BACHELOR OF SCIENCE IN MATHEMATICS - BUSINESS OPTION

Code	Title	Credit Hours
Wellness		
APPH 1040	Scientific Foundations of Health	2
or APPH 10	The Science of Physical Activity and Health	
or APPH 10	Flourishing: Strategies for Well-being and Resilience	
Core A - Essential Skills		
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
MATH 1552	Integral Calculus	4
Core B - Institutional Options		
CS 1301	Introduction to Computing	3
Core C - Humanities		
Any HUM		6
Core D - Science, Math, & Technology		
PHYS 2211	Introductory Physics I [1]	4
PHYS 2212	Introductory Physics II	4
MATH 1551	Differential Calculus	2
or MATH 15	Introduction to Differential Calculus	
MATH 1553	Introduction to Linear Algebra	2
or MATH 155	Linear Algebra	
or MATH 156	Linear Algebra with Abstract Vector Spaces	
Core E - Social Sciences		
Select one of the following:		3
HIST 2111	The United States to 1877	
HIST 2112	The United States since 1877	
INTA 1200	American Government in Comparative Perspective	
POL 1101	Government of the United States	
PUBP 3000	American Constitutional Issues	
ECON 2106	Principles of Microeconomics	3
Any SS		6
Core F - Courses Related to Major		
CS 1331	Introduction to Object Oriented Programming	3
Lab Science		4
MATH 2551	Multivariable Calculus	4
or MATH 25	Honors Multivariable Calculus	
MATH 2552	Differential Equations	4
or MATH 256	Honors Differential Equations	
MATH 2106	Foundations of Mathematical Proof	3
Bridging Courses		
MATH 3012	Applied Combinatorics	3
MATH 3235	Probability Theory	3
MATH 3406	A Second Course in Linear Algebra	3
Upper Level Foundation Courses		
MATH 4107	Introduction to Abstract Algebra I [2]	3
MATH 4317	Analysis I [2]	3
MATH 4320	Complex Analysis [2]	3
General Mathematics [7]		**21**
Select twelve credits:		
MATH 3236	Statistical Theory	
MATH 4022	Introduction to Graph Theory	
MATH 4032	Combinatorial Analysis	
MATH 4108	Introduction to Abstract Algebra II	
MATH 4150	Introduction to Number Theory	
MATH 4221	Stochastic Processes I	
MATH 4261	Mathematical Statistics I	
MATH 4318	Analysis II	
MATH 4347	Partial Differential Equations I	
MATH 4431	Introductory Topology	
MATH 4432	Introduction to Algebraic Topology	
MATH 4441	Differential Geometry	
MATH 4541	Dynamics and Bifurcations I	
MATH 4640	Numerical Analysis I	
Select nine credits (or, select nine credits from previous list):		
MATH 4012	Algebraic Structures in Coding Theory	
MATH 4080 & MATH 4090	Senior Project I and Senior Project II	
MATH 4222	Stochastic Processes II	
MATH 4255	Monte Carlo Methods	
MATH 4262	Mathematical Statistics II	
MATH 4280	Introduction to Information Theory	
MATH 4348	Partial Differential Equations II	
MATH 4542	Dynamics and Bifurcations II	
MATH 4580	Linear Programming	
MATH 4581	Classical Mathematical Methods in Engineering	
MATH 4641	Numerical Analysis II	
MATH 4699	Undergraduate Research [3]	
MATH 4755	Mathematical Biology	
MATH 4777	Vector and Parallel Scientific Computation	
MATH 4782	Quantum Information and Quantum Computing	
MATH 4801	Special Topics	
MATH 4802	Special Topics	
CS 3510	Design and Analysis of Algorithms	
or CS 351	Design and Analysis of Algorithms, Honors	
CS 4510	Automata and Complexity Theory	
CS 4540	Advanced Algorithms	
CS 4641	Machine Learning	
CX 4140	Computational Modeling Algorithms	
CS 4530	Randomized Algorithms	
CS 4240	Compilers, Interpreters, and Program Analyzers	
ECON 3161	Econometric Analysis	
ECON 4180	Game Theory I	
ISYE 4031	Regression and Forecasting	
ISYE 3133	Engineering Optimization	
ISYE 4133	Advanced Optimization	
Engineering or Science Electives [7]		

BIOS, CHEM, EAS, PHYS, PSYC, ECON, CS, AE, BMED, CEE, CHBE, ECE, ISYE, MSE, ME 3000-level or higher courses [4,5]		3
Business Option		
ACCT 2101	Accounting I: Financial Accounting	3
or MGT 3001	Financial and Managerial Accounting	
PSYC 2220	Industrial/Organizational Psychology	3
or MGT 3101	Organizational Behavior	
or MGT 3150	Principles of Management	
Select 6 credit hours:		6
MGT 3062	Financial Management	
MGT 3078	Finance and Investments	
MGT 3300	Marketing Management I	
MGT 3660	International Business	
MGT 4015	Advanced Managerial Accounting	
MGT 4026	Financial Reporting and Analysis I	
MGT 4028	Financial Analysis and Reporting of Technology Firms	
MGT 4030	International Accounting	
MGT 4190	Strategic Quality Management and Competitiveness	
MGT 4191	The Entrepreneurship Forum	
MGT 4192	Impact Speaker Series Forum	
MGT 4193	Servant Leadership, Values & Systems	
MGT 4194	Social Enterprise and Entrepreneurship	
MGT 4303	Personal Selling and Sales Management	
MGT 4304	Strategic Brand Management	
MGT 4307	Strategic Marketing	
MGT 4335	International Marketing	
MGT 4610	Law, Management, and Economics	
MGT 4670	Entrepreneurship	
Free Electives		
Free Electives [6]		5
Total Credit Hours		**122**

Pass-fail only allowed for Free Electives.

Four courses from Group A list must be completed. Student may select MATH elective from Group B if four courses from Group A are complete, otherwise, the Math elective must come from Group A. If student does not complete four courses from Group A list from concentration requirements and MATH elective, then the course(s) must be completed for free electives.

Group A list: MATH 3236, MATH 4022, MATH 4032, MATH 4108, MATH 4150, MATH 4221, MATH 4261, MATH 4318, MATH 4347, MATH 4431, MATH 4432, MATH 4441, MATH 4541, MATH 4640.

Group B list: MATH 4012, MATH 4080/MATH 4090, MATH 4222, MATH 4255, MATH 4262, MATH 4280, MATH 4348, MATH 4542, MATH 4580, MATH 4581, MATH 4641, MATH 4699, MATH 4755, MATH 4777, MATH 4782, MATH 4801, MATH 4802, CS 3510/CS 3511, CS 4510, CS 4540, CS 4530, CS 4641, CX 4140, CX 4240, ECON 3161, ECON 4180,ISYE 4031, ISYE 3133, ISYE 4133.

1 If PHYS 2231 is taken, extra hour goes toward Free Electives
2 C-minimum required
3 MATH 4699 must be an approved topic and can be used up to 6 hours.
4 CEE 3770,ISYE 3770, CS 4001, and CS 4002 are not allowed to be used here.
5 Two courses must be from the same school.
6 MATH 1113, MATH 3670, CEE 3770, and ISYE 3770 are restricted from free electives.
7 These hours may be shared with a minor.