B.S. IN COMPUTER SCIENCE (CS.BS)

Code	Title	Credits
Major Requirements/Computer Science (55 credits)		
CS-104	Introduction to Problem Solving and Software Development	3
(Satisfies Technological Literacy (TL) in General Education)		
CS-175	Introduction to Computer Science I	3
CS-175L	Introduction to Computer Science I lab	1
CS-176	Introduction to Computer Science II	3
CS-176L	Introduction to Computer Science II Lab	1
CS-201	Introduction to Computer Programming for Data Science	1
CS-205	Data Structures and Algorithms	3
CS-205L	Data Structures and Algorithms Lab	1
CS-286	Computer Architecture I	3
CS-305	Advanced Computing	3
CS-310	Advanced Object-Oriented Programming and Design	3
CS-325	Software Engineering Concepts	3
CS-414	Computer Networks	3
CS-432	Database Systems	3
CS-438	Operating Systems Analysis	3
CS-450	Cyber Security	3
CS-492A	Computer Science Senior Project A	3
CS-492B	Computer Science Senior Project B	3
(CS-492A and CS-492B satisfy Reasoned Oral Discourse (RD) in General Education)		
Select 6 credits of Computer Science (CS) at the 200-level or higher [1]		6
Select 3 credits of Computer Science (CS) at the 400-level or higher (except CS-488 and CS-489)		3
Interdisciplinary Requirements (28 credits)		
MA-125	Calculus with Analytic Geometry I	4
MA-126	Calculus with Analytic Geometry II	4
MA-130	Applied Discrete Mathematics	3
MA-220	Probability and Statistics I	3
(Any of the Math courses satisfy the Mathematics requirement in General Education)		
Select 8 credits from ONE of the following Groups:		8
(Science courses listed below satisfy Natural Science (NS) in General Education)		
Group A		
CE-111/111L	General Chemistry I	
CE-112/112L	General Chemistry II	
Group B		
PH-211/211L	General Physics with Calculus I	
PH-212/212L	General Physics with Calculus II	
Group C		
BY-109 & BY-110	Introduction to Biodiversity and Evolution and Introduction to Cell and Molecular Biology	
Select 3 credits from the following courses:		3
PR-407	Morality and Community	
PR-432	Ethics and Professionalism in Science and Engineering	
PR-449	The Helping Professions in Film and Media	
PR-457	Issues in Cognitive Science	
PR-460	How Technology Affects Values	
Select one of the following:		3
PH-301	Modern Physics	
PH-302	Theoretical Physics	
BY-201	Introduction to Biotechnology	
BY-205	Zoology	
BY-214	Botany	
BY-220	Environmental Biology and Policy	
BY-221	Introduction to Global Sustainability	
MA-311	Differential Equations	
MA-318	Combinatorics and Graph Theory	
MA-221	Linear Algebra	
MA-225	Calculus with Analytic Geometry III	
MA-320	Probability and Statistics II	
Free Electives (7 credits) [2]		
Select 7 credits of free electives [2]		7
General Education Requirements (30 credits) [3]		
Complete 30 credits as outlined on the General Education table [3]		30
Total Credits		120

1 Except the following courses: CS-288, CS-289, CS-388, CS-389, CS-488, CS-489, CS-212, CS-222, CS-302, CS-312, CS-316, CS-320, CS-322, and CS-330

2 *Please consult with your advisor regarding the required number of free electives that must be completed.*

3 *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.*

Note:

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

Sequence Chart

First Year

Fall	Credits	Spring	Credits
EN-101 College Composition I	3	EN-102 College Composition II	3
CS-104 Introduction to Problem Solving and Software Development (Gen*Ed Technological Literacy (TL))	3	CS-175 & 175L	4
Gen*Ed Aesthetics (AT) AR,DA,MU,TH	3	MA-109 Pre-Calculus Mathematics (Gen*Ed Mathematics)	4

Gen*Ed Historical Perspectives (HS.SV)		3	Gen*Ed Historical Perspective (HS.SV) or Social Science Survey (SS.SV)	3
Gen*Ed Cultural Diversity (CD) or Global Understanding (GU)		3	Free Elective	3
Semester Credits		15	Semester Credits	17
Second Year				
Fall	**Credits**		**Spring**	**Credits**
CS-176 & 176L		4	CS-205 & 205L	4
MA-125 Calculus with Analytic Geometry I		4	CS-286 Computer Architecture I	3
MA-130 Applied Discrete Mathematics		3	MA-126 Calculus with Analytic Geometry II	4
Gen*Ed Social Science Survey (SS.SV)		3	EN-2xx Gen*Ed Literature (LIT)	3
Free Elective		3		
Semester Credits		17	Semester Credits	14
Third Year				
Fall	**Credits**		**Spring**	**Credits**
CS-305 Advanced Computing		3	CS-438 Operating Systems Analysis	3
CS-310 Advanced Object-Oriented Programming and Design		3	CS-201 Introduction to Computer Programming for Data Science	1
CS-325 Software Engineering Concepts		3	CS-414 Computer Networks	3
Outside the Major Lab Science (Gen*Ed Natural Science (NS) BY,CE,PH)		4	CS-2xx+ Computer Science Elective	3
CS-432 Database Systems		3	FO-xxx Gen*Ed World Lanaguage	3
			Outside Major Lab Science (Gen*Ed Natural Science (NS) BY,CE,PH)	4
Semester Credits		16	Semester Credits	17
Fourth Year				
Fall	**Credits**		**Spring**	**Credits**
CS-432 Database Systems		3	CS-4xx Computer Science Elective	3
CS-450 Cyber Security		3	Outside the Major Math/Science Requirement (BY,CE,PH,MA) See curriculum chart	3
CS-492A Computer Science Senior Project A (Gen*Ed Reasoned Oral Discourse)		3	PR-4xx Gen*Ed Interdisciplinary Perspectives (ISP)	3
Free Elective (Gen*Ed Experiential Education (EX)		1	CS-492B Computer Science Senior Project B	3
Free Elective		2		
MA-220 Probability and Statistics I		3		
Semester Credits		15	Semester Credits	12

Total Credits 123