

Computer Science (CS)

See Department of Computer Science, [click here with hand tool](#)

CS 1020 Campus Computing and Beyond 1
Hands-on laboratory for CS 1030. Introduces the campus network and the Internet. Emphasizes general problem-solving strategies and skills associated with computer and application software use. (F,Sp,Su)

CS 1030 BPS Foundations of Computer Science, and the Application of Computer Science to the Investigation of Physical Systems and Phenomena 3
(formerly CS 1010 BPS)
Investigation of computers and computing in today's society, including the basic scientific and mathematical concepts that underlie computer science, computing, and computer systems. No prerequisites. (F,Sp,Su)

CS 1050 Problem Solving with Computers 3
Investigates problem-solving using methodologies of computer science. Emphasizes techniques used by computer scientists to solve problems, as well as the scientific method. Develops problem-solving methodology for both new and traditional computer applications. (F,Sp)

CS 1400 Introduction to Computer Science—CS 1 3
(formerly CS 1700)
Introduction to science of problem solving, programming, program development, algorithm analysis, and data structures. Students will learn to develop correct software in a current programming language environment. Computer science majors must enroll in CS 1405 concurrently with CS 1400. Prerequisite: Grade of C- or better in MATH 1050 or Math ACT score of at least 25. (F,Sp,Su)

CS 1405 Introduction to Computer Science—CS 1 Lab 1
(formerly CS 1710)
One-hour lab taught in conjunction with CS 1400. Students learn to develop correct software in a hands-on structured environment. Computer science majors are required to pass both the laboratory and the lecture, and are required to enroll in CS 1400 concurrently with CS 1405. For students not majoring in computer science, this laboratory is advised, but not required, for CS 1400. Prerequisite: Grade of C- or better in MATH 1050 or Math ACT score of at least 25. (F,Sp,Su)

CS 1410 QI Introduction to Computer Science—CS 2 3
(formerly CS 1720 QI)
Introduction to science of problem solving, programming, program development, algorithm analysis, and data structures. Students will learn to develop correct software in a current programming language environment. Prerequisite: Grade of C- or better in CS 1400. (F,Sp,Su)

CS 2250 Cooperative Work Experience 1-9®
Provides credit for students working at a participating firm under faculty supervision. Prerequisites: 2.5 GPA; permission of instructor. (F,Sp,Su)

CS 2420 QI Algorithms and Data Structures—CS 3 3
(formerly CS 2200 QI)
Introduction to science of problem solving, programming, program development, algorithm analysis, and data structures. Students will learn to develop correct software in a current programming language environment. Prerequisites: 2.5 GPA; grade of C- or better in CS 1410. (F,Sp,Su)

CS 2450 CI Software Engineering 3
(formerly CS 2370 CI)
Science of small and large software project development, taught in team and project management format. Students complete a well-documented functional product, working in teams of four to five students. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. (F,Sp)

CS 2550 Computer Organization 3
Fundamental building blocks of digital computers, and the underlying theories upon which these building blocks are assembled. Introduction to information representation, number systems, combinational logic circuits, sequential logic circuits, and instruction sets. Programming such systems at the assembly level. Prerequisites: 2.5 GPA; grade of C- or better in both CS 1400 and MATH 1050 and Math ACT score of at least 23. (F,Sp)

CS 2810 Computer Organization and Architecture 3
(formerly CS 3550)
Architecture of a computer system, as viewed by the programmer. Topics such as memory management, RISC vs. CISC, pipelining, parallelism, interrupts, and networking discussed in detail. Includes several homework assignments, at least one of which deals with interrupts and interrupt-driven applications. Prerequisites: 2.5 GPA; grade of C- or better in CS 2550. Not available to pre-Computer Science majors. (F,Sp)

CS 3000 Undergraduate Seminar 1
Serves as a capstone course for the pre-computer science curriculum, as well as an introduction to the advanced standing curriculum. Also includes discussion of computer science as a career and discussion of the advanced standing test. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420, or concurrent enrollment in CS 2420. (F,Sp)

CS 3010 DSC/CI/ Information Acquisition, QI Analysis, and Presentation 3
Introduces students to use of scientific method and computer technology in analysis of multi-faceted problem, and presentation of that analysis. Each semester, built around single topic such as global warming. Prerequisites: Completion of University Studies Computer and Information Literacy (CIL) and Quantitative Literacy (QL) requirements. (F,Sp,Su)

CS 3100 Operating Systems and Concurrency 3
Design and implementation of operating systems. UNIX will be used as one example, but all categories of operating systems will be discussed. Presentation of the concept of concurrency as it applies to operating system design and application. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (F,Sp)

CS 3410 DSC/CI Algorithm Development: JAVA/Internet 3
Introduces students to algorithm development and programming for JAVA-based applications, especially those dealing with the Internet. Examines computer-based representation, storage, retrieval, and transmission of information, along with the algorithms used to perform such operations. Prerequisites: CS 1400 and completion of University Studies Computer and Information Literacy (CIL) and Quantitative Literacy (QL) requirements. (F,Su)

CS 3420 QI Algorithm Development: C# and .NET 3
Introduces students to algorithm development and programming for C#-based applications, especially those dealing with the Internet. Examines computer-based representation, storage, retrieval, and transmission of information, along with the algorithms used to perform such operations. Prerequisites: CS 1400 and completion of University Studies Computer and Information Literacy (CIL) and Quantitative Literacy (QL) requirements. (Sp)

CS 3500 DSC/QI Algorithm Development: Visual BASIC/Graphical User 3
Introduces students to algorithm development and programming in Visual BASIC, with special emphasis on graphical user interfaces for Windows applications and environments. Prerequisites: Completion of University Studies Computer and Information Literacy (CIL) and Quantitative Literacy (QL) requirements. (Su)

CS 3510 DSC/QI Algorithm Development: COBOL/Business 3
Introduces students to algorithm development and programming in COBOL. Special emphasis given to applications and algorithms for use in business and information processing applications. Prerequisites: Completion of University Studies Computer and Information Literacy (CIL) and Quantitative Literacy (QL) requirements. (F)

CS 4250 Cooperative Work Experience 1-9®
Provides credit for students working at a participating firm under faculty supervision. Prerequisites: 2.5 GPA; permission of instructor. (F,Sp,Su)

CS 4700 Programming Languages 3
Theories of programming design and implementation. Introduction to variety of programming languages, showing how they represent trade-offs with respect to these theories. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (F,Sp)

CS 4720 Computer Networking I 3
Focuses on client/server model, which is the dominant architectural model for today's computer systems. Explores the network underlying this model,

Course Descriptions

specifically examining the topology, protocol(s), user interface(s), and hardware. Emphasizes the general theory and functionalities underlying the client/server model and computer networks in general. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (F)

CS 4730 Computer Networking II 3
Focuses on client/server model, which is the dominant architectural model for today's computer systems. Emphasizes the specifics of the products of today's dominant network companies, which are currently Novell and Microsoft. Completion of this course prepares students for certification under such products. Prerequisites: 2.5 GPA; grade of C- or better in CS 4720. Not available to pre-Computer Science majors. (Sp)

CS 4950 Undergraduate Research 1-4®
Participation in research projects, under supervision of a computer science faculty member. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420 and permission of instructor. Not available to pre-Computer Science majors. (F,Sp,Su)

CS 5000 Theory of Computability 3
Theory of computation, including presentation of computability, decidability, and complexity. Includes formal grammars, finite and pushdown automata, and turing machines. Prerequisites: 2.5 GPA; grade of C- or better in both CS 2420, MATH 3310. Not available to pre-Computer Science majors. (Sp)

CS 5050 Advanced Algorithms 3
Study of algorithms and their analysis, including: design by induction, algorithms involving sequences and sets, graph algorithms, geometric algorithms, algebraic algorithms, reductions, NP-completeness, and parallel algorithms. Prerequisites: 2.5 GPA; grade of C- or better in both CS 2420, MATH 3310. Not available to pre-Computer Science majors. (F,Sp)

CS 5070 Computer Science Capstone 1
Students develop a project that includes the use of a significant portion of the computer science topics presented in the core curriculum. Completion of the project requires an oral presentation and a detailed written report. Prerequisites: 2.5 GPA; instructor permission. Not available to pre-Computer Science majors. (F,Sp,Su)

CS 5100 Graphical User Interfaces and Windows Programming 4
Design principles of GUIs and philosophy, structure, and programming in Windows environments. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (Sp)

CS 5200 Distributed and Network Programming 4
Introduction to programming concepts and techniques for distributed and networked environments. Explores concurrency, process synchronization, network protocols, connectionless and connection-oriented communications, network architectures and topology, load balancing, and transmission media. Prerequisites: 2.5 GPA; grade of C- or better in CS 3100. Not available to pre-Computer Science majors. (F)

CS 5300 Compiler Construction 4
Review of programming language structures, translation, loading, execution, and storage allocation. Compilation of declarations, expressions, statements, and procedures/functions. Organization and design of a compiler. Prerequisites: 2.5 GPA; grade of C- or better in CS 2810 and 4700. Not available to pre-Computer Science majors. (F)

CS 5370 Advanced Software Engineering 3
Advanced software engineering concepts, including the improvement process, requirements acquisition, development process models, object-oriented design, and software testing. Student cannot receive credit for both CS 5370 and CS 6370. Prerequisites: 2.5 GPA; grade of C- or better in CS 2450. Not available to pre-Computer Science majors. (F)

CS 5400 Computer Graphics I 4
Introduction to concepts of graphical techniques. Digital and pictorial representation of information. Prerequisites: 2.5 GPA; grade of C- or better in all of the following: CS 2420; MATH 1220; MATH 2250 or 2270. Not available to pre-Computer Science majors. (F)

CS 5450 Multimedia Systems* 4
Introduction to concepts and techniques underlying multimedia-based systems. Deals with both the hardware aspects of multimedia systems (e.g., transfer rates,

capacities, resolution, etc.) and the software requirements of such systems. Each student required to develop a multimedia-based system. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (Sp)

CS 5500 Parallel Algorithms 3
Examines basic techniques for designing parallel algorithms, such as balanced trees, pointer jumping, partitioning, pipelining, accelerated cascading, list ranking, and tree contraction. Consideration of classic parallel algorithms in graphs, merging, sorting, planar geometry, string matching, and randomized techniques. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (Sp)

CS 5600 AI: Problem Solving and Expert Systems 3
Introduction to practical artificial intelligence methods for building problem solving and expert systems. Covers search, knowledge representation, and reasoning. Students will develop projects in LISP and expert system shells. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (F)

CS 5650 CVPRIP I: Computer Vision, Pattern Recognition, and Image Processing 3
Introduction to theories and techniques of machine intelligence, with emphasis on pattern recognition, computer vision, fuzzy logic, and neural networks. Prerequisites: 2.5 GPA; grade of C- or better in all of the following: CS 2420, MATH 2270, STAT 2000 or 3000. Not available to pre-Computer Science majors. (F)

CS 5660 Bioinformatics Tools and Techniques 3
Introduction to tools and techniques used in the study of bioinformatics, genomics, and computational biology. Explores usage of these tools and techniques for storage, retrieval (mining), processing, visualization, and analysis of biological information. Prerequisite: Permission of instructor. (F)

CS 5670 Computer Science Applications in Bioinformatics II 3
Builds on material presented in CS 5660, presenting more advanced topics in bioinformatics, such as data mining, machine learning, and evolutionary algorithms. Students *cannot* receive credit for both CS 5670 and 6670. Prerequisites: 2.5 GPA; grade of C- or better in CS 5660. Not available to pre-Computer Science majors. (Sp)

CS 5700 Object-Oriented Software Development 3
Study of fundamental object-oriented principles, e.g., abstraction, encapsulation, classification, and inheritance. Application of these principles in all phases of software development, with emphasis on analysis, design, and testing. Introduction to software design patterns. Prerequisites: 2.5 GPA; grade of C- or better in CS 2450. Not available to pre-Computer Science majors. (F)

CS 5800 Introduction to Database Systems 3
Comparison of various database systems. Normal forms, protection, concurrency, security and integrity, and distributed and object-oriented systems. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420. Not available to pre-Computer Science majors. (F)

CS 5850 Systems Analysis 3
Theory and practice of analysis, design, and implementation of information systems. Students will construct an information system. Prerequisites: 2.5 GPA; grade of C- or better in CS 5800. Not available to pre-Computer Science majors. (Sp)

CS 5890 Topics in Computer Science (Topic) 1-4®
Current topics in computer science as determined by advances in the field. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420 and permission of instructor. Not available to pre-Computer Science majors. (F,Sp,Su)

CS 5950 Independent Study 3®
Provides for independent study of selected topics. Prerequisites: 2.5 GPA; grade of C- or better in CS 2420 and permission of instructor. Not available to pre-Computer Science majors. (F,Sp,Su)

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<p>CS 6050 Computational Geometry: Algorithms and Applications 3</p> <p>Computational geometry is the study of computation involving geometric objects, such as lines, polygons, and circles. It has application in bioinformatics, graphics, robotics, CAD/CAM, etc. This course presents the algorithms, data structures, and techniques of computational geometry. Prerequisite: Permission of instructor. (Sp)</p>	<p>CS 6550 Parallel Computing Systems 3</p> <p>Design of large-scale parallel systems. Explores machine organizations SIMD and/or MIMD modes of parallelism, emphasizing interconnection patterns among processors. Discussion of low-level parallel processing algorithms. Presents case studies of existing and proposed systems. Prerequisites: 3.0 GPA; grade of B- or better in CS 5500 and enrollment in Computer Science master's or PhD program. (F)</p>
<p>CS 6100 MultiAgent Systems 3</p> <p>MultiAgent systems are composed of multiple interacting computing elements, known as agents. Agents are software systems with two important capabilities: first, autonomous actions; and second, interacting with other agents by engaging in cooperation, coordination, and negotiation. Prerequisites: 3.0 GPA and enrollment in Computer Science master's or PhD program. (F)</p>	<p>CS 6600 AI: Advanced Intelligent Systems 3</p> <p>Investigation of advanced techniques for creating intelligent systems. Covers machine learning, reasoning under uncertainty, decision making, natural language understanding, and advanced knowledge representation. Students develop projects in LISP and expert system shells. Prerequisites: 3.0 GPA; grade of B- or better in CS 5600 and enrollment in Computer Science master's or PhD program. (Sp)</p>
<p>CS 6200 Distributed System Design* 3</p> <p>Examines advanced design concepts related to development of distributed software systems. Students learn how to model and evaluate communication protocols and study techniques for time coordination, distributed process synchronization, object replication and migration, and distributed transaction processing. Students also learn about Common Object Request Broker Architecture (CORBA). Prerequisites: 3.0 GPA; grade of B- or better in CS 5200 and enrollment in Computer Science master's or PhD program. (Sp)</p>	<p>CS 6630 Fuzzy Logic and its Application 3</p> <p>Introduces students to machine learning and problem solving techniques based on fuzzy logic. Prerequisites: 3.0 GPA; grade of B- or better in CS 2420 and advanced standing, or instructor's permission; and enrollment in Computer Science master's or PhD program. (F)</p>
<p>CS 6220 Concurrent Systems* 3</p> <p>Explores concurrency in its various forms, emphasizing debugging techniques, development techniques that guarantee correctness, and performance evaluation and tuning. Prerequisite: CS 5200. (F)</p>	<p>CS 6650 Neural Networks and Evolutionary Algorithms 3</p> <p>Advanced course in theories and techniques of machine intelligence, emphasizing pattern recognition, neural networks, and evolutionary algorithms. Prerequisites: 3.0 GPA; CS 2420 and advanced standing in computer science; or instructor's permission; and enrollment in Computer Science master's or PhD program. (Sp)</p>
<p>CS 6250 Cooperative Work Experience, Graduate 1-9®</p> <p>Provides credit for students working at a participating firm under faculty supervision. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p>	<p>CS 6670 Computer Science Applications in Bioinformatics with a Project 3</p> <p>Builds on material presented in CS 5660, presenting more advanced topics in bioinformatics, such as data mining, machine learning, and evolutionary algorithms. Students work in teams to develop a significant bioinformatics project. Students <i>cannot</i> receive credit for <i>both</i> CS 5670 and 6670. Prerequisite: CS 5660. (F)</p>
<p>CS 6300 Supercompilers for Sequential and Parallel Computers 3</p> <p>Analysis and optimization for sequential and parallel computers, including loop restructuring, concurrency analysis, vector analysis, and optimizations for shared and distributed memory computers. Prerequisites: 3.0 GPA; grade of B- or better in CS 5300 and enrollment in Computer Science master's or PhD program. (Sp)</p>	<p>CS 6690 AI: Advanced Topics in Artificial Intelligence (Topic) 3</p> <p>Advanced course in selected theories and techniques of artificial intelligence. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (Sp)</p>
<p>CS 6370 Software Engineering with a Project 3</p> <p>Advanced software engineering concepts, including the improvement process, requirements acquisition, development process models, object-oriented design, and software testing. Students will work in teams, developing significant software products. Student cannot receive credit for both CS 5370 and CS 6370. Prerequisites: 3.0 GPA; grade of B- or better in CS 2450 and enrollment in Computer Science master's or PhD program. (F)</p>	<p>CS 6700 Object-Oriented Models, Methods, and Tools 3</p> <p>Study of object-oriented concepts, principles, techniques, development processes, and tools across all areas of software engineering, with special emphasis on current research topics. Prerequisites: 3.0 GPA; grade of B- or better in CS 5700 and enrollment in Computer Science master's or PhD program. (F)</p>
<p>CS 6400 Computer Graphics II* 3</p> <p>Study of computer rendering of three-dimensional objects. Object representation, hidden surface removal, and shading. Ray tracing of synthetic scenes using mathematically defined surfaces. Prerequisites: 3.0 GPA; grade of B- or better in CS 5400 and enrollment in Computer Science master's or PhD program. (Sp)</p>	<p>CS 6800 Theory of Relational Databases 3</p> <p>Graduate-level relational database course covering constraints and normal forms, mathematical models and provable properties, minimality, graphs, and synthesis. Prerequisites: 3.0 GPA; grade of B- or better in CS 5800 and enrollment in Computer Science master's or PhD program. (Sp)</p>
<p>CS 6450 Computer Security 3</p> <p>Maintaining the integrity and security of computer systems is critical. Course explores aspects of system vulnerabilities and protection, attack categories and methodologies, the development of secure computer systems, etc. Prerequisites: 3.0 GPA; CS 2420 and enrollment in Computer Science master's or PhD program. (Sp)</p>	<p>CS 6890 Topics in Computer Science (Topic) 1-4®</p> <p>Current topics in computer science as determined by advances in the field. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p>
<p>CS 6500 Advances in Parallel Systems 3</p> <p>Survey of current advances in parallel processing and concurrent systems. Review of current scientific literature to understand current issues, problems, and progress in advanced topics of parallel processing. Students read, summarize, report, and discuss up-to-date scientific papers in the field. Prerequisites: 3.0 GPA; grade of B- or better in CS 5500 and enrollment in Computer Science master's or PhD program. (F)</p>	<p>CS 6900 Seminar 1</p> <p>Series of one-hour seminars on current research topics presented by computer science faculty. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F)</p>
	<p>CS 6950 Directed Readings in Computer Science 3®</p> <p>Directed reading on advanced topics in computer science. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p>

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<p>CS 6970 Thesis and Research 1-9[®] Graduate research in computer science. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p> <p>CS 6990 Continuing Graduate Advisement 1-6[®] Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p> <p>CS 7100 Advanced MultiAgent Systems* 3 Advanced topics in multiAgent systems, including algorithms for finding solutions, social welfare with preferences and utilities, multiAgent learning, and distributed search problems. Prerequisites: 3.0 GPA; grade of B- or better in CS 6100 (or permission of instructor) and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7350 Patterns in Computer Software Systems 3 Investigates patterns in computer software systems and how they can be better cataloged, understood, and reused to improve development productivity and quality. Includes readings of current literature, writing research papers, and participation in group discussions. Prerequisites: 3.0 GPA; grade of B- or better in CS 5700 and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7380 Software Testing* 3 Explores current issues, including testing object-oriented software, test data generation and sufficiency, domain-based testing, functional testing, and code-based testing. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F)</p> <p>CS 7450 Advances in Computer Security Research* 3 Covers recent research directions in computer security. Reviews current state of the field, and explores possible research directions for further work. Prerequisites: 3.0 GPA; grade of B- or better in CS 6450 and enrollment in Computer Science master's or PhD program. (F)</p> <p>CS 7500 Fault-Tolerant Systems 3 Advanced study of design and implementation of operating systems for fault-tolerant parallel and distributed systems. Topics chosen will provide students with knowledge of current research issues, practices, and techniques for the design and development of such systems. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7550 Interconnection Networks for Parallel Computer Systems 3 Explores the design of large-scale parallel processing systems generally suited for multi-microprocessor implementation. Emphasizes interconnection patterns among the processing elements in parallel processors. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F)</p> <p>CS 7650 Advanced CVPRIP: Computer Vision, Pattern Recognition, and Image Processing 3 Investigates new developments in representation and processing of gray-level and color images, including thresholding, segmentation, curve detection, etc. Also examines visual perception, as well as statistical and syntactical pattern classification. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7660 Robotics and Autonomous Systems 3 Surveys current advances in robotic and autonomous systems. Reviews current scientific literature in the field, with emphasis on understanding the problems solved and the approaches used. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F)</p>	<p>CS 7670 Data Mining and Machine Learning 3 Covers cutting-edge research in machine learning, data mining, and intelligent information retrieval. Focuses on how these topics relate to data mining. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7680 Advanced Computer Vision* 3 Emphasizes current topics and research in the general area of computer vision. Focuses on detection, recognition, tracking, and analysis of human activity by using computer vision. Prerequisites: 3.0 GPA; grade of B- or better in CS 5650 and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7900 Seminar 2 Series of lectures and presentations on current topics in computer science. Students participate by giving presentations. As part of the course, students are expected to prepare their dissertation proposal. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7910 Special Topics in Intelligent Systems (Topic) 3[®] Discussion of current topics in intelligent systems, such as parallelism and software systems. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. Taught on demand. (F,Sp,Su)</p> <p>CS 7920 Special Topics in Parallelism (Topic) 3[®] Topics of current interest in the area of parallelism. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p> <p>CS 7930 Special Topics in Software Systems (Topic) 3[®] Topics of current interest in the area of software systems. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p> <p>CS 7940 Brain Building 3 Examines the state of the techniques associated with the building of artificial brains. Prerequisites: 3.0 GPA; instructor's permission and enrollment in Computer Science master's or PhD program. (Sp)</p> <p>CS 7950 Reading and Reports 3[®] Directed reading on cutting-edge topics in computer science. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p> <p>CS 7960 Topics in Bioinformatics (Topic) 3 Topics of current interest in bioinformatics. Prerequisite: Permission of instructor. (F,Sp,Su)</p> <p>CS 7970 Dissertation Research 1-15[®] PhD dissertation research. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p> <p>CS 7990 Continuing Graduate Advisement 1-6[®] Continuing PhD-level advisement. Prerequisites: 3.0 GPA; permission of instructor and enrollment in Computer Science master's or PhD program. (F,Sp,Su)</p>
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[®]Repeatable for credit. Check with major department for limitations on number of credits that can be counted for graduation.

*This course is taught alternating years. Check with department for information about when course will be taught.