

**GRADUATE STUDIES
SUMMARY OF PROPOSED CATALOG CHANGES**

PROGRAM: Computer Science

FOR CATALOG YEAR: 2018-2019

MODIFIED COURSES

Modify prerequisites on these courses:

CS 518, Theory of Computation

CS 569, Systems Analysis

New prerequisites: CS 411 or CS 511.

ATTACHMENTS:

Course Descriptions from catalog

1 to 15 credits

Credits to be arranged. Repeatable for a maximum of 15 credits.

Grade mode designated on a CRN basis each term. Students should consult current term schedule.

• CS 511 - Algorithms and Data Structures

4 credits

Develops data structures, with an emphasis on algorithms, characteristics, and applications. Examines alternative algorithms for manipulating data structures and their complexity. Applications include data management systems, file organization, information retrieval, and list processing. Prerequisite(s): CS 258, CS 367 and MTH 252 with a C- or better or appropriate SOU placement level.

Grade mode designated on a CRN basis each term. Students should consult current term schedule.

• CS 515 - Foundations of Emerging Computer Applications

4 credits

Covers the background needed for students to make contributions in an emerging application area. Topics may include digital signal processing, data mining, and security. Focuses specifically on those foundational concepts that students need to be able to create or enhance digital solutions. May be repeated for credit with different topic.

Prerequisite(s): CS 258 (some topics may require additional prerequisites).

Graded (A-F) only

• CS 518 - Theory of Computation

4 credits

Covers formal language and automata theory from finite state automata to Turing machines. Presents the Chomsky hierarchy of languages and the relationship between languages and automata. Prerequisite(s): CS 258 and MTH 252 with a C- or better or appropriate SOU placement level.

Graded (A-F) only.

Replace all course prerequisites with CS 411 or 511.

• CS 526 - UNIX System Administration

4 credits

Introduces UNIX and shell programming, start-up and shut down, user administration, file systems, controlling processes, adding disks and cron, configuring the kernel, SLIP, PPP, and security. Prerequisite(s): CS 336 and CS 367

Graded (A-F) only.

• CS 533 - Corporate Web Development

4 credits

Introduces XML, XSL, and XQL. Examines e-commerce, digital money, and data encryption. Students are required to work on an e-commerce project as part of the course. Prerequisite(s): CS 295.

• CS 567 - Secure Programming Practices

4 credits

Explores software system threats, vulnerabilities, and controls from the programming perspective. Topics include threat-vulnerability analysis, buffer overflows, access control, race conditions, and input validation. Prerequisite(s): CS 258 and CS 360

Graded (A-F) only

• CS 569 - Systems Analysis

4 credits

Covers object-oriented software system analysis techniques using Unified Modeling Language (UML). Explores software development methodologies, project planning and management, requirements analysis, and testing. Topics include use cases, conceptual data models, the analysis class model, and alternative design strategies. Prerequisite(s): CS 360, CS 411 and graduate standing.

Graded (A-F) only. ~~or CS 511~~

• CS 581 - Topics in the Foundations of Computer Science

4 credits

Covers selected topics in the foundations of computer science. Sample topics include analysis of algorithms, computational models, and programming languages. Repeatable.

Graded (A-F) only

• CS 582 - Topics in Information Systems

4 credits

Explores selected topics in information systems. Sample topics include database systems, networking and the Internet, and creating business frameworks. Repeatable.

Graded (A-F) only

• CS 583 - Topics in Software Engineering

4 credits

Covers selected topics in software engineering. Sample topics include metrics, design methodologies, and quality assurance. Repeatable.

Graded (A-F) only

[Contract All Courses](#) |