COMPUTER SCIENCE (ALGORITHM THEORY) - BACHELOR OF SCIENCE

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Intermediate Algebra and ENGL 1110G Rhetoric and Composition. The contents and order of this roadmap may vary depending on initial student placement in mathematics and english. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Freshman		Credits
C S 172	Computer Science I	4
C S 271	Object Oriented Programming	4
C S 273	Machine Programming and Organization	4
ENGL 1110G	Composition I	4
MATH 1511G	Calculus and Analytic Geometry I [1]	4
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II or Calculus and Analytic Geometry II Honors	4
Area IV: Social/ Behavioral Sciences Course [2]		3
Area V: Humanities Course [2]		3
	Credits	**30**
Sophomore		
C S 272	Introduction to Data Structures	4
C S 278	Discrete Mathematics for Computer Science	4
C S 370	Compilers and Automata Theory	4
C S 372	Data Structures and Algorithms	4
COMM 1115G	Introduction to Communication	3
ENGL 2210G	Professional and Technical Communication Honors	3
MATH 2415 or MATH 4230	Introduction to Linear Algebra or Applied Linear Algebra	3
Area VI: Creative and Fine Arts [2]		3
Select one from the following:		3
A ST 311	Statistical Applications	
STAT 3110	Statistics for Engineers and Scientists	
STAT 4210	Probability: Theory and Applications	
Elective credits if needed for financial aid requirements [3]		3+
	Credits	**31-34**
Junior		
C S 371	Software Development	4
C S 471	Programming Language Structure I	3
C S 482	Database Management Systems I	3
Computer Science 400-level Elective [4]		3
MATH elective (upper division) [5]		3
Lab Science Elective [6]		4
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Viewing a Wider World [7]		3
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Elective credits if needed for financial aid requirements [3]		3
	Credits	**33**
Senior		
C S 448 or C S 449	Senior Project or Senior Thesis	4
C S 419	Computing Ethics and Social Implications of Computing	1
C S 474	Operating Systems I	3
Lab Science Elective [6]		4
Computer Science 400-level Elective [4]		3
Upper division electives to bring total upper division to 48 [3]		4
Electives as needed to meet minimum credit requirements [3]		7
	Credits	**26**
	Total Credits	**120-123**

1. MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G first.
2. See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses
3. Students who plan to graduate with a concentration need to complete the specific requirements for the chosen concentration.
   Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.
4. See list of Computer Science electives (p.) in Degree Requirement Section.
5. **Math Electives:**
   - MATH 3110 Introduction to Modern Algebra
   - MATH 3120 Introduction to Analysis
   - MATH 3140 Introduction to Numerical Methods
   - MATH 3160 Introduction to Ordinary Differential Equations
   - MATH 4320 Logic and Set Theory
   - MATH 4330 Elementary Number Theory
6. See list of Lab Science (p.) courses in the Degree Requirement Section.
7. See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses

Students planning to undertake graduate work in computer science are encouraged to consult with their advisor regarding the possibility of taking other computer science electives to satisfy their departmental requirements.