

BOARD OF REGENTS
EASTERN MICHIGAN UNIVERSITY

RECOMMENDATION

NEW ACADEMIC PROGRAM: QUANTITATIVE ECONOMICS, BACHELOR OF SCIENCE

ACTION REQUESTED

It is recommended that the Board of Regents approve a New Academic Program: Quantitative Economics (Bachelor of Science).

STAFF SUMMARY

The *Bachelor of Science in Quantitative Economics* prepares students to pursue career opportunities in business, government and the non-profit sector. More quantitatively oriented than the BA in Economics, the program is designed to prepare students for jobs requiring data analysis skills or graduate programs in economics.

PROPOSAL ELEMENTS

- Rationale*
- 1) The economics discipline is becoming increasingly more empirical. Econometrics has become more popular over the past few decades in undergraduate education due to the demand from employers and graduate school preparation.
 - 2) At many institutions, economics is being reclassified as a STEM major as a way of both satisfying increasing demand for quantitative skills and providing more favorable post-graduation employment opportunities for international students. The proposed degree program meets the standard for STEM classification and could serve as a recruiting and retention tool for international students.
 - 3) The proposed major allows the Economics Department to provide more training in the quantitative methods, which are increasingly popular in the discipline and expected by potential employers. Government and corporations have collected countless data and now demand graduates with a skill set which allows them to extract information from these data. This program is designed to prepare students with the skills necessary to model and understand data to make informed decisions.

Program Distinction The program differs from other bachelor's degree programs in economics, in that it combines economic theory with a solid foundation in mathematics and statistics that prepare students for careers in quantitative fields in high demand industries.

Another distinguishing feature of this program is that it is classified as STEM. The STEM designation allows for unique opportunities for students in the major to apply for private and public STEM-specific fellowships, grants, and scholarships. This STEM program provides a competitive advantage that is especially attractive to international students.

The mathematical and econometrics foundation given in this program allows it to serve as a gateway program to masters and Ph.D. programs.

Curriculum Design The major requires 34 credit hours of coursework which develops a student's skills in collecting and analyzing data and conducting statistical analysis. Students are also required to write empirical papers that communicate the results from the statistical analysis. Students will learn how to ask and answer thought-provoking and relevant research questions. Students will also develop hypotheses and use empirical methods to refute or confirm the research hypotheses. Furthermore, the program will prepare students for an economy that is becoming increasingly focused on STEM orientated skills.

Projected Enrollment We project initial enrollments in this program to be approximately 10-15 students. While some students may decide to switch from the BA in Economics to the BS in Quantitative Economics, others may choose to double major to complement their current major. For instance, Math or Stats majors may wish to supplement their primary major with a robust curriculum in economics, thereby expanding their marketability. Moreover, students wanting to pursue graduate studies in economics (or other related graduate programs) will consider this program.

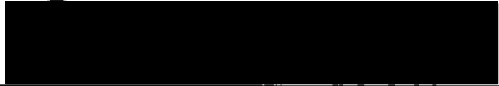
After three years, we expect this program to attract approximately 20% more students once students learn about the benefits of this program for enhancing student marketability and career choices.

FISCAL IMPLICATIONS

The current Academic Affairs budget will absorb program costs.

ADMINISTRATIVE RECOMMENDATION

The proposed Board action has been reviewed and is recommended for Board approval.



University Executive Officer
Rhonda Longworth, Ph.D.

10/4/19

Date

Eastern Michigan University 2020-2021 Undergraduate Catalog [Working Draft]

Quantitative Economics [BS]

[New Program] The effective date will be determined following consideration by the Academic Officers Committee, Michigan Association of State Universities and the Eastern Michigan University Board of Regents.

The **Bachelor of Science in Quantitative Economics** prepares students to pursue career opportunities in business, government, and the non-profit sector. Students also receive an excellent foundation for success in law school, Master degree programs in business administration (MBA), and graduate study in economics and other related areas. The Bachelor of Science in Economics is more quantitatively oriented than the Bachelor of Arts in Economics and is more appropriate for students interested in jobs requiring data analysis skills or graduate studies in economics.

Learn

Economics is divided into two primary, interrelated sub-disciplines: Microeconomics and Macroeconomics. Microeconomics studies how people, businesses, and government agencies use the scarce resources available to them (such as time, money, land, etc.) to achieve their objectives (such as earning income, making a profit, etc.) This involves the allocation of those resources among their different uses. Businesses and people make microeconomic decisions as they produce, sell and buy, and use the goods and services that people want or need. Macroeconomics studies the processes that determine the overall size of the economy, the factors that cause the economy to grow or shrink over time, and related problems like unemployment and inflation.

Opportunities

Students are encouraged to become involved in the Economics Club, a student-run organization that meets regularly to organize applications outside the classroom. Promising students are invited to join the Fed Challenge team, a student-team competition that competes with teams from other universities in a mock Federal Open Market Committee meeting. Students also have the opportunity to become members of Omicron Delta Epsilon, the national economics honor society.

Students may also choose to pursue an [Economics \[BA\]](#) in the College of Arts and Sciences or an [Economics \[BBA\]](#) in the College of Business.

This is a designated STEM (science, technology, engineering, and math) program.

Department Information

[Economics](#) | James Saunoris, Ph.D., Department Head | 703 Pray-Harrold, 734.487.3395, jsaunori@emich.edu

Advisor Information

Christopher Elias, Ph.D., Associate Professor, 703 Pray-Harrold, 734.487.3395, celias@emich.edu

General Education Requirements:

For specific requirements, see [General Education](#) or print a [worksheet](#).

Major Requirements: 34 hours

Mathematics Requirements: 4 hours

- MATH 120 - Calculus I [GEQR] 4 hrs

Required Courses: 18 hours

Each of the following required courses must be completed with a minimum grade of C- (C required for transfer courses).

- ECON 201 - Principles of Macroeconomics [GEKS or GEQR] 3 hrs
- ECON 202 - Principles of Microeconomics [GEKS] 3 hrs
- ECON 310 - Economic Statistics 3 hrs
- ECON 411 - Intermediate Macroeconomic Analysis 3 hrs
- ECON 412 - Intermediate Microeconomic Analysis 3 hrs
- ECON 415 - Introduction to Econometrics 3 hrs

Restricted Elective Courses: 12 hours

Students are to complete four "ECON" courses at the 300-level or above. At a minimum, two of these courses must be from the following.

- ECON 416 - Time Series Analysis 3 hrs
- ECON 445W - Economic Fluctuations and Forecasting [GEWI] 3 hrs
- ECON 455W - Cost-Benefit Analysis [GEWI] 3 hrs

Minor Requirement:

This major requires a minor. *Please see [Programs](#) for a list of available minors or contact your major advisor.*

Program Total:

Students must earn a minimum total of 124 credits at the 100-level or above.

Critical Graduation Information

The following are minimum requirements for all bachelor's degrees awarded by Eastern Michigan University. Some majors and minors require more than the minimum in one or more of the areas below; students are urged to consult the online catalog for the requirements of their particular programs.

- Earn a minimum total of 124 credits at the *100-level and above*. Courses with numbers below 100 will not be counted toward this degree requirement. At most 8 credit hours of physical education (PEGN) activity courses will be counted toward this requirement.
- Meet the requirements of the General Education program (see [information below](#)).
- Complete a Writing Intensive (GEWI) Course in your major.
- Earn a minimum of 60 credits from a four-year college or university; **courses taken at community colleges cannot be used to meet this requirement.** (Some formal program-to-program articulation agreements modify this requirement. See specific agreements for details.)
- Earn a minimum of 30 credits from courses taken at EMU.
- Complete 10 of the last 30 hours for the degree from courses taken at EMU.
- Have a minimum of 30 *unique* credit hours in their major and 20 *unique* credit hours in their minor for a total of at least 50 unique credit hours between them. Some majors that require 50 or more hours themselves do not require a minor; students should check requirements of the selected major in the undergraduate catalog to see if a minor is required.
- Earn no more than 60 credit hours in one subject area (prefix). Credits in excess of the 60 maximum will not be counted toward the minimum of 124 credits required for a bachelor's degree.

- Earn the minimum number of credits in 300-level and above courses in each major and minor as specified below - these credits must be earned in distinct courses; that is, no course can be used to fulfill this requirement in more than one major or minor.
 - Earn a minimum of 6 credits in 300-level or higher courses at EMU in each minor
 - Earn a minimum of 9 credits in 300-level or higher courses at EMU in each major that requires a minor.
 - Earn a minimum of 15 credits in 300-level or higher courses at EMU in each major that does not require a minor
- Transfer credit will be awarded for courses taken at colleges and universities that are accredited by one of the recognized regional accrediting bodies only if the courses are college-level (equated to 100-level or above at EMU) and the student earned a "C" (or 2.0 on a 4 point scale) or better. Transfer credit may be awarded on a case-by-case basis for college-level courses in which a "C" (2.0) or better was earned at institutions outside the U.S. or at non-accredited U.S. institutions; individual departments/schools conduct the internal review of such courses within EMU, and additional documentation may be required. *Please note:* EMU awards only credit for transferred courses; grades are not used in the calculation of an EMU GPA.
- Earn a minimum cumulative GPA of 2.0 in courses taken at EMU in order to graduate. In addition, a minimum cumulative GPA of 2.0 must be reached in each major and minor. Only courses taken at EMU and those applied to a student's major or minor will be used in the calculation of their major and minor cumulative GPAs. (Note: some programs may require a higher GPA - check with your program advisor.)

General Education Requirements EMU's General Education Program requires students to choose from a menu of approved courses in several different areas; do not assume that other courses in the same department or with similar names will fulfill these requirements. A detailed description of General Education requirements is available in the [General Education](#) section of the catalog.

Students who transferred to EMU may have modified general education requirements based on Michigan Transfer Agreement (MTA) or articulation agreements; consult your academic advisor for additional information.
