Mathematics and Computer Science

This option is available for students who wish to take advantage of the close connections between Computer Science and Mathematics.

Major Requirements

Major: Mathematics & Computer Science

Degree Type: B.A. or B.S.
Required Degree Credits to Graduate: 136

General Education Requirements

First Year Experience (F):		
UNIV 189	Skills For Academic Success (Students transferring in 24 or more credits do not need to take UNIV 189.)	1
Communication (C):		
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
One Course in Upper Level Writing: Select from current general education list		3
COMM 110	Fundamentals of Public Speaking	3
Quantitative Reasoning (R):		
MATH 165	Calculus I	4
Science & Technology (S):		10
A one-credit lab must be taken as a co-requisite with a general education science/technology course unless the course includes an embedded lab experience equivalent to a one-credit course. Select from current general education list		
Humanities & Fine Arts (A): Select from current general education list		6
Social & Behavioral Sciences (B): Select from current general education list		6
Wellness (W): Select from current general education list		2
Cultural Diversity (D): Select from current general education list		
Global Perspectives (G): Select from current general education list		
Total Credits		41

College Requirements

Bachelor of Science (BS) Degree – An additional 6 credits in Humanities or Social Sciences*

Bachelor of Arts (BA) Degree – An additional 12 credits Humanities and Social Sciences* and proficiency at the second year level in a modern foreign language.

* Humanities and Social Sciences may be fulfilled by any course having the following prefix: ADHM, ANTH, ARCH, ART, CJ, CLAS, COMM, ECON, ENGL, FREN, GEOG, GERM, HDFS, HIST, LA, LANG, MUSC, PHIL, POLS, PSYC, RELS, SOC, SPAN, THEA, WGS, or any course from the approved list of general education courses in humanities and social sciences (general education categories A and B). These credits must come from outside the department of the student's major.

Major Requirements

A grade of 'C' or better is required in MATH & CSCI prefix courses used toward the major.

General Education Requirements		40
Science and Mathematics College Requirements		6-12
Mathematics Major Requirements		
MATH 166	Calculus II	4
MATH 265	Calculus III	4
MATH 266	Introduction to Differential Equations	3
MATH 270	Introduction to Abstract Mathematics	3
MATH 429	Linear Algebra	3
MATH 430	Graph Theory	3
Select one from the following:		6
MATH 420 & MATH 421	Abstract Algebra I and Abstract Algebra II	
MATH 450 & MATH 451	Real Analysis I and Real Analysis II	
MATH 491	Seminar	2
Computer Science Major Requirements		
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4
CSCI 213	Modern Software Development	3
CSCI 313	Software Development for Games	3
CSCI 336	Theoretical Computer Science II	3
CSCI 366	Database Systems	3
CSCI 372	Comparative Programming Languages	3
CSCI 374	Computer Organization and Architechure	3
CSCI 445	Software Projects Capstone	3
CSCI 467	Algorithm Analysis	3
CSCI 489	Social Implications of Computers	3
Related Required Courses		
Statistics:		
STAT 367	Probability	3
STAT 368	Statistics	3
Select one from the following:		
CSCI 418	Simulation Models	3
CSCI 453	Linear Programming and Network Flows	3
MATH 436	Combinatorics	3
MATH 488	Numerical Analysis I	3
Choose one Lecture/Lab Sequence from the following:		8-10
Sequence One:		
BIOL 126 & 126L & BIOL 220 & BIOL 220L	Human Biology and Human Biology Laboratory and Human Anatomy and Physiology I and Human Anatomy and Physiology I Laboratory *	
Sequence Two:		
CHEM 121 & 121L & CHEM 122 & CHEM 122L	General Chemistry I and General Chemistry I Laboratory and General Chemistry II and General Chemistry II Laboratory *	
Sequence Three:		

CHEM 150	Principles of Chemistry I
& CHEM 160	and Principles of Chemistry Laboratory I
& CHEM 151	and Principles of Chemistry II
& CHEM 161	and Principles of Chemistry Laboratory II *
Sequence Four:	
MICR 350	General Microbiology
& 350L	and General Microbiology Lab
& MICR 352	and General Microbiology II
& MICR 352L	and General Microbiology Lab II *
Sequence Five:	
PHYS 211	College Physics I
& 211L	and College Physics I Laboratory
& PHYS 212	and College Physics II
& PHYS 212L	and College Physics II Laboratory *
Sequence Six:	
PHYS 251	University Physics I
& 251L	and University Physics I Laboratory
& PHYS 252	and University Physics II
& PHYS 252L	and University Physics II Laboratory *
Total Credits	136-144

* Science and Technology General Education

Program Notes

- Except for courses offered only as pass/fail grading, no course may be taken Pass/Fail.