B.S. IN MATHEMATICS (MA.BS)

Code	Title	Credits
Major Requirements/Mathematics (43 credits)		
(Satisfies Mathematics in General Education)		
MA-120	Introduction to Mathematical Reasoning	4
MA-125	Calculus with Analytic Geometry I	4
MA-126	Calculus with Analytic Geometry II	4
MA-221	Linear Algebra	3
MA-225	Calculus with Analytic Geometry III	4
MA-220	Probability and Statistics I	3
MA-415	Real Analysis	3
Select one of the following:		3
MA-314	Number Theory [1]	
MA-317	Geometry	
MA-318	Combinatorics and Graph Theory	
Select one of the following:		3
MA-410	Modern Algebra	
or MA-411	Group Theory	
Select 12 credits from Mathematics (MA) from levels 300+, 400+, AND completing one of the following:		12
MA-314 & MA-410	Number Theory and Modern Algebra	
MA-410 & MA-411	Modern Algebra and Group Theory	
MA-413 & MA-415	Complex Analysis and Real Analysis	
MA-407 & MA-415	Topology and Real Analysis	
MA-311 & MA-419	Differential Equations and Introduction to Mathematical Modeling	
MA-320 & MA-421	Probability and Statistics II and Design of Experiments and ANOVA	
Interdisciplinary Requirements (12-14 credits)		
(Satisfies Natural Sciences in General Education)		
CS-175	Introduction to Computer Science I	3
CS-175L	Introduction to Computer Science I lab [2]	1
or MA-237	Programming and Technology in Mathematics	
Select one of the following groups:		8-10
Group A (8 credits)		
CE-111	General Chemistry I	
CE-111L	General Chemistry I Laboratory	
CE-112	General Chemistry II	
CE-112L	General Chemistry II Laboratory	
Group B (10 credits)		
PH-211	General Physics with Calculus I	
PH-211L	General Physics with Calculus I Laboratory	
PH-212	General Physics with Calculus II	
PH-212L	General Physics with Calculus II Laboratory	
Group C (8 credits)		
BY-109	Introduction to Ecology and Evolution	
BY-110	Introduction to Cell and Molecular Biology	
Free Electives (27-30 credits) [3]		
Complete 27-30 credits of free electives. [3]		27-30
General Education Requirements (36 credits) [4]		
Complete 36 credits as outlined on the General Education table. [4]		36
Total Credits		**120**

1. *If course selection satisfies a General Education requirement, additional free electives may be permitted. See advisor.*
2. *MA-237 fulfills a General Education requirement, and if chosen, additional free electives may be permitted. See advisor.*
3. *Please consult with your advisor regarding the required number of free electives that must be completed.*
4. *The General Education curriculum requires the completion of 45 credits. However, students may be able to share credits from within their major or interdisciplinary requirements. Please consult with your advisor to determine which* General Education *(*http://catalog.monmouth.edu/undergraduate-catalog/academic-programs-support-services-regulations/general-education-requirements/*) courses must be completed.*

Freshman

Fall	Credits	Spring	Credits
MA-120 Introduction to Mathematical Reasoning (Gen*Ed Mathematics)	4	MA-126 Calculus with Analytic Geometry II	4
MA-125 Calculus with Analytic Geometry I	4	EN-102 College Composition II	3
EN-101 College Composition I	3	Gen*Ed Aesthetics (AT) AR,DA,MU,TH	3
Gen*Ed Historical Perspectives (HS.SV)	3	Gen*Ed Social Science Survey (SS.SV)	3
Gen*Ed Cultural Diversity (CD) or Global Understanding (GU)	3	Free Electives	3
Semester Credits	**17**	**Semester Credits**	**16**

Sophomore

Fall	Credits	Spring	Credits
MA-237 Programming and Technology in Mathematics (Gen*Ed Technological Literacy (TL)	4	MA-220 Probability and Statistics I	3
MA-221 Linear Algebra	3	MA-225 Calculus with Analytic Geometry III	4
EN-2xx Gen*Ed Literature (LIT)	3	Gen*Ed Historical Perspectives (HS.SV) Social Science Survey (SS.SV)	3
CE-111 & CE-111L or PH-211 & PH-211L or BY-109	5	CE-112 & CE-112L or PH-212 & PH-212L or BY-110	5
Semester Credits	**15**	**Semester Credits**	**15**

Junior

Fall	Credits	Spring	Credits
MA-314, MA-317, or MA-318 (MA-314 satisfies Reasoned Oral Discourse (RD)	3	MA-410 Modern Algebra or 411	3
Math Elective	3	Math Elective	3
Free Electives	9	FO-4xx Gen*Ed World Language	3
		Gen*Ed Reasoned Oral Discourse (RD)	3
		Free Electives	3
Semester Credits	**15**	**Semester Credits**	**15**

Senior				
Fall	**Credits**		**Spring**	**Credits**
MA-415 Real Analysis		3	Math Elective	3
Math Elective		3	PR-4xx Gen*Ed Interdisciplinary Perspectives (ISP)	3
Free Electives		9	Free Electives	6
Semester Credits		**15**	**Semester Credits**	**12**
Total Credits 120				

Notes

- 54 credits must be completed at the 200 level or higher.