

# Mission, Goals and Student Learning Outcomes: AY 2018-2019

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Please upload the form for each program in Blackboard by September 25, 2018.

School	School of Arts and Sciences
Department	Mathematics and Computer Science
Program	Computer Science
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Date Submitted	September 24, 2018

## I. State Program Mission

Our mission is to provide students the opportunity to learn about both the applied and theoretical aspects of computer science in order that they be able to apply this knowledge to solve real world problems in an increasingly diverse, ever-changing, and technology-driven world. In particular, students majoring in Computer Science will learn basic and advanced programming; design and analysis of computer algorithms and computer hardware; the mathematical theory of languages and their application to the design of computer languages; management of large software projects; and how computer operating systems work. Students may choose to work individually or in collaboration with peers and guided by faculty on projects that strengthen their academic preparation and to showcase their work at the college and beyond. It is our goal that students' initial interest in computer science be nurtured and developed to its full potential so that upon graduation they may successfully undertake graduate work or enter the workforce as computer professionals in areas such as computer systems analysts, software developers, systems programmers, scientific/engineering applications programmers, or any in a list of ever-expanding technology-focused careers.

**II. List Program Goals (PGs) and Program Level Student Learning Outcomes (PSLOs)**

Program Goal	Program Student Learning Outcomes
<p>Goal 1 Prepare students to be able to demonstrate understanding and competency in the theoretical aspects of computer science, computer engineering and digital technology.</p>	<p>1.1 Students will be able to apply the knowledge on formal models of computation, formal grammars and formal semantics. *CS 371, CS 457</p>
	<p>1.2 Students will be able to implement different algorithms and perform algorithm analysis. *CS 341, CS 351</p>
	<p>1.3 Students will be able to apply and implement different discrete mathematical structures. *Math 225, Math 210, CS 291, CS 341, CS 357, CS 457</p>
	<p>1.4 Students will be able to use knowledge about probability and distributions. *Math 210</p>
<p>Goal 2 Prepare students to be able to demonstrate understanding and competency in the system aspects of computer science including computational thinking and problem-solving skills.</p>	<p>2.1 Students will be able to apply techniques from computer hardware, organization, digital logic and design and hardware-software interface. *CS 485</p>
	<p>2.2 Students will be able to analyze software requirements, design and develop software systems. *CS 381</p>
	<p>2.3 Students will be able to demonstrate the ability to use and apply computer programming and programming languages to solve real-world problems. *CS 172, CS 291, CS 357, CS 371, CS 391, CS 397, CS 471</p>

Program Goal	Program Student Learning Outcomes
	2.4 Students will be able to demonstrate the ability to solve different problems in Operating Systems. * CS 451, CS 452
Goal 3 Prepare students to be able to demonstrate understanding and competency in the practical applications of computers, computer technology and innovative digital technology.	3.1 Students will be able to use the concepts of Software Engineering to solve real-world problems. *CS 382
	3.2 Students will be able to demonstrate the ability to solve various problems in Computer Graphics *CS 334
	3.3 Students will be able to apply techniques from Information Management, Databases, Information Assurance and Security, Cyber-Security *CS 292, CS 392, CS 465
	3.4 Students will be able to apply techniques from Information Management, Databases, Information Assurance and Security, Cyber-Security *CS 292, CS 392, CS 465
	3.5 Students will be able to analyze and solve problems in Networking and Communication *CS 261, CS 361, CS 461