

Computer Science Undergraduate Track Elective Suggestions

Undergraduate certificates awarded upon graduation if required number of courses are taken in a specific track area (optional).

Software	<p><u>Software Development (Choose 5)</u> 3470: Scripting Language/Design 3540: Human Computer Interaction 4230: Parallel Programming 4470: Compilers 4480: Computer Networks 4540: Web Software Architecture 5140: Data Mining 5460: Operating Systems 5530: Database Systems 5785: Adv. Embedded Software</p> <p><u>Web/Mobile Development (Choose 4)</u> 3470: Scripting Language/Design 3540: Human Computer Interaction 4480: Computer Networks 4530: iPhone/Android Development 4540: Web Software Architecture 5530: Database Systems</p>
Computer Systems	<p><u>Computer Systems (Choose 4)</u> 4230: Parallel Programming 4440: Intro Computer Security 4470: Compilers 4480: Computer Networks 5460: Operating Systems 5490: Network Security 5530: Database Systems</p> <p><u>Programming Languages (Choose 3)</u> 3470: Scripting Language/Design 3520: Programming Language 4470: Compilers 5100: Foundations of CS</p>

Artificial Intelligence	<p><u>Robotics (Choose 3)</u> 4300: Artificial Intelligence 5310: Robotics 5350: Machine Learning *6320: 3D Computer Vision *6330: Intro to Robot Control *6370 Geometric Motion Planning</p> <p><u>Artificial Intelligence (Choose 4)</u> 4300: Artificial Intelligence 4640: Image Processing Basics 5100: Foundations of CS 5130: Computational Statistics 5140: Data Mining 5320: Computer Vision 5340: Natural Language Processing 5350: Machine Learning</p>
Data	<p><u>Information (Choose 4)</u> 4300: Artificial Intelligence 5140: Data Mining 5150: Adv. Algorithms 5340: Natural Language Processing 5350: Machine Learning 5530: Database Systems 5630: Visualization</p>
Theory	<p><u>Theory (Choose 3)</u> 3100: Models of Computation 5100: Foundations of CS 5130: Computational Statistics 5140: Data Mining 5150: Adv. Algorithms 5350: Machine Learning</p>

Graphics	<p><u>Visual Computing (Choose 4)</u> 3200: Intro Sci Comp 4600: Intro Computer Graphics 4640: Image Processing Basics 5320: Computer Vision 5350: Machine Learning 5610: Interactive Comp Graphics 5630: Scientific Visualization 5650: Perception for Graphics</p>
Hardware	<p><u>Computer Organization (Choose 4)</u> 3700: Digital System Design 3710: Computer Design Lab 5460: Operating Systems 5710: Digital VLSI Design 5830: VLSI Architecture</p> <p><u>Embedded Systems (Choose 4)</u> 3710: Computer Design Lab 4470: Compilers 4480: Computer Networks 5780: Embedded System Design 5785: Adv. Embedded Software 5789: Embedded Sy/Kinetic Art</p> <p><u>CAD for Digital Systems (Choose 4)</u> 5710: Digital VLSI Design 5740: Computer-Aided Design 5745: Testing/Verif. Digital Circuits 5750: Synthesis/Veri. VLSI Sys. 5830: VLSI Architecture</p>

*Open to undergrads with instructor consent & permission code.