

LEARNING OUTCOMES (as of Fall 2021)
Math and Computer Science Department

Learning Outcomes for Mathematics *Upon completion of a degree in mathematics, students should*

1. demonstrate an understanding of algebra and calculus, the essential computational frameworks of mathematics.
2. demonstrate a basic understanding of analysis and abstract algebra, the core branches of mathematics.
3. demonstrate the ability to use logic and correct mathematical terminology to write mathematical proofs.
4. demonstrate the ability to apply logic and correct mathematical terminology in the development of a mathematical theory.

Learning Outcomes for Computer Science *Upon completion of a degree in computer science, students should*

1. demonstrate the ability to construct software to solve complex problems.
2. demonstrate a basic understanding of the core theoretical constructs of computer science
3. demonstrate the ability to learn new languages and software systems.
4. demonstrate the ability to apply modern software development tools and techniques.

Matrix mapping courses to learning outcomes: *(Expected levels of mastery per class (M=mastery, P=proficient, D=developing, B=beginner))*

Mathematics

	LO 1	LO 2	LO 3	LO 4
MATH 109	X (B,D)			
MATH 205	X (B,D)			
MATH 211	X (B,D)			
MATH 213	X (B,D)			
MATH 227	X (B,D)			
MATH 230	X (B,D)			
MATH 231	X (B,D)			
MATH 232	X (D,P)			
MATH 233	X (P,M)			
MATH 234			X (B,D)	
MATH 235		X (B,D)	X (D,P)	X (B-P)
MATH 261	X (P,M)			X (B,D)
MATH 301		X (D,P)	X (P,M)	X (D,P)
MATH 421		X (P,M)	X (M)	X (P,M)
MATH 493			X (M)	X (P,M)
MATH 326			X (D,P)	X (D,P)
MATH 327			X (P,M)	X (P,M)
MATH 366	X (M)			X (P,M)
MATH 432		X (P,M)	X (P,M)	X (P,M)
MATH 330			X (P,M)	X (P,M)
MATH 428	X (M)		X (P,M)	X (P,M)

Matrices mapping courses to learning outcomes; (Expected levels of mastery per class (M=mastery, P=proficient, D=developing, B=beginner))

Computer Science

	LO 1	LO 2	LO 3	LO 4
CSCI 152	x (B)		x (B, D)	
CSCI 241		x (B)		
CSCI 251	x (B, D)		x (B, D)	x (B, D)
CSCI 261	x (B, D)		x (B, D)	x (B, D)
CSCI 262	x (B, D)	x (D)	x (B, D)	
CSCI 277	x		x	
CSCI 282	x		x	
CSCI 315	x (D, P)		x (D, P)	
CSCI 342				x
CSCI 351	x (P, M)		x (P, M)	
CSCI 357	x (P, M)		x (P, M)	x (P, M)
CSCI 371	x (P, M)			x (P, M)
CSCI 395	x (D, P)			
CSCI 453		x (P, M)		
CSCI 454		x (P, M)	x (P, M)	
CSCI 461	x (P, M)	x (P, M)		
CSCI 475	x (P, M)			x (P, M)
CSCI 476	x (P, M)			x (P, M)
CSCI 495	x (P, M)			x (P, M)
CSCI 496	x (P, M)			x (P, M)

Mission

Our mission to our majors and minors is to spark a life-long interest in learning, as well as to provide them with

- a spirit of fellowship and a learning community in which they are able to develop their mathematical and computing abilities to their full potential.
- the foundation necessary to begin a career in the mathematical and computer sciences
- an understanding of how a liberal arts education will enhance their careers and their lives

In addition, we give mathematics majors

- an understanding of the harmonious relationships between mathematics and nature
- an understanding of the aesthetic beauty in mathematics

We give computer science majors

- programming and problem solving skills that transcend specific environments and tool sets
- an ability to use those skills to design and implement solutions to complex problems

Goals

Graduating senior mathematics majors should exhibit:

1. the ability to gain independent understanding of mathematics;
2. the ability to construct correct mathematical proofs.
3. the ability to solve complicated computational problems correctly; and
4. the ability to express mathematics orally and in writing;

Graduating senior computer science majors should exhibit:

1. the ability to develop a software project in a group, choosing appropriate hardware and tools.
2. the ability to understand computer code written by others.
3. the ability to solve complex problems by writing software solutions;
4. the ability to present their work convincingly orally and in writing; and

Further, all recent graduates from our department should demonstrate:

1. acceptance by graduate schools or offers for career positions, and
2. ability to succeed in graduate school or ability to succeed in their first position.