COMPUTER SCIENCE - CSC

CSC 108 Introduction to Web Computing 3 Credits
Introduction to computer science through web sites, web pages, web page programming, HTML, XML, CSS and JavaScript. The history and social impact of computers, networks and the World Wide Web are included in the course. Corequisite: CSC 108L.
Fulfills College Core: Ethics, Field 7 (Mathematical Sciences)
Offered: fall & spring.
CSC 108L Introduction to Web Computing Laboratory 1 Credit
Required lab for CSC 108.
Corequisite: CSC 108.

CSC 109 Robotics Introduction to Computer Science 3 Credits
Introduction to computer science through robotics, the basics of artificial intelligence and the fundamental ideas of logic, algorithms, computer systems and programming. Includes ethical issues in robotics.
Corequisite: CSC 109L.
Fulfills College Core: Field 7 (Mathematical Sciences)

CSC 109L Robotics Introduction to Computer Science Laboratory 1 Credit
Required lab for CSC 109.
Corequisite: CSC 109.
Fulfills College Core: Ethics, Field 7 (Mathematical Sciences)

CSC 111 Introduction to Programming 3 Credits
Algorithms, programming, computers, and applications to problem solving in Python.
Corequisite: CSC 111L.
Fulfills College Core: Field 7 (Mathematical Sciences)
Offered: fall.
CSC 111L Introduction to Programming Laboratory 1 Credit
Required lab for CSC 111.
Corequisite: CSC 111.

CSC 112 Data Structures 3 Credits
Basic concepts of object-oriented programming, recursion, and data structures, including lists, stacks, queues, and trees using Python.
Prerequisite: minimum grade of C- in CSC 111 & CSC 111L Corequisite: CSC 112L
Offered: spring.
CSC 112L Data Structures Laboratory 1 Credit
Required lab for CSC 112.
Prerequisite: minimum grade of C- in CSC 111 & CSC 111L Corequisite: CSC 112.

CSC 127 Introduction to Game Design 3 Credits
Computer game development and underlying computer concepts necessary for game design. Game components related to the player, stories, characters, game play, graphics, the interface and audio.
Corequisite: CSC 127L.
Fulfills College Core: Field 7 (Mathematical Sciences), Oral Communication
Offered: fall 2015.
CSC 127L Intro to Game Design Laboratory 1 Credit
Required lab for CSC 127.
Corequisite: CSC 127.

CSC 213 Large Scale Programming 3 Credits
Introduction to the design, implementation, and testing of larger software systems. Intensive instruction in Java including graphics and object-oriented design.
Prerequisite: minimum grade of C- in CSC 112 & CSC 112L Corequisite: CSC 213L.
Offered: once a year.
CSC 213L Large Scale Programming Laboratory 1 Credit
Required lab for CSC 213.
Prerequisite: minimum grade of C- in CSC 112 & CSC 112L Corequisite: CSC 213.

CSC 253 Computer Hardware 3 Credits
Introduction to digital logic, Boolean algebra, hardware and computer organization. Overview of current architectures.
Prerequisite: minimum grade of C- in CSC 111 & CSC 111L Corequisite: CSC 253L.
Offered: once a year.
CSC 253L Computer Hardware Laboratory 1 Credit
Required lab for CSC 253.
Prerequisite: minimum grade of C- in CSC 111 and CSC 111L.

CSC 281 Automata and Algorithms 3 Credits
Formal language theory including finite and pushdown automata, grammars, Turing Machines and the Halting Problem. Provides an introduction to the design and analysis of algorithms, including classes of problems and methods for analysis.
Prerequisite: minimum grade of C in CSC 112 & CSC 112L
Offered: once a year.
CSC 281L Automata and Algorithms Lab 1 Credit
Optional lab for CSC 281.
Prerequisites: Minimum grade of C in CSC 112 and CSC 112L Corequisite: CSC 281.
Offered: every spring.
CSC 310 Information Organization and Processing 3 Credits
Databases, high-level organization and processing of information, SQL, and modern NOSQL systems.
Prerequisite: minimum grade of C in CSC 112 & CSC 112L Corequisite: CSC 310L.
Offered: 2017-2018.
CSC 310L Information Organization and Processing Laboratory 1 Credit
Required lab for CSC 310.
Prerequisites: minimum grade of C in CSC 112 and CSC 112L Corequisite: CSC 310.

CSC 320 The Social Impact of Computing 3 Credits
Examines the societal issues involved in computing such as accessibility, ethical issues, privacy, censorship, social media, and professional responsibilities. Includes applications of information literacy techniques to the major.
Prerequisite: minimum grade of C in CSC 112 & CSC 112L Corequisite: CSC 320L.
Fulfills College Core: Core Capstone
Offered: spring.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Corequisite</th>
<th>Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 330 Distributed Computing</td>
<td>3 Credits</td>
<td></td>
<td>The design of operating system software, distributed applications, client/server and other models, security issues, and parallel programming on a High Performance Computing Cluster.</td>
<td>Prerequisite: CSC 253, CSC 253L, &amp; minimum grade of C in CSC 112 &amp; CSC 112L. Corequisite: CSC 330L.</td>
<td>Offered: 2017-2018.</td>
<td></td>
</tr>
<tr>
<td>CSC 330L Distributed Computing Laboratory</td>
<td>1 Credit</td>
<td></td>
<td>Required lab for CSC 330.</td>
<td>Prerequisite: CSC 253, CSC 253L, &amp; minimum grade of C in CSC 112 &amp; CSC 112L. Corequisite: CSC 330.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 351 Comparative Programming Languages</td>
<td>3 Credits</td>
<td></td>
<td>A study of programming languages and their implementations. Programming in logical and functional programming languages is included.</td>
<td>Prerequisite: minimum grade of C in CSC 112 &amp; CSC 112L. Corequisite: CSC 351L.</td>
<td>Offered: spring 2017.</td>
<td></td>
</tr>
<tr>
<td>CSC 351L Comparative Programming Languages Laboratory</td>
<td>1 Credit</td>
<td></td>
<td>Required lab for CSC 351 Comparative Programming Languages.</td>
<td>Prerequisites: minimum grade of C in CSC 112 and 112L. Corequisite: CSC 351.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 360 Intelligent Systems</td>
<td>3 Credits</td>
<td></td>
<td>An introduction to intelligent systems including logic and rule-based systems, machine learning, and applications of AI.</td>
<td>Prerequisite: minimum grade of C in CSC 112 &amp; CSC 112L. Corequisite: CSC 360L.</td>
<td>Offered: fall 2016.</td>
<td></td>
</tr>
<tr>
<td>CSC 360L Intelligent Systems Laboratory</td>
<td>1 Credit</td>
<td></td>
<td>Required lab for CSC 360.</td>
<td>Prerequisite: minimum grade of C in CSC 112 and 112L. Corequisite: CSC 360.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 380 Web Development</td>
<td>3 Credits</td>
<td></td>
<td>Web design principles, programming and scripting (both client-side and server-side), client/server mechanisms, search engines, and security.</td>
<td>Prerequisite: minimum grade of C in CSC 111 &amp; CSC 111L and junior or senior standing. Corequisite: CSC 380L.</td>
<td>Offered: fall 2016.</td>
<td></td>
</tr>
<tr>
<td>CSC 380L Web Development Laboratory</td>
<td>1 Credit</td>
<td></td>
<td>Required lab for CSC 380.</td>
<td>Prerequisite: minimum grade of C in CSC 111 and 111L. Corequisite: CSC 380.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 391 Computer Science Junior Seminar</td>
<td>1 Credit</td>
<td></td>
<td>Topic-focused exploration involving students and faculty.</td>
<td>Prerequisite: permission of instructor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 395 Software Engineering</td>
<td>3 Credits</td>
<td></td>
<td>An examination of a variety of techniques and concepts that have been created to improve the software production process. Includes discussions of software processes, Agile software development, requirements engineering, testing, and software evolution.</td>
<td>Prerequisite: minimum grade of C in CSC 213 &amp; CSC 213L. Corequisite: CSC 395L.</td>
<td>Fulfills College Core: Oral Communication</td>
<td>Offered: fall 2016.</td>
</tr>
<tr>
<td>CSC 395L Software Engineering Lab</td>
<td>1 Credit</td>
<td></td>
<td>Required lab for CSC 395.</td>
<td>Prerequisite: minimum grade of C in CSC 213 and 213L. Corequisite: CSC 395.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 400 Special Topics in Computing</td>
<td>3 Credits</td>
<td></td>
<td>Current topics of interest to faculty and students. Possible topics: cryptography, advanced scripting languages, networking, etc.</td>
<td>Prerequisites: minimum grade of C- in either CSC 112 &amp; CSC 112L or in CSC 212 &amp; CSC 212L and in either MAT 111, MAT 191 or MAT 230. Corequisite: CSC 400L. Restrictions: must be junior or senior Computer Science or Bioinformatics major.</td>
<td>Offered: every spring.</td>
<td></td>
</tr>
<tr>
<td>CSC 400L Special Topics in Computing Laboratory</td>
<td>1 Credit</td>
<td></td>
<td>Required weekly lab for CSC 400.</td>
<td>Prerequisites: minimum grade of C- in either CSC 112 &amp; CSC 112L or in CSC 212 &amp; CSC 212L and in either MAT 111, MAT 191 or MAT 230. Corequisite: CSC 400. Restrictions: must be junior or senior Computer Science or Bioinformatics major.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 491 Computer Science Senior Seminar</td>
<td>1 Credit</td>
<td></td>
<td>Topic-focused exploration involving students and faculty.</td>
<td>Prerequisite: permission of instructor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 497 Internship</td>
<td>1-3 Credits</td>
<td></td>
<td>Special projects for local institutions/businesses. Must be related to a specific focused task and involve a significant learning component. Internships require an application and approval by the associate dean. Credit is not given simply for a part-time job. Approved project proposal and results documentation required. Does not count as a CSC elective.</td>
<td>Prerequisite: permission of chair &amp; associate dean.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 498 Independent Project</td>
<td>3 Credits</td>
<td></td>
<td>A directed project course that includes research, design, and implementation of a software system.</td>
<td>Prerequisite: permission of instructor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 499 Independent Study</td>
<td>1-4 Credits</td>
<td></td>
<td>An in-depth study of a specific computing topic. Independent studies require an application and approval by associate dean.</td>
<td>Prerequisite: junior or senior standing; &amp; permission of instructor, chair, &amp; associate dean.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 499L Independent Study Laboratory</td>
<td>3 Credits</td>
<td></td>
<td>Required lab for CSC 499.</td>
<td>Prerequisite: junior or senior standing; &amp; permission of instructor, chair, &amp; associate dean.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CSC 499L Independent Study Laboratory

CSC 499L Independent Study Laboratory is similar to CSC 499 Independent Study. It requires an application and approval by the associate dean. It is an in-depth study of a specific computing topic. Independent studies require an application and approval by associate dean. Prerequisite: junior or senior standing; & permission of instructor, chair, & associate dean.