



New Program Report

Date Submitted:

05/19/2023

Institution

Southeast Missouri State University

Site Information

Implementation Date:

8/21/2023 12:00:00 AM

Added Site(s):

Selected Site(s):

Southeast Missouri State University, One University Plaza, Cape Girardeau, MO, 63701

CIP Information

CIP Code:

450603

CIP Description:

A program that focuses on the systematic study of mathematical and statistical analysis of economic phenomena and problems. Includes instruction in economic statistics, optimization theory, cost/benefit analysis, price theory, economic modeling, and economic forecasting and evaluation.

CIP Program Title:

Econometrics and Quantitative Economics

Institution Program Title:

Financial Econometrics

Degree Level/Type

Degree Level:

Bachelor's Degree

Degree Type:

Bachelor of Science

Options Added:

Collaborative Program:

N

Mode of Delivery

Current Mode of Delivery

Classroom, Hybrid, Online

Student Preparation

Special Admissions Procedure or Student Qualifications required:

No special preparation will be required.

Specific Population Characteristics to be served:

n/a



New Program Report

Faculty Characteristics

Special Requirements for Assignment of Teaching for this Degree/Certificate:

A minimum of 18 graduate credit hours in the faculty member's respective discipline. Adherence to institutional and HLC faculty qualifications.

Estimate Percentage of Credit Hours that will be assigned to full time faculty:

Full-time: 85%; part-time: 15%.

Expectations for professional activities, special student contact, teaching/learning innovation:

No specific requirements beyond standard departmental and college expectations. Tenured and tenure-track faculty members are expected to conduct research in their respective academic disciplines that leads to publication in peer-reviewed journals.

Student Enrollment Projections Year One-Five

Year 1	Full Time: 12	Part Time: 4	
Year 2	Full Time: 24	Part Time: 8	
Year 3	Full Time: 34	Part Time: 11	Number of Graduates: 0
Year 4	Full Time: 41	Part Time: 14	
Year 5	Full Time: 41	Part Time: 14	Number of Graduates: 13

Percentage Statement:

n/a

Program Accreditation

Institutional Plans for Accreditation:

At present, there are no plans for accreditation beyond the University's regional accreditation.

Program Structure

Total Credits:

120

Residency Requirements:

n/a

General Education Total Credits:

42

Major Requirements Total Credits:

66

Course(s) Added

COURSE NUMBER	CREDITS	COURSE TITLE
000	0	See Attached

Free Elective Credits:

12

Internship or other Capstone Experience:

Not applicable



New Program Report

Assurances

I certify that the program is clearly within the institution's CBHE-approved mission. The proposed new program must be consistent with the institutional mission, as well as the principal planning priorities of the public institution, as set forth in the public institution's approved plan or plan update.

I certify that the program will be offered within the proposing institution's main campus or CBHE-approved off-site location.

I certify that the program will not unnecessarily duplicate an existing program of another Missouri institution in accordance with 6 CSR 10-4.010, subsection (9)(C) Submission of Academic Information, Data and New Programs.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the program can be launched with minimal expense and falls within the institution's current operating budget.

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

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Koch

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Phone: 573-986-6777

Degree Map for the BS degree in Financial Econometrics

The BS degree in Financial Econometrics consists of three main areas, which include:

1. Major core requirements
2. Major electives
3. The General Education curriculum.

Course Number	Credit	Course Title	Distribution Area
Major core courses for BS degree in Financial Econometrics (54 credit hours)			
MI101	3	Introduction to Computer Applications	Major core
CS101	3	Introduction to Computer Programming	Major core
QM257 or MA223	3	Business Statistics I or Elementary Probability and Statistics	Major core
QM258 or MA323	3	Business Statistics II or Statistical Methods	Major core
AC221	3	Principles of Accounting I	Major core
EC225	3	Principles of Macroeconomics	Major core
EC351 or EC490	3	Applied Economic Models or Business Forecasting	Major core
EC410	3	Macroeconomic Theory	Major core
EC420	3	Microeconomic Theory	Major core
FI361	3	Financial Management	Major core
FI368	3	Investments	Major core
MA117	3	Pre-Calculus B	Major core
MA140	5	Analytic Geometry and Calculus I	Major core
MA145	4	Analytic Geometry and Calculus II	Major core
MA345	3	Linear Algebra	Major core
MA425	3	Applied Regression Analysis	Major core
MA575	3	Time Series and Forecasting	Major core
Major electives (12 credit hours - see list of options at the end of chart)			
Multiple options	3	Major elective (select from bottom)	Major elective
Multiple options	3	Major elective (select from bottom)	Major elective
Multiple options	3	Major elective (select from bottom)	Major elective
Multiple options	3	Major elective (select from bottom)	Major elective
General Education (42 credit hours)			
Multiple options	3	General Education: Humanities and Fine Arts	General Education
Multiple options	3	General Education: Humanities and Fine Arts	General Education
Multiple options	3	General Education: Humanities and Fine Arts	General Education

Multiple options	3	General Education: Natural and Math Sciences	General Education
Multiple options	4	General Education: Natural and Math Sciences	General Education
EC215	3	Principles of Microeconomics	General Education
Multiple options	3	General Education: Social and Behavioral Sciences	General Education
MA115/116/123	3	Precalculus A w/Integrated Review; Precalculus A; Mathematic Reasoning	General Education
Multiple options	3	General Educations: Civics Requirement	General Education
EN100	3	English Composition	General Education
EN140	3	Rhetoric & Critical Thinking	General Education
SC105	3	Fundamentals of Oral Communication	General Education
Multiple options	3	Additional requirements (elective)	General Education
Multiple options	2	Additional requirements (elective)	General Education
Elective options (choose 12 hours from the list below)			
ECXXX	3	Any EC courses at the 300-level or above (3 – 12 hours)	Major elective
FIXXX	3	Any FI courses at the 300-level or above (3 – 12 hours)	Major elective
MA244	3	Analytic Geometry and Calculus III	Major elective
MA375	3	Theory of Interest	Major elective
MA385	3	Financial Mathematics	Major elective
MA530	3	Statistical Learning	Major elective

Supplement for Answers in Questions 1 through 7

1. Student Preparation

No supplemental answers. See cover sheet for information.

2. Faculty Characteristics

Any special requirement (degree status, training etc.) for assignment of teaching for this degree/certificate.

A minimum of 18 graduate credit hours in the faculty member's respective discipline.

Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.

Full time: 85%; part time: 15%.

Expectations for professional activities, special student contact, teaching/learning innovation.

Tenured and tenure-track faculty members are expected to conduct research in their respective academic disciplines that leads to publication in peer-reviewed journals. The minimum expectation for tenured and tenure-track faculty members is the publication of two peer-reviewed manuscripts within a five-year period and evidence of an ongoing research agenda. In addition to scholarly publications, evidence of an ongoing research agenda can include activities such as presentations at academic research conferences, publications of manuscripts in peer-reviewed conference proceedings, publications of scholarly books or textbooks, completion of working papers, and other scholarship activities.

In addition to tenured and tenure-track faculty members, the BS program in Financial Econometric will also include Regular Non-Tenure Track (RNTT) instructors. While RNTT instructors do not have research expectations, all faculty members will be expected to maintain currency in their instructional fields through faculty development activities or engagement with professional organizations.

3. Enrollment Projections

No supplemental answers. See cover sheet for information.

4. Student and Program Outcomes

Number of graduates per annum at three and five years after implementation.

For a 4-year program, no graduates are expected by the 3rd year. Approximately 13 graduates per annum are expected by the 5th year.

Special skills specific to the program.

Econometric modeling; business forecasting; data analysis; computer programming; business decision-making.

Proportion of students who will achieve licensing, certification, or registration.

Industry-recognized certifications are not required for this program. The only certification program that will be made available to majors in this program is Microsoft Office Specialist (MOS) certification in Microsoft Excel. This certification is offered in a zero-credit hour course listed as MI 001: Microsoft Excel Certification, which students will have the option to complete. While no certifications, licenses, or registrations are required for the major, completion of the degree can be a starting point for pursuing industry-recognized certifications, such as the Certified Financial Planner (CFP) or Certified Business Economist (CBE) credentials. However, students pursuing these certifications would need to supplement their degree with additional coursework.

Performance on national and/or local assessments, e.g. percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.

There are no externally-recognized national or local assessments that are applicable to this degree program. Students majoring in this degree program would be assessed according to our institution's assurance of learning standards for regional accreditation. Program-specific learning goals will be developed by a curriculum committee consisting of faculty experts.

Placement rates in related fields, in other fields, unemployed.

Data on job placement rates were obtained from the Missouri MoScores database. The table below displays job placement data for graduates of Southeast Missouri State University for the three-year period from 2015-2017, which is the most recent period available on their website. All statistics were based on unemployment insurance data.

Academic Program	Number of Graduates	1st Year Employment Rate	3rd Year Employment Rate
Business, Management, Marketing, and Related (Bachelor's degree)	712	69%	63%

Economics	21	72%	70%
Mathematics and Statistics	22	76%	68%

Graduates of bachelor's degree programs in Business disciplines exhibited first-year job placement rates of 69%. For Economics, Mathematics, and Statistics degrees, first-year job placements rates were between 72% and 76%. Compared to Business disciplines (63%), three-year job placement rates were slightly higher for graduates in Economics (70%) and Mathematics/Statistics (68%).

Transfer rates, continuous study.

No supplemental answers. See cover sheet for information.

5. Program Accreditation

Institutional plans for accreditation, if applicable, including accrediting agency and timeline. If there are no plans to seek specialized accreditation, please provide a rationale.

No supplemental answers. See cover sheet for information.

6. Program Structure

The BS degree in Financial Econometrics consists of three main distribution areas, which include:

1. Major core requirements
2. Major electives
3. The General Education curriculum.

The structure of this degree program is listed in the chart below.

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MA530	3	Statistical Learning	Major elective

6G. Any unique features such as interdepartmental cooperation: The BS degree in Financial Econometrics will consist of course offerings from the Department of Accounting, Economics, and Finance and the Department of Mathematics. Interdepartmental cooperation will consist of coordination in the design of degree maps, curriculum committee planning, and scheduling course rotations.

7. Need/Demand

Student Demand

Enrollment in Economics, Finance, and Mathematics programs, 2017 – 2021

Majors		Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
ECFN	Economics: Financial Economics	13	12	10	11	9
ECBE	Economics: Busn Economics	7	10	8	11	11
ECON	Economics (BS)	20	22	19	20	11
FINC	Finance	144	143	130	114	113
MAAS	Mathematics: Actuarial Science	25	20	17	17	14
MAAP	Mathematics: Applied Mathemtc	18	27	19	17	19
Minors		Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
FINR	Finance Minor	19	23	16	16	15
ECNR	Economics Minor	13	19	21	11	8
MTHR	Mathematics Minor	44	38	46	35	24

The BS degree in Financial Econometrics is intended to transform the existing Business Economics option in the BSBA degree in Economics. This redesign would eliminate overlap between the BS degree in Economics and the BSBA: Business Economics option. By replace the BSBA: Business Economics option with a BS in Financial Econometrics, students majoring in this area would be able to learn more practical applications of econometric modeling,

particularly with respect to financial analytics. The curriculum in a Financial Econometrics major would place greater emphasis on real-world forecasting techniques and less emphasis on applications of economic theory for business strategy.

The combined enrollment in the two BSBA degrees in Economics (Financial and Business options) have remained steady over the past five years. Their enrollment totaled 20 students in fall 2017 as well as fall 2021. However, enrollment in the BS degree in Economics fell from 20 to 11 students over the same time period. The department's curriculum committee in economics believes student career interests are shifting toward more practical uses of economic concepts, particularly data analysis techniques.

Since the BS degree in Financial Econometrics would not require the same 63-hour business core and support curriculum as a BSBA degree, it would enable students to complete advanced courses in Finance and Mathematics, which are essential for financial analytics and data modeling. Despite a decline in enrollment since 2017, the Finance major remains popular among students with over 113 students majoring in the discipline. Enrollment in the Applied Mathematics degree has remained stable while there has been a decline in the Actuarial Science degree.

Market demand

Occupational categories related to a Financial Econometrics degree include Financial Specialists and Mathematical Science occupations. Examples of popular occupations within these categories include data analysts, statisticians, management analysts, and market research analyst as well as others. According to EMSI data, these occupational categories appear to have strong demand in the labor market based on the number of current jobs, projected growth by 2026, median compensation levels, and frequency data in online job postings. Trends and summary statistics for both occupational categories are described below.

Financial Specialists

The regional supply of Financial Specialists has been somewhat light (i.e., 3,647 employees in Missouri) compared to the national average (i.e., 4,654 employees for similarly sized regions). Currently, there are approximately 65,364 jobs for this occupation in Missouri. The frequencies of online job postings have been strong with an average rate of 1,331 postings per month in the state. Over the next five years, employment growth in the number of Financial Specialist jobs is expected to grow by 2%. As a result of these labor market dynamics, professionals in this occupation tend to earn compensation that significantly exceeds US real median personal income among all occupations categories. In 2020, the median compensation for Financial Specialists in Missouri was \$66,884. The national median salary for this position was \$73,843.

Mathematical Science occupations

Mathematical Science occupations tend to be in high demand. Within the past 12

months, there were approximately 1,264 employers in Missouri competing to hire applicants for this occupational category. In addition, EMSI reported that there were 8,236 unique online job postings for Mathematical Science occupations in the state. It also was estimated that only 1 out of 5 of these positions were filled. A thin supply of applicants has made it difficult for employers to find qualified candidates for job openings in Mathematical Science occupations. The limited supply of qualified applicants has led to a median level of compensation that is well above the average occupation. In Missouri, Mathematical Science occupations earn a median salary of \$84,765. The national median salary level is \$93,369.

Over the past five years, employment in Mathematical Science occupations has grown by 10% in the state of Missouri. Due to the increasing importance of occupational skills involving data analysis and computer programming, this trend in employment growth is expected to continue and remain robust throughout the medium term. Employment in this occupational category is forecasted to grow at a rate of 14% between 2021 and 2026.

Societal need

The societal needs for skills obtained in the Financial Econometrics degree primarily are reflected in characteristics related to student and market demand, which were detailed above.

Undergraduate degrees that specialize in Financial Econometrics are somewhat rare. The creation of this degree at Southeast Missouri State University would provide a unique opportunity to prospective students in our regional market and surrounding areas.



BOARD OF GOVERNORS

MOTION CONSIDERATION FORM

May 12, 2023

Open Session

I. Motion to be Considered:

Approve a new BS in Financial Econometrics degree.

II. Background:

Justification: The Department of Accounting, Economics, and Finance has proposed the creation of the Bachelor of Science (BS) degree in Financial Econometrics. This program provides students with a curriculum of courses covering fundamental and advanced areas of Economics, Finance, and Mathematics. Core and elective courses in the proposed major were selected to prepare graduates for labor market trends where certain skillsets have become increasingly valuable. This transformation plan was initially recommended during the Academic Program Prioritization process. Compared to the existing BSBA program in Business Economics, a new degree in Financial Econometrics would place more emphasis on applied econometric techniques and business forecasting. It would achieve this objective by providing greater depth through the inclusion of advanced courses in Finance and Mathematics. Due to this interdisciplinary design of this program, there are no new courses as all coursework is currently offered as part of existing degree programs.

Need: Institutional data on five-year enrollment counts in Economics, Finance, and Mathematics suggest that there is sufficient student demand for this proposed program. Labor market trends, as documented in EMSI data and the Bureau of Labor Statistics, also indicate that employer demands for Financial Econometrics majors are strong with a projected national growth of over 9% through 2031. Currently, there are approximately 65,364 jobs for Financial Specialists in Missouri.

Recommended By:

Student Government _____ Chairperson _____
Faculty Senate _____ Dean _____
Administrative Council _____ Academic Council _____
VP, Enroll. Man. & Stu. Suc. _____ Provost _____
VP, Finance & Admin. _____
VP, University Advancement _____ President _____

Board Action on: _____ Postpone: _____
Motion By: _____ Amend: _____
Second By: _____ Disapprove: _____
Vote: Yeas: _____ Nays: _____ Approve: _____
Abstentions: _____ Secretary: _____

Additionally, this degree has a Classification of Instructional Programs (CIP) code of 45.0603, which is identified by The U.S. Department of Homeland Security as a STEM Designated Degree Program and is therefore eligible for the 24-month STEM optional practical training extension (in addition to the 12-month allowance) for international students.

Program Summary: The BS in Financial Econometrics will require 120 credit hours for completion and does not require any new courses. The curriculum for this proposed program focuses on Economics, Finance, and Mathematics and therefore will not be a part of the Association to Advance Collegiate Schools of Business (AACSB) accredited programs in the Harrison College of Business and Computing.

Projected enrollments and completers are:

BS Financial Econometric	Enrollment Fall 2023	Enrollment Fall 2024	Enrollment Fall 2025	Enrollment Fall 2026	Enrollment Fall 2027
	16	32	45	55	55
	Degrees Awarded 2024	Degrees Awarded 2025	Degrees Awarded 2026	Degrees Awarded 2027	Degrees Awarded 2028
	0	0	0	10	13