

Undergraduate Computing-related Programs

Program	Computer Science	Information Technology	Software Engineering	Computer Game Design & Development	Computer Engineering
Focus	Study of theoretical principles of computer systems architecture, software, and data communications	Strategy, development and administration of integrated computing management and IT systems.	Engineer software systems that meet specific requirements and built within critical quality levels, cost, and schedule requirements.	Apply computing & software engineering techniques to the design and production of digital media (games) for entertainment, research, and education.	Study of electrical & electronics engineering as it applies to hardware-software integration in computing technology.
Knowledge/skills	Logic & Algorithms Programming concepts/skills using modern languages Creativity Math – statistics, algebra & calculus Complex problem solving Develop/code computer programs for any business/industry	Excellent written/verbal communication skills Logic Complex problem solving Project management Teamwork Administration & operations of computing systems Information security principles	Logic & Algorithms Programming using modern languages Math – statistics, algebra & calculus Teamwork Written/verbal communication skills Design, build & implement software systems Best practices in software development processes	Programming using modern languages Theory of gaming Creativity Complex problem solving Software development process Teamwork Creation of engaging & immersive digital media & multimedia systems	Advanced math Logic & Algorithms Design & creation of electronic components Creativity Engineering principles Complex problem solving
Jobs/careers	Java/C#/C++/etc developer Computer system analyst Artificial intelligence engineer/developer Back-end engineer Full-stack developer	Computer technician System administrator Network administrator Business Intelligence developer Information Security Analyst/developer	Software Engineer Software Architect Java/C#/C++/etc developer Cloud Engineer	Game programmer/developer Video game tester Software developer User interface engineer/designer	Computer hardware engineer Embedded systems developer Network and systems engineer
Related tasks	-Uses new theories to create cutting edge software. -Focuses on the theoretical aspects of technology. -Utilizes theory to research and design software solutions.	-Advocates for user needs in design & functionality -Troubleshoots and designs practical technical applications. -Applies technology to solve practical problems. -Applies technical knowledge for product support.	-Focuses on large-scale systems development. -Assesses requirements for large-scale technological projects. -Designs testing procedures for large-scale systems. -Manages large-scale technological projects.	-Designs and develops software used for educational, simulation, and recreational digital games. -Studies how users interact with game software and designs efficient and engaging interaction experiences. -Designs and develops processes to test the usability and functionality of digital game software.	-Designs and creates embedded computing systems that integrate sensors, actuators, and communications technologies -Utilizes theory to research, design and build computing system components -Maximize hardware-software integration
College offering major	College of Computing & Software Engineering	College of Computing & Software Engineering	College of Computing & Software Engineering	College of Computing & Software Engineering	Southern Polytechnic College of Engineering & Engineering Technology