MATHEMATICS, BS, ACTUARIAL SCIENCE CONCENTRATION

Program Learning Outcomes

Graduates of this program will be able to:

a. Apply critical thinking skills to solve problems that can be modeled mathematically.

b. Critically interpret numerical and graphical data.

c. Read and construct mathematical arguments and proofs.

d. Use computer technology appropriately to solve problems and to promote understanding.

e. Communicate a depth and breadth of mathematical knowledge, both orally and in writing.

f. Apply mathematical knowledge to a career related to mathematical sciences or in post baccalaureate studies.

Program Requirements

Code	Title	Credit Hours
Core Curriculum (Areas A-E) (https://catalog.clayton.edu/ graduation-requirements/undergraduate-graduation-requirements/ core-curriculum/#core-areas)		**42**
All Core Curriculum requirements are shown under Core Curriculum in the Graduation Requirements section of the Undergraduate Catalog.		
Lower Division Major Requirements		**18**
CSCI 1301	Computer Science I [1]	3
or CSCI 1371	Computing for Engineers	
MATH 1501	Calculus I [2]	4
MATH 2140	Introductory Linear Algebra	3
MATH 2502	Calculus II [3]	4
MATH 2503	Calculus III	4
Elective: Select a minimum number of hours for a total of 18 hours in Area F		
CHEM 1211 & 1211L	Principles of Chemistry I and Principles of Chemistry Laboratory I	4
CHEM 1212 & 1212L	Principles of Chemistry II and Principles of Chemistry Laboratory II	4
CSCI 1302	Computer Science II	3
MATH 1401	Elementary Statistics [4]	3
MATH 2020	Introductory Discrete Math	3
PHYS 2211 & 2211L	Principles of Physics I and Principles of Physics Lab I	4
PHYS 2212 & 2212L	Principles of Physics II and Principles of Physics Lab II	4
Upper Division Major Requirements		**19**
MATH 3005	A Transition to Higher Math	3
MATH 3006	Communication in Mathematics	1
MATH 3110	Survey of Algebra	3
MATH 3303	Differential Equations	3
MATH 3520	Introduction to Analysis	3
MATH 4261	Introduction to Probability	3
MATH 4271	Financial Mathematics [5]	3
Capstone Experience Requirements		**2**
Preference towards MATH 4986 Internship in Mathematics		
Upper Division Math Electives		**9**
Choose at least two from the following:		
MATH 3220	Applied Statistics	3
MATH 4130	Applied Algebra	3
MATH 4231	Modern Geometry	3
MATH 4250	Elementary Number Theory	3
MATH 4303	Partial Differential Equations	3
MATH 4320	Numerical Methods	3
MATH 4350	Graph Theory	3
MATH 4360	Combinatorics	3
Choose one additional course from the list above or from the list of Special Topics (MATH 4800 - 4804)		
Electives		**30**
Choose 30 hours of electives, including at least 12 hours of 3000-level courses or above to complete the graduation requirement for upper-division credits.		
For the Concentration in Actuarial Science, students must complete the following courses as general electives:		
ECON 2105	Principles of Macroeconomics	3
ECON 3105	Intermediate Macroeconomics [6]	3
or ECON 4103	Monetary Economics	

[1] CSCI 1301 is zero hours if taken in Area D2; CSCI 1371 cannot be used in Area F if CSCI 1301 is used in Area D2

[2] One hour if taken in Area D2 or Area A

[3] One hour of carry-over if MATH 2502 Calculus II was taken in Area D2, otherwise must take 4 hours to satisfy this requirement.

[4] Zero hours if taken in Area D2

[5] New course

[6] Only requires ECON 2105 Principles of Macroeconomics as a prerequisite.