Fiscal Impact Statement – B.S. Degree in Actuarial Mathematics Appendix B

	Year 1	Year 2	Year 3	Year 4
I. Projected Enrollment *				
Headcount full-time	22	44	66	88
Headcount part-time				
Full-time equivalent (FTE) enrollment	22	44	66	88
II. Projected Program Income				
Tuition	$ 111,232	$ 222,464	$ 312,840	$ 382,360
Expected state subsidy	$ 43,296	$ 86,592	$ 121,770	$ 148,830
Externally funded stipends, as applicable	$ -	$ -	$ -	$ -
Other Income	$ -	$ -	$ -	$ -
Total Projected Program Income	**$ 154,528**	**$ 309,056**	**$ 434,610**	**$ 531,190**
III. Program Expenses				
New personnel:				
- Instruction				
Full-time: none	$ -	$ -	$ -	$ -
Part-time: none	$ -	$ -	$ -	$ -
-Non-instruction				
Full-time: none	$ -	$ -		
Part-time: none	$ -	$ -	$ -	$ -
Current personnel:				
- Instruction				
Full-time: see budget narrative	$ -	$ -	$ -	$ -
Part-time: see budget narrative	$ -	$ -	$ -	$ -
-Non-instruction				
Full-time: see budget narrative	$ -	$ -	$ -	$ -
Part-time: see budget narrative	$ -	$ -	$ -	$ -
Benefits for all personnel	$ -	$ -	$ -	$ -
New facilities/building/space renovation	$ -	$ -	$ -	$ -
Scholarship/stipend support	$ -	$ -	$ -	$ -
Additional library resources	$ -	$ -	$ -	$ -
Additonal technology or equipment needs	$ -	$ -	$ -	$ -
Other expenses (see below)	$ -	$ -	$ -	$ -
Total Projected Program Expenses	**$ -**	**$ -**	**$ -**	**$ -**
Projected Program Net	**$ 154,528**	**$ 309,056**	**$ 434,610**	**$ 531,190**

Other Expenses				
Allocation of expenses covered by general fee	$ -	$ -	$ -	$ -
RCM overhead - estimated at 50%	$ -	$ -	$ -	$ -
RCM tuition allocation to other colleges	$ -	$ -	$ -	$ -
Professional development	$ -	$ -	$ -	$ -
Supplies (office, computer software, printing)	$ -	$ -	$ -	$ -
Telephone, network, and lines	$ -	$ -	$ -	$ -
Other info and communication pool	$ -	$ -	$ -	$ -
Total Other Expenses	**$ -**	**$ -**	**$ -**	**$ -**

* Projected enrollment assumes that students enrolled in the concentration when the major is approved stay in the concentration and are not counted in this program. If the students in the concentration are counted in this program, then the numbers would be: 72, 76, 82, 88.

BUDGET NARRATIVE:

This proposal represents the conversion of concentration within the Mathematics major into a separate major. As such, no overall change in revenue or expenses from the current baseline is projected. Therefore, at worst, the net fiscal impact of this curricular proposal is neutral, and at best, the presence of a separate major will draw additional students to Kent Sate.

Descriptions listed below in alpha-numeric order are for required courses in the major and does not include elective and general education courses.

ACCT 23020 INTRODUCTION TO FINANCIAL ACCOUNTING 3 Credit Hours
(Equivalent to ACTT 11000) Introduction to the basic concepts and standards underlying financial accounting. Topics to be covered include revenue recognition, receivables, inventory, long-lived assets, liabilities and stockholders' equity. The impact of transactions on the accounting equation and financial statements (balance sheet, income statement and cash flows) is emphasized.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Business

ECON 22060 PRINCIPLES OF MICROECONOMICS (KSS) 3 Credit Hours
Course covers principles and policies affecting prices, including factor incomes, under alternative market structures. Students develop tools to examine social problems, including poverty, crime, pollution and international relations.
Prerequisite: Minimum 45 ALEKS math score; or minimum 22 ACT math score; or minimum 530 SAT math score; or one course from MATH 00023 to 49999.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Kent Core Social Sciences, TAG Social and Behavioral Sciences, Transfer Module Social Sciences

ECON 22061 PRINCIPLES OF MACROECONOMICS (KSS) 3 Credit Hours
Principles and policies affecting aggregate production, consumption, investment and government expenditures. Includes role of money, the banking system, inflation, unemployment and economic growth.
Prerequisite: ECON 22060.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Kent Core Social Sciences, TAG Social and Behavioral Sciences, Transfer Module Social Sciences

ECON 32050 APPLIED ECONOMETRICS I (ELR) 3 Credit Hours
The course provides an introduction to the use of statistical analysis in economics. The initial part of the course reviews relevant concepts from probability and statistics. The second course segment focuses on linear regression analysis and the properties of regression estimators. The final course segment discusses extensions of the linear model, and considers problems that may arise in application including omitted variables, nonlinearity, measurement error, sample selection, heteroscedasticity and causality. The SAS statistical software package is used throughout the course for data analysis. Over the second half of the course, students complete an empirical project which requires students to connect the course concepts to the analysis of an economic policy question in a real world data set.
Prerequisite: MATH 11012 or MATH 12002; and ECON 22060 and MIS 24056.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

FIN 36053 BUSINESS FINANCE 3 Credit Hours
Introductory finance course analyzing the basic financial decisions of corporations and the interface of the firm with capital markets. Students discuss stocks, bonds, the time value of money, risk versus return and the essentials of capital budgeting.
Prerequisite: Minimum 2.500 overall GPA; and ACCT 23020 or ACTT 11000; and ECON 22060 or HONR 21197; and ECON 22061.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MATH 12002 ANALYTIC GEOMETRY AND CALCULUS I (KMCR) 5 Credit Hours
Concepts of limit, continuity and derivative, and the indefinite and definite integral for functions of one real variable. Maximization, related rates, fundamental theorem of calculus. No credit earned toward a degree for this course if the student already earned credit for MATH 12011 and MATH 12012.
Prerequisite: Minimum 78 ALEKS math score; or minimum C grade in MATH 11022 or MATH 12001.
Schedule Type: Lecture
Contact Hours: 5 lecture
Grade Mode: Standard Letter
Attributes: Kent Core Mathematics and Critical Reasoning, Transfer Module Mathematics

MATH 12003 ANALYTIC GEOMETRY AND CALCULUS II 5 Credit Hours
Continued study of techniques and applications of integration; trigonometric, logarithmic and exponential functions; polar coordinates; vectors; parametric equations; sequences and series.
Prerequisite: Minimum C grade in MATH 12002 or MATH 12012.
Schedule Type: Lecture
Contact Hours: 5 lecture
Grade Mode: Standard Letter
Attributes: TAG Mathematics

MATH 20011 DECISION MAKING UNDER UNCERTAINTY 3 Credit Hours
This is an introductory course on applied statistics. The course provides hands-on approach to understanding, quantification and decision making under various forms of uncertainty. The main topics include visualization of uncertainty, probabilistic quantification of uncertainty, Bayesian and non-Bayesian ways of decision making under uncertainty. Class activities will incorporate active learning elements, including in-classroom computation with professional-grade software for statistical analysis and simulation.
Prerequisite: Minimum C grade in Math 12002
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MATH 21001 LINEAR ALGEBRA WITH APPLICATIONS 3 Credit Hours
Systems of linear equations and the associated matrix operations, linear transformations, vector spaces, bases, eigenvectors.
Prerequisite: Minimum C grade in MATH 11012 or MATH 12002.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Mathematics

MATH 22005 ANALYTIC GEOMETRY AND CALCULUS III 4 Credit Hours
Study of functions of several variables, including partial derivatives and multiple integrals.
Prerequisite: Minimum C grade in MATH 12003.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter
Attributes: TAG Mathematics

MATH 30055 MATHEMATICAL THEORY OF INTEREST 3 Credit Hours
A calculus-based introduction to the mathematics of finance. Limited to deterministic analysis of interest rates annuities bonds and immunization. Emphasizes the mathematical theory of the subject matter.
Prerequisite: Minimum C grade in MATH 12003.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MATH 31011 PROOFS IN DISCRETE MATHEMATICS 3 Credit Hours
The study of discrete mathematical structures including sets, functions, and relations. The course includes an introduction to logical thinking with an emphasis on proof techniques. The course also emphasizes combinatorics topics such as recursion and counting.
Prerequisite: Minimum C grade in MATH 12002.
Pre/corequisite: Minimum C grade in MATH 21001 or MATH 32051.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MATH 32044 ORDINARY DIFFERENTIAL EQUATIONS 3 Credit Hours
An introduction to ordinary differential equations and applications. Topics include solution methods, series solutions and singular points. Laplace transforms and linear systems. Applications include population dynamics, forced oscillations and resonance.
Prerequisite: Minimum C grade in MATH 21001 and MATH 22005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Mathematics

MATH 40011 PROBABILITY THEORY AND APPLICATIONS 3 Credit Hours
Permutations and combinations, discrete and continuous distributions, random variables, conditional probabilities, Baye's formula, mathematical expectation, law of large numbers, normal approximations, basic limit theorems.
Prerequisite: Minimum C grade in MATH 12003.
Pre/corequisite: MATH 22005 or MATH 32051.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MATH 40012 THEORY OF STATISTICS 3 Credit Hours
(Slashed with MATH 50012) Sample spaces, continuous distributions, sampling distributions, point and interval estimation, hypothesis testing, types of error, level and power of tests, sequential and nonparametric methods.
Prerequisite: Minimum C grade in MATH 40011.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MATH 40055 ACTUARIAL MATHEMATICS I (ELR) (WIC) 4 Credit Hours
(Slashed with MATH 50055) Topics from survival models, stochastic analysis of annuities and life insurance and casualty models.
Prerequisite: Minimum C grade in MATH 30055 and MATH 40011.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

MATH 40056 ACTUARIAL MATHEMATICS II 4 Credit Hours
(Slashed with MATH 50056) Benefit premiums, benefit reserves and their analysis, decrement models, joint survivorship, risk models.
Prerequisite: Minimum C grade in MATH 40055.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter

MATH 40059 STOCHASTIC ACTUARIAL MODELS 3 Credit Hours
(Slashed with MATH 50059) Designed to prepare students for the Society of Actuaries examination on actuarial mathematics.
Prerequisite: Minimum C grade in MATH 40011.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

DESCRIPTION

The Bachelor of Science degree in Actuarial Mathematics prepares students for the actuarial profession. Actuaries are professionals who manage risk. They predict the likelihood of future events and model the financial impact of future scenarios. They find creative ways to mitigate the undesirable effects of future events. Although most actuaries are employed in the insurance and financial industries, many others work in the transportation, environmental, medical and manufacturing industries, as well as in government.

The Actuarial Mathematics major is highly interdisciplinary, integrating substantial coursework in business, computing and communications with a solid core of mathematics and statistics. Kent State University is one of only four institutions in Ohio to receive the Universities and Colleges with Actuarial Programs-Advanced Curriculum designation from the Society of Actuaries. The Kent State program prepares students for the first four of a series of examinations to receive professional certification as an actuary.

Fully Offered At:

- Kent Campus

ADMISSION REQUIREMENTS

Standard admission criteria for the bachelor's degree at the Kent Campus.

PROGRAM LEARNING OUTCOMES

Graduates of this program will be able to:

1. Reason mathematically by using precise definitions, articulating assumptions and reasoning logically to conclusions.
2. Engage effectively in problem solving by exploring examples, assessing the correctness of solutions and interpreting solutions in an actuarial context.
3. Define, interpret and apply standard actuarial notation, terminology and formulas.
4. Analyze various streams of cash flows, both certain and contingent.
5. Apply methods from probability, statistics and stochastic processes to the solution of problems in actuarial science, finance and economics.
6. Communicate solutions of mathematical problems clearly, both orally and in writing.
7. Employ commonly used computer programming languages and software packages to solve problems in actuarial science, finance and economics.
8. Demonstrate fundamental knowledge of finance, economics and accounting.

PROGRAM REQUIREMENTS

MAJOR REQUIREMENTS

Major Requirements (courses count in major GPA)		
ACCT 23020	Introduction to Financial Accounting	3
ECON 22060	Principles of Microeconomics (KSS) [1]	3
ECON 22061	Principles of Macroeconomics (KSS) [1]	3
ECON 32050	Applied Econometrics I (ELR) [1]	3
FIN 36053	Business Finance	3
MATH 12002	Analytic Geometry and Calculus I (KMCR) (min C grade)	5
MATH 12003	Analytic Geometry and Calculus II (min C grade)	5
MATH 20011	Decision Making Under Uncertainty	3
MATH 21001	Linear Algebra With Applications (min C grade)	3
MATH 22005	Analytic Geometry and Calculus III (min C grade)	4
MATH 30055	Mathematical Theory of Interest (min C grade)	3
MATH 31011	Proofs in Discrete Mathematics	3
MATH 32044	Ordinary Differential Equations	3
MATH 40011	Probability Theory and Applications	3
MATH 40012	Theory of Statistics	3
MATH 40055	Actuarial Mathematics I (ELR) (WIC)	4
MATH 40056	Actuarial Mathematics II	4
MATH 40059	Stochastics Actuarial Models	3
Computer Science Elective, choose from the following:		4
CS 10061	Programming for Problem Solving in the Sciences	
CS 13001	Computer Science I: Programming and Problem Solving	
CS 13011	Computer Science IA: Procedural Programming	
& CS 13012	and Computer Science IB: Object Oriented Programming	
Mathematics Electives, choose from the following:		6
MATH 40015	Applied Statistics	
MATH 40024	Computational Statistics	
MATH 40028	Statistical Learning	
MATH 40051	Topics in Probability Theory and Stochastic Processes	
MATH 41021	Theory of Matrices	
MATH 42001	Analysis I (ELR) (WIC) [2]	
MATH 42002	Analysis II (ELR) (WIC) [2]	
MATH 42021	Graph Theory And Combinatorics	
MATH 42031	Mathematical Models and Dynamical Systems	
MATH 42039	Modeling Projects (ELR) (WIC) [2]	
MATH 42041	Advanced Calculus	
MATH 42045	Partial Differential Equations	
MATH 42048	Complex Variables	
MATH 42201	Numerical Computing I	
MATH 42202	Numerical Computing II	
MATH 45011	Differential Geometry	
Allied Area Elective, choose from the following: [3]		3
ACCT 33001	Corporate Accounting I	
ACCT 33004	Introduction to Accounting Systems	
ACCT 33010	Cost Accounting	
ACCT 33012	Corporate Accounting II	
ACCT 43014	Advanced Accounting Systems	
ACCT 43020	Corporate Accounting III	
ACCT 43087	International Accounting Experience	
BSCI 30050	Human Genetics	
BSCI 40020	Biology of Aging	

Allied Area Elective continued

BUS 30187	International Business Experience
BUS 30234	International Business
CHEM 30050	Introduction to Materials Chemistry
CHEM 30105	Analytical Chemistry I
CHEM 30106	Analytical Chemistry II
CHEM 30301	Inorganic Chemistry I
CHEM 40302	Inorganic Chemistry II
CHEM 40303	Inorganic Chemistry III
CHEM 40555	Physical Chemistry I
CHEM 40556	Physical Chemistry II
CHEM 40559	Nanomaterials
CS 33007	Introduction to Database System Design
CS 33101	Structure of Programming Languages
CS 33211	Operating Systems
CS 33901	Software Engineering
CS 35101	Computer Architecture
CS 35201	Computer Communication Networks
CS 38101	Introduction to Game Programming
CS 43006	Theory of Object-Oriented Programming
CS 43111	Structure of Compilers
CS 43202	Systems Administration
CS 43203	Systems Programming
CS 43301	Software Development for Robotics
CS 43305	Advanced Digital Design
CS 43401	Secure Programming
CS 44001	Computer Science III-Programming Patterns
CS 44003	Mobile Apps in IOS Programming
CS 44105	Web Programming I
CS 44106	Web Programming II
CS 44201	Artificial Intelligence
CS 45203	Computer Network Security
CS 45231	Internet Engineering
CS 46101	Design and Analysis of Algorithms
CS 47101	Computer Graphics
CS 47205	Information Security
CS 47206	Data Security and Privacy
CS 47207	Digital Forensics
CS 47221	Introduction to Cryptology
CS 48101	Game Engine Concepts
ECON 32025	Money, Credit and Banking
ECON 32040	Intermediate Microeconomic Theory and Applications
ECON 32041	Intermediate Macroeconomic Theory and Policy
ECON 32051	Applied Econometrics II
ECON 42050	Data Acquisition, Preparation and Visualization
ECON 42065	Problems of Monetary and Fiscal Policy
ECON 42070	Game Theory
ECON 42085	Public Finance
ECON 42086	Economics of Health Care
FIN 36054	Intermediate Corporate Finance
FIN 36059	Intermediate Investments
FIN 36081	Principles of Insurance
FIN 36085	Advanced Financial Modeling
FIN 46054	Financial Risk Management

Allied Area Elective continued

FIN 46055 Advanced Derivative Securities
FIN 46064 International Business Finance
FIN 46067 Advanced Portfolio Analysis
FIN 46087 International Finance Experience
GEOG 31062 Fundamentals of Meteorology
GEOG 31064 Principles of Climatology
GEOG 35065 Geography of Transportation And Spatial Interaction
GEOG 39002 Statistical Methods in Geography
GEOG 41065 Applied Climatology
GEOG 44070 Spatial Analysis and Location Theory
GEOG 49070 Geographic Information Science
GEOG 49080 Advanced Geographic Information Science
GEOG 49085 Web and Mobile Geographic Information Science
GEOG 49162 Cartography and Geovisualization
GEOG 49163 Cartography and Geovisualization Laboratory
GEOG 49230 Remote Sensing
GEOL 31080 Structural Geology
GEOL 32066 Geomorphology
GEOL 41025 General Geophysics
GEOL 41080 Tectonics and Orogeny
GEOL 42030 Remote Sensing
GEOL 42035 Scientific Methods in Geology
MATH 40015 Applied Statistics
MATH 40024 Computational Statistics
MATH 40028 Statistical Learning
MATH 40051 Topics in Probability Theory and Stochastic Processes
MATH 41001 Modern Algebra I (ELR) (WIC) [2]
MATH 41002 Modern Algebra II (ELR) (WIC) [2]
MATH 41021 Theory of Matrices
MATH 42001 Analysis I (ELR) (WIC)
MATH 42002 Analysis II (ELR) (WIC)
MATH 42021 Graph Theory and Combinatorics
MATH 42031 Mathematical Models and Dynamical Systems
MATH 42039 Modeling Projects (ELR) (WIC) [2]
MATH 42041 Advanced Calculus
MATH 42045 Partial Differential Equations
MATH 42048 Complex Variables
MATH 42201 Numerical Computing I
MATH 42202 Numerical Computing II
MATH 45011 Differential Geometry
MATH 45021 Euclidean Geometry
MATH 45022 Linear Geometry
MATH 46001 Elementary Topology
MATH 47011 Theory of Numbers
MATH 47021 History of Mathematics
MIS 34032 Data and File Technology
MIS 34053 Data Integration
MIS 34060 Operations Management
MIS 34068 Systems Analysis and Design
MIS 34070 Programming Theory and Applications
MIS 34080 Computer Programming for Business I
MIS 44033 Advanced Computer Programming for Business
MIS 44043 Database Management Systems

Allied Area Elective continued

MIS 44044	Systems Analysis II
MIS 44045	Information Systems Management
MIS 44048	Software Integration (ELR) (WIC) [2]
PHIL 41035	Philosophy of Science
PHIL 41038	Intermediate Logic
PHIL 41045	Metalogic
PHY 34000	Cosmology
PHY 35101	Classical Mechanics
PHY 36001	Introductory Modern Physics
PHY 36002	Applications of Modern Physics
PHY 44802	Astrophysics
PHY 45201	Electromagnetic Theory
PHY 45301	Thermal Physics
PHY 45401	Mathematical Methods in Physics
PHY 45403	Data Analysis and Computational Physics Techniques
PHY 45501	Electromagnetic Waves and Modern Optics
PHY 46101	Quantum Mechanics
PHY 46301	Introduction to Nuclear and Particle Physics
PHY 46401	Introduction to Solid State Physics

Additional Requirements (courses do not count in major GPA)			
COMM 15000	Introduction to Human Communication (KADL)	***Added***	3
UC 10097	Destination Kent State: First Year Experience		1
Foreign Language Requirement (see Foreign Language College Requirement)			8
Kent Core Composition			6
Kent Core Humanities and Fine Arts (minimum one course from each)			9
Kent Core Social Sciences (must be from two disciplines)			3
Kent Core Basic Sciences (must include one laboratory)			6-7
General Electives (total credit hours depends on earning 120 credit hours, including 42 upper-division credit hours			10
		Minimum Total Credit Hours:	**120**

[1] These courses fulfill the Validation by Educational Experience (VEE) requirements jointly sponsored by the Society of Actuaries, Casualty Actuarial Society and Canadian Institute of Actuaries.

[2] A minimum C grade must be earned to fulfill the writing-intensive course requirement.

[3] A course may only count in one requirement even though it may appear in more than one.

GRADUATION REQUIREMENTS

Minimum Major GPA: 2.00

Minimum Overall GPA: 2.00

ROADMAP

Semester One	COMM 15000	Introduction to Human Communication (KADL)	3
	MATH 12002	Analytic Geometry and Calculus I (KMCR)	5
	UC 10097	Destination Kent State: First Year Experience	1
	Computer Science Elective		4
	Kent Core Requirement		3
		Credit Hours	**16**
Semester Two	MATH 12003	Analytic Geometry and Calculus II	5
	MATH 20011	Decision Making Under Uncertainty	3
	MATH 21001	Linear Algebra With Applications	3
	Kent Core Requirement		3
	Kent Core Requirement		3
		Credit Hours	**17**
Semester Three	ECON 22060	Principles of Microeconomics (KSS)	3
	MATH 22005	Analytic Geometry and Calculus III	4
	MATH 30055	Mathematical Theory of Interest	3
	MATH 31011	Proofs in Discrete Mathematics	3
	Foreign Language		4
		Credit Hours	**17**
Semester Four	ECON 22061	Principles of Macroeconomics (KSS)	3
	MATH 32044	Ordinary Differential Equations	3
	MATH 40011	Probability Theory and Applications	3
	Kent Core Requirement		3
	Foreign Language		4
		Credit Hours	**16**
Semester Five	ACCT 23020	Introduction to Financial Accounting	3
	MATH 40055	Actuarial Mathematics I (ELR) (WIC)	4
	Mathematics Elective		3
	Kent Core Requirement		3
		Credit Hours	**13**
Semester Six	FIN 36053	Business Finance	3
	MATH 40012	Theory of Statistics	3
	MATH 40056	Actuarial Mathematics II	4
	Kent Core Requirement		3
	Kent Core Requirement		3
		Credit Hours	**16**
Semester Seven	Allied Area Elective		3
	Mathematics Elective		3
	Kent Core Requirement		3
	General Electives		6
		Credit Hours	**15**
Semester Eight	ECON 32050	Applied Econometrics I (ELR)	3
	MATH 40059	Stochastic Actuarial Models	3
	General Electives		4
		Credit Hours	**10**
		Minimum Total Credit Hours:	**120**

Faculty listed below teach the required courses in the major. Elective courses in the program are taught by faculty from the respective department for other degree programs.

Major Course	Faculty Who Teach the Courses		
ACCT 23020	Wendy M. Tietz		
ECON 22060	Emmanuel Dechenaux Nadia Greenhalgh-Stanley	Jeremiah R. Harris C. Lockwood Reynolds	Shawn M. Rohlin Thomas Sahajdack
ECON 22061	Justin Barnette Nasr G. El-Bahnasawy	Dandan Liu Jooyoun Park	Shawn M. Rohlin
ECON 32050	Emmanuel Dechenaux	Eric D. Johnson	
FIN 36053	Lindsay C. Baran	Marc Via	
MATH 12002	Morley A. Davidson Stephen M. Gagola	Mark Lewis Laura A. Smithies	Donald White
MATH 12003	Hassan A. Allouba Morley A. Davidson	Donald White Gang Yu	
MATH 20011	Mohammad Kazim Khan		
MATH 21001	Hassan A. Allouba Volodymyr Andriyevsky	Mikhail Chebotar Morley A. Davidson	Darci L. Kracht Gang Yu
MATH 22005	Hassan A. Allouba Volodymyr Andriyevskyy	Mikhail Chebotar Morley A. Davidson	
MATH 30055	Darci L. Kracht		
MATH 31011	Mikhail Chebotar		
MATH 32044	Hassan A. Allouba Volodymyr Andriyevskyy	Mikhail Chebotar Gang Yu	
MATH 40011	Hassan A. Allouba Volodymyr Andriyevskyy	Omar de la Cruz Cabrera Mohammad Kazim Khan	Jun Li Oana Mocioalca
MATH 40012	Omar de la Cruz Cabrera	Mohammad Kazim Khan	Jun Li
MATH 40055	Mohammad Kazim Khan	Darci L. Kracht	
MATH 40056	Mohammad Kazim Khan	Darci L. Kracht	
MATH 40059	Mohammad Kazim Khan	Darci L. Kracht	

Faculty from the Department of Accounting

Wendy M. Tietz, Professor
Degree: Ph.D., Curriculum and Instruction, Kent State University (2007)
Courses: ACCT 23020 Introduction to Financial Accounting

Faculty from the Department of Finance

Lindsay C. Baran, Assistant Professor
Degree: Ph.D., Finance, University of North Carolina at Charlotte (2010)
Courses: FIN 36053 Business Finance

Marc Via, Assistant Professor
Degree: Ph.D., Finance, University of Alabama (2014)
Courses: FIN 36053 Business Finance

Faculty from the Department of Economics

Justin Barnette, Assistant Professor
Degree: Ph.D., Economics, University of Minnesota (2012)
Courses: ECON 22061 Principles of Macroeconomics

Emmanuel Dechenaux, Professor
Degree: Ph.D., Economics, Purdue University (2004)
Courses: ECON 22060 Principles of Microeconomics
ECON 32050 Applied Econometrics I

Nasr G. El-Bahnasawy, Associate Professor
Degree: Ph.D., Economics, Colorado State University (2008)
Courses: ECON 22061 Principles of Macroeconomics

Nadia Greenhalgh-Stanley, Associate Professor
Degree: Ph.D., Economics, Syracuse University (2009)
Courses: ECON 22060 Principles of Microeconomics

Jeremiah R. Harris, Assistant Professor
Degree: Ph.D., Economics, Purdue University (2014)
Courses: ECON 22060 Principles of Microeconomics

Eric D. Johnson, Associate Professor
Degree: Ph.D., Economics, University of California at San Diego (1997)
Courses: ECON 32050 Applied Econometrics I

Dandan Liu, Associate Professor
Degree: Ph.D., Economics, Texas A&M University (2005)
Courses: ECON 22061 Principles of Macroeconomics

Jooyoun Park, Associate Professor
Degree: Ph.D., Economics, University of Michigan (2009)
Courses: ECON 22061 Principles of Macroeconomics

C. Lockwood Reynolds, Associate Professor
Degree: Ph.D., Economics, University of Michigan (2007)
Courses: ECON 22060 Principles of Microeconomics

Shawn M. Rohlin, Associate Professor
Degree: Ph.D., Economics, Syracuse University (2009)*
Courses: ECON 22060 Principles of Microeconomics
ECON 22061 Principles of Macroeconomics

Thomas Sahajdack, Assistant Professor
Degree: Ph.D., Economics, University of Illinois (2016)
Courses: ECON 22060 Principles of Microeconomics

* Credential is not on file for verification in Kent State's Office of Academic Personnel.

Faculty from the Department of Mathematical Sciences

Hassan A. Allouba, Associate Professor
Degree: Ph.D., Mathematics, Cornell University (1996)
Courses: MATH 12003 Analytic Geometry and Calculus II
MATH 21001 Linear Algebra With Applications
MATH 22005 Analytic Geometry and Calculus III
MATH 32044 Ordinary Differential Equations
MATH 40011 Probability Theory and Applications

Volodymyr Andriyevsky, Professor
Degree: Ph.D., Mathematics, Institute of Mathematics of Ukrainian Academy of Sciences (1986)
Courses: MATH 21001 Linear Algebra Linear Algebra with Applications
MATH 22005 Analytic Geometry and Calculus III
MATH 32044 Ordinary Differential Equations
MATH 40011 Probability Theory and Applications

Omar de la Cruz Cabrera, Assistant Professor
Degree: Ph.D., Mathematics, University of Florida (2000)*
Ph.D., Statistics, University of Chicago (2008)*
Courses: MATH 40011 Probability Theory and Applications
MATH 40012 Theory of Statistics

Mikhail Chebotar, Professor
Degree: Ph.D., Mathematics, Moscow State University (1999)
Courses: MATH 21001 Linear Algebra Linear Algebra with Applications
MATH 22005 Analytic Geometry and Calculus III
MATH 31011 Proofs in Discrete Mathematics
MATH 32044 Ordinary Differential Equations

Morley A. Davidson, Associate Professor
Degree: Ph.D., Mathematics, University of Michigan (1995)
Courses: MATH 12002 Analytic Geometry and Calculus II
MATH 12003 Analytic Geometry and Calculus II
MATH 21001 Linear Algebra with Applications
MATH 22005 Analytic Geometry and Calculus III

Stephen M. Gagola, Professor
Degree: Ph.D., Mathematics, University of Wisconsin at Madison (1974)
Courses: MATH 12002 Analytic Geometry and Calculus II

Mohammad Kazim Khan, Professor
Degree: Ph.D., Statistics, Case Western Reserve University (1980)
Courses: MATH 20011 Decision Making Under Uncertainty
MATH 40011 Probability Theory and Applications
MATH 40012 Theory of Statistics
MATH 40055 Actuarial Mathematics I
MATH 40056 Actuarial Mathematics II
MATH 40059 Stochastics Actuarial Models

* Credential is not on file for verification in Kent State's Office of Academic Personnel.

Darci L. Kracht, Professor
Degree: Ph.D., Pure Mathematics, Kent State University (2011)
Courses: MATH 21001 Linear Algebra with Applications
MATH 30055 Mathematical Theory of Interest
MATH 40055 Actuarial Mathematics I
MATH 40056 Actuarial Mathematics II
MATH 40059 Stochastics Actuarial Models

Mark L. Lewis, Professor
Degree: Ph.D., Mathematics, University of Wisconsin at Madison (1995)
Courses: MATH 12002 Analytic Geometry and Calculus I
MATH 31011 Proofs in Discrete Mathematics

Jun Li, Assistant Professor
Degree: Ph.D., Statistics, Iowa State University (2013)
Courses: MATH 40011 Probability Theory and Applications
MATH 40012 Theory of Statistics

Oana Mocioalca, Associate Professor
Degree: Ph.D., Mathematics, University of Florida (2002)
Courses: MATH 40011 Probability Theory and Applications
MATH 40012 Theory of Statistics

Laura A. Smithies, Associate Professor
Degree: Ph.D., Mathematics, University of Utah (1997)
Courses: MATH 12002 Analytic Geometry and Calculus I

Donald L. White, Professor
Degree: Ph.D., Mathematics, Yale University (1987)
Courses: MATH 12002 Analytic Geometry and Calculus I
MATH 12003 Analytic Geometry and Calculus II

Gang Yu, Associate Professor
Degree: Ph.D., Mathematics, University of Georgia (2000)
Courses: MATH 12003 Analytic Geometry and Calculus II
MATH 21001 Linear Algebra with Applications
MATH 32044 Ordinary Differential Equations