410 is required if students enroll and complete Econ 4001.01 or 4002.01 with a grade of C- or better.

Statistics Prerequisites for (3-4 credit hours) Stat 2450, 4201, 4202, or 3470, or equivalent.

Math Prerequisites (4-5 credit hours)
Math 1131, 1151, 1156, 1161,1181H, 2153, 2162, 2182H, 4182H, 4530, or 5530H.

#### **Economics minor program guidelines**

#### Required for graduation No

<u>Credit hours required</u> A minimum of 15 to 16 credit hours. 1000 level courses shall not be counted in the minor.

#### Transfer and EM credit hours allowed

A student is permitted to count up to 6 total hours of transfer credit and/or credit by examination.

Overlap with the GE A student is permitted to overlap up to 6 credit hours between the GE and the minor.

#### Overlap with the major and additional minor(s)

- The minor must be in a different subject than the major.
- The minor must contain a minimum of 12 hours distinct from the major and/or additional minor(s).

#### Grades required

- Minimum C- for a course to be listed on the minor.
- Minimum 2.00 cumulative point-hour ratio required for the minor.
- Course work graded Pass/Non-Pass cannot count on the minor.
- No more than 3 credit hours of coursework graded Satisfactory/Unsatisfactory may count toward the minor.

X193 credits No more than 3 credit hours.

<u>Minor approval</u> Not required as long as students complete the courses as indicated on the minor program description.

<u>Filing the minor program form</u> The minor program form must be filed at least by the time the graduation application is submitted to a college/school counselor.

<u>Changing the minor</u> Once the minor program is filed in the college office, any changes must be approved by the Department of Economics.

College of Arts and Sciences Curriculum and Assessment Services 154 Denney Hall, 164 Annie & John Glenn Ave. http://artsandsciences.osu.edu

#### **CONCURRENCE REQUEST MAY 22, 2017**

## Concurrence 5/24/17 Richard Herrmann (.1)

Chair Political Science
College of Arts & Sciences
Herrmann.1@osu.edu

Concurrence 5/24/17

Claudia Buchmann (.4)

**Chair Sociology** 

Andrew Martin (.1026)

**Director of Undergraduate Studies Sociology** 

Martin.1026@osu.edu Buchmann.4@osu.edu

Concurrence 5/24/17

Tim Haab (.1)

Chair AEDE

Brian Roe (.30)

Undergraduate Program Leader

Haab.1@osu.edu

Roe.30@osu.edu

## Concurrence 5/24/17

John Bruno (.1)

Chair Psychology

College of the Arts and Sciences

Bruno.1@osu.edu

Concurrence 5/24/17

Tony Mughan (.1)

**Karlene Foster (.24)** 

International Studies

College of Arts and Sciences

Mughan.1@osu.edu

Foster.24@osu.edu

Concurrence 5/24/17

Trevor Brown (.2296)

Dean of John Glenn College of Public Affairs

Robert Greenbaum (.3)

Associate Dean for Curriculum

John Glenn College of Public Affairs

Greenbaum.3@osu.edu

Brown.2296@osu.edu

## Concurrence 5/24/17 Patricia West (.284)

Associate Dean of Undergraduate Program

Jill O'Neill (.139)

**Director Administrative Services** 

**FCOB** 

West.284@osu.edu

Oneill.139@osu.edu

#### Concurrence 5/24/17

Luis Casian (.1)

Chair Math

**Timothy Carlson** 

Vice Chair Math

Casian.1@osu.edu

Carlson.6@osu.edu

From: Herrmann, Richard

To: Logan, Trevon

Cc: Martin, Andrew; Buchmann, Claudia; Haad.1@osu.edu; Roe, Brian; Bruno, John; Mughan, Anthony; Foster,

Karlene; Greenbaum, Robert; Brown.2269@osu.edu; West, Patricia; O"Neill, Jill; Casian, Luis; Carlson, Timothy;

Ramirez, Ana

Subject: Re: Quantitative Econ Minor Concurrence
Date: Wednesday, May 24, 2017 3:36:28 PM

Attachments: osu-emailsig.png

Dear Trevon,

This looks like a good plan to me. i concur for the department of political science.

Sincerely,

Rick



#### Richard K. Herrmann

Professor and Chair

Department of Political Science

2140 Derby Hall, 154 N. Oval Mall, Columbus, OH 43210

614-292-9843 Office

herrmann.1@osu.edu osu.edu

On May 24, 2017, at 11:23 AM, Logan, Trevon < logan.155@osu.edu> wrote:

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

Sincerely,

<image002.png>

Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax

logan.155@osu.edu osu.edu

<Curriculum Map Update 2017.xlsx><QEcon Concurrence\_Form\_10-15-15.pdf><Quantitative Economics Minor Proposal.docx><Quantitative Minor Sheet AU2017.docx>

From: Martin, Andrew To: Logan, Trevon

Herrmann, Richard; Buchmann, Claudia; Haad.1@osu.edu; Roe, Brian; Bruno, John; Mughan, Anthony; Foster, Cc:

Karlene; Greenbaum, Robert; Brown.2269@osu.edu; West, Patricia; O"Neill, Jill; Casian, Luis; Carlson, Timothy;

Ramirez, Ana

Subject: Re: Quantitative Econ Minor Concurrence Date: Wednesday, May 24, 2017 4:03:52 PM

Attachments: image002.png

image002.png

#### Hi Trevon

The Sociology Department also fully supports the proposed minor program.

**Best** 

Andrew Martin

Professor and Director of Undergraduate Studies

Department of Sociology

On May 24, 2017, at 11:23 AM, Logan, Trevon < logan.155@osu.edu> wrote:

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

Sincerely,



#### Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax

#### logan.155@osu.edu osu.edu

- < Curriculum Map Update 2017.xlsx>
- <QEcon Concurrence\_Form\_10-15-15.pdf>
- < Quantitative Economics Minor Proposal.docx>
- < Quantitative Minor Sheet AU2017.docx>

From: Logan, Trevon
To: Ramirez, Ana

Subject: FW: Quantitative Econ Minor Concurrence
Date: Wednesday, May 24, 2017 2:35:52 PM

Attachments: <u>image002.png</u>

From: Haab, Timothy

**Sent:** Wednesday, May 24, 2017 2:26 PM **To:** Logan, Trevon < logan.155@osu.edu>

Subject: RE: Quantitative Econ Minor Concurrence

Trevon,

It is my pleasure to offer AEDE's concurrence on your proposed quantitative economics minor. This is a strong proposal that could benefit our Agribusiness and EEDS students who are looking to prepare for graduate school. Please let me know if you need any additional information.

Tim Haab Professor and Chair Department of Agricultural, Environmental, and Development Economics Ohio State University

614-354-3386 (cell—feel free to text)

From: Logan, Trevon

**Sent:** Wednesday, May 24, 2017 1:24 PM

To: Brown, Trevor < brown.2296@osu.edu >; Haab, Timothy < haab.1@osu.edu >

**Cc:** Ramirez, Ana < <u>ramirez.159@osu.edu</u>> **Subject:** Quantitative Econ Minor Concurrence

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the

proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

Sincerely,



#### Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax logan.155@osu.edu osu.edu

From: Bruno, John

To: Logan, Trevon; Herrmann, Richard; Martin, Andrew; Buchmann, Claudia; Haad.1@osu.edu; Roe, Brian; Mughan,

Anthony; Foster, Karlene; Greenbaum, Robert; Brown.2269@osu.edu; West, Patricia; O"Neill, Jill; Casian, Luis;

Carlson, Timothy

Cc: Ramirez, Ana

Subject: Re: Quantitative Econ Minor Concurrence

Date: Wednesday, May 24, 2017 3:44:15 PM

Attachments: <u>image002.png</u>

#### Hi Trevon,

The BS Minor will serve the needs of a significant group of students. The curricular distinctions seems appropriate and Psychology fully supports this plan for a BS Minor in Econ.

Best,

John

From the desk of:

John P. Bruno, Ph.D.
Professor and Chair
Department of Psychology
The Ohio State University
Room 225 Psych Bldg.
(V) 614-292-3038
(F) 614-292-6798
Www.psy.ohio-state.edu/bruno

From: "Logan, Trevon" < logan.155@osu.edu>
Date: Wednesday, May 24, 2017 at 11:23 AM

**To:** "Herrmann, Richard" < herrmann.1@osu.edu >, "Martin, Andrew" < martin.1026@osu.edu >, "Buchmann, Claudia" < buchmann.4@osu.edu >, "Haad.1@osu.edu" < Haad.1@osu.edu >, "Roe, Brian" < roe.30@osu.edu >, John Bruno < bruno.1@osu.edu >, "Mughan, Anthony" < mughan.1@polisci.osu.edu >, "Foster, Karlene" < foster.24@osu.edu >, "Greenbaum, Robert"

<<u>mughan.1@polisci.osu.edu</u>>, "Foster, Karlene" <<u>foster.24@osu.edu</u>>, "Greenbaum, Robert" <<u>greenbaum.3@osu.edu</u>>, "<u>Brown.2269@osu.edu</u>" <<u>Brown.2269@osu.edu</u>>, "West, Patricia" <<u>west.284@osu.edu</u>>, "O'Neill, Jill" <<u>oneill.139@osu.edu</u>>, "Casian, Luis" <<u>casian@math.ohio-state.edu</u>>, "Carlson, Timothy" <<u>carlson@math.ohio-state.edu</u>>

**Cc:** "Ramirez, Ana" < <u>ramirez.159@osu.edu</u>> **Subject:** Quantitative Econ Minor Concurrence

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their

respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

Sincerely,



#### Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax logan.155@osu.eduosu.edu

From: <u>Mughan, Anthony</u>

To: Logan, Trevon; Herrmann, Richard; Martin, Andrew; Buchmann, Claudia; Haad.1@osu.edu; Roe, Brian; Bruno.

John; Foster, Karlene; Greenbaum, Robert; Brown.2269@osu.edu; West, Patricia; O"Neill, Jill; Casian, Luis;

Carlson, Timothy

Cc: Ramirez, Ana

Subject: RE: Quantitative Econ Minor Concurrence
Date: Wednesday, May 24, 2017 12:09:52 PM

Attachments: <u>image002.png</u>

Trevon,

International Studies welcomes this curriculum innovation (a minor designed specifically for BS majors) and endorses it enthusiastically. Well done!

Tony

Anthony Mughan Professor, Political Science & Director, International Studies 2140 Derby Hall The Ohio State University Columbus, OH 43210

Phone: (614) 292-9657 Fax: (614) 688-3020 E-mail: mughan.1@osu.edu

L-Mail. Maghan. 1903a.caa

From: Logan, Trevon

Sent: Wednesday, May 24, 2017 11:23 AM

**To:** Herrmann, Richard; Martin, Andrew; Buchmann, Claudia; Haad.1@osu.edu; Roe, Brian; Bruno, John; Mughan, Anthony; Foster, Karlene; Greenbaum, Robert; Brown.2269@osu.edu; West, Patricia; O'Neill,

Jill; Casian, Luis; Carlson, Timothy

Cc: Ramirez, Ana

**Subject:** Quantitative Econ Minor Concurrence

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

### Sincerely,



#### Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax logan.155@osu.edu osu.edu

From: Logan, Trevon
To: Ramirez, Ana

Subject: FW: Quantitative Econ Minor Concurrence

Date: Thursday, May 25, 2017 12:41:21 PM

Attachments: image001.png

image002.png

From: Greenbaum, Robert

**Sent:** Wednesday, May 24, 2017 4:34 PM **To:** Logan, Trevon < logan.155@osu.edu>

**Cc:** Brown, Trevor <brown.2296@osu.edu>; Lavertu, Stephane <lavertu.1@osu.edu>; Hallihan, Kathleen <hallihan.3@osu.edu>; Adams, Christopher <adams.615@osu.edu>; Brown, Trevor <brown.2296@osu.edu>

**Subject:** RE: Quantitative Econ Minor Concurrence

Hi Trevon,

The Glenn College also is happy to provide concurrence for new proposed minor, and we anticipate that a number of our BS students would take advantage of it.

#### Rob



#### Robert T. Greenbaum

Associate Professor, Associate Dean for Curriculum

John Glenn College of Public Affairs

350E Page Hall, 1810 College Road, Columbus, OH 43210
614-292-9578 Office / 614-292-2548 Fax

greenbaum.3@osu.edu glenn.osu.edu/faculty/glenn-faculty/greenbaum/

Buckeyes consider the environment before printing.

From: Logan, Trevon

**Sent:** Wednesday, May 24, 2017 11:24 AM

**To:** Herrmann, Richard; Martin, Andrew; Buchmann, Claudia; <u>Haad.1@osu.edu</u>; Roe, Brian; Bruno, John; Mughan, Anthony; Foster, Karlene; Greenbaum, Robert; <u>Brown.2269@osu.edu</u>; West, Patricia; O'Neill,

Jill; Casian, Luis; Carlson, Timothy

Cc: Ramirez, Ana

**Subject:** Quantitative Econ Minor Concurrence

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

Sincerely,



#### Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax logan.155@osu.edu osu.edu

From: O"Neill, Jill

To: Mughan, Anthony; Logan, Trevon; Herrmann, Richard; Martin, Andrew; Buchmann, Claudia; Haad.1@osu.edu;

Roe, Brian; Bruno, John; Foster, Karlene; Greenbaum, Robert; Brown.2269@osu.edu; West, Patricia; Casian,

Luis; Carlson, Timothy

Cc: Ramirez, Ana

Subject: RE: Quantitative Econ Minor Concurrence

Date: Wednesday, May 24, 2017 3:28:32 PM

Attachments: image001.png

image002.png

Hi Trevon,

Fisher College is also excited about this new version of the minor. No concurrence issues for business.

Thank you!

Jill

#### Jill O'Neill

Director, Undergraduate Operations and Enrollment Chair, Undergraduate Scholarship Committee

The Ohio State University

Fisher College of Business Undergraduate Programs and Advising 120R Schoenbaum Hall | 210 West Woodruff Avenue | Columbus, OH 43210 614-292-2715 Main Office / 614-292-5735 Fax oneill.139@osu.edu fisher.osu.edu



From: Mughan, Anthony

**Sent:** Wednesday, May 24, 2017 12:10 PM

**To:** Logan, Trevon <logan.155@osu.edu>; Herrmann, Richard <herrmann.1@osu.edu>; Martin, Andrew <martin.1026@osu.edu>; Buchmann, Claudia <buchmann.4@osu.edu>; Haad.1@osu.edu; Roe, Brian <roe.30@osu.edu>; Bruno, John <bruno.1@osu.edu>; Foster, Karlene <foster.24@osu.edu>; Greenbaum, Robert <greenbaum.3@osu.edu>; Brown.2269@osu.edu; West, Patricia <west.284@osu.edu>; O'Neill, Jill <oneill.139@osu.edu>; Casian, Luis <casian@math.ohio-state.edu>; Carlson, Timothy <carlson@math.ohio-state.edu>

**Cc:** Ramirez, Ana <ramirez.159@osu.edu>

Subject: RE: Quantitative Econ Minor Concurrence

Trevon,

International Studies welcomes this curriculum innovation (a minor designed specifically for BS majors) and endorses it enthusiastically. Well done!

Tony

Professor, Political Science & Director, International Studies 2140 Derby Hall The Ohio State University Columbus, OH 43210

Phone: (614) 292-9657 Fax: (614) 688-3020 E-mail: mughan.1@osu.edu

From: Logan, Trevon

Sent: Wednesday, May 24, 2017 11:23 AM

**To:** Herrmann, Richard; Martin, Andrew; Buchmann, Claudia; <u>Haad.1@osu.edu</u>; Roe, Brian; Bruno, John; Mughan, Anthony; Foster, Karlene; Greenbaum, Robert; <u>Brown.2269@osu.edu</u>; West, Patricia; O'Neill,

Jill; Casian, Luis; Carlson, Timothy

Cc: Ramirez, Ana

**Subject:** Quantitative Econ Minor Concurrence

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

Sincerely,



#### Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax logan.155@osu.edu osu.edu

From: Logan, Trevon
To: Carlson, Timothy
Cc: Ramirez, Ana

Subject: RE: Quantitative Econ Minor Concurrence
Date: Thursday, May 25, 2017 9:28:58 AM

Attachments: <u>image001.png</u>

The math prerequisite statement will be revised to reflect the current course numbering:

"Prerequisites: Math 1131, 1151, 1161.01, 1161.02, 1181H for Econ 4001.02/.03 and 4002.02/.03. Stats 2450 or higher level stats for Econ 5410 and other 5000-level electives."



#### Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax logan.155@osu.edu osu.edu

From: Carlson, Timothy

**Sent:** Wednesday, May 24, 2017 10:23 PM **To:** Logan, Trevon <logan.155@osu.edu>

**Cc:** Herrmann, Richard <a href="Richard strength">Richard strength strength</a>, Brian <a href="Richard strength">Richard strength</a>, Brown.2269@osu.edu; West, Patricia <a href="West.284@osu.edu">West.284@osu.edu</a>; O'Neill, Jill <a href="West.284@osu.edu">Greenbaum.3@osu.edu</a>; Casian, Luis <a href="Richard strength">Casian@math.ohio-state.edu</a>; Ramirez, Ana <a href="Richard strength">Ramirez, Ana<a href="Richard strength">Richard strength</a>, Ana <a href="Richard streng

Subject: Re: Quantitative Econ Minor Concurrence

Trevon,

Mathematics is happy to support your proposal for a Quantitative Economics Minor. Please confirm the numbers of mathematics prerequisites in the proposal (<a href="https://math.osu.edu/courses">https://math.osu.edu/courses</a>).

Sincerely,
Tim Carlson
Vice Chair for Undergraduate Studies
Department of Mathematics

On May 24, 2017, at 11:23 AM, Logan, Trevon < logan.155@osu.edu > wrote:

Hello Everyone,

We would like to solicit your concurrence on a new quantitative economics minor.

The proposed minor plan is designed for students who are interested in an economics minor and who have strong quantitative backgrounds and may be pursuing a BS degree in their respective majors. At present, the economics minor does not distinguish between the students have who enroll BS curriculum courses over the BA curriculum. The more rigorous, calculus-based curriculum includes calculus-based Intermediate Microeconomics Theory (4001.02 or 4001.03), Intermediate Macroeconomic Theory (4002.02 or 4002.03) and the advanced Econometrics series (Econ 5410 and Econ 5420). Attached, I provide both the proposed minor sheet, plan rationale, econ curriculum map and quantitative concurrence form for your review.

I hope that you will be able to extend your concurrence for the new minor plan by June 7, 2017. Please let me know if you have questions.

Sincerely,

<image002.png>

Trevon D. Logan, Ph.D.

Hazel C. Youngberg Trustees Distinguished Professor College of Arts and Sciences Department of Economics 410 Arps Hall | 1945 N. High Street Columbus, OH 43210 614-292-0762 Office | 614-292-3906 Fax logan.155@osu.edu osu.edu

<Curriculum Map Update 2017.xlsx><QEcon Concurrence\_Form\_10-15-15.pdf>
<Quantitative Economics Minor Proposal.docx><Quantitative Minor Sheet
AU2017.docx>