

COMPUTER SCIENCE - CA (COMP)

COMP 505: Theory of Computation

3 Credits

Topics in discrete mathematics, discrete probability, first order logic and models of computation.

Prerequisite: CMPSC463

COMP 511: Design and Analysis of Algorithms

3 Credits

Amortized analysis, graph algorithms, NP-complete problems, approximation algorithms, parallel algorithms.

Prerequisite: CMPSC463

COMP 512: Advanced Operating Systems

3 Credits

A study of the principles and practice of distributed system design, including communication, synchronization, processes, file systems, and memory management.

Prerequisite: CMPSC472

COMP 513: Formal Methods for Software Engineering

3 Credits

Object-oriented software development, formal specification techniques and related CASE tools, software re-use, verification and validation, transformational development.

Prerequisite: CMPSC487W , COMP 511 , or permission of the program

COMP 516: Advanced Programming Languages

3 Credits

Programming paradigms and styles, object-oriented programming, formal semantics, programming language design.

Prerequisite: CMPSC460

COMP 517: Computer Security

3 Credits

Introduction to the area of computer security and current issues associated with computer security.

Prerequisite: MATH 315

COMP 519: Advanced Topics in Database Management Systems

3 Credits

Concurrency control, crash recovery, query processing, semantic data models, advanced file access, distributed database systems, performance, case studies, advanced applications.

Prerequisite: CMPSC430 , MATH 315

COMP 520: Artificial Intelligence

3 Credits

Problem solving, knowledge representation, language understanding, perception, learning, artificial neural networks.

Prerequisite: CMPSC463

COMP 524: Evolutionary Computation

3 Credits

Topics in evolutionary algorithms and genetic algorithms.

Prerequisite: COMP 511 or permission of the program

COMP 545: Computer Architecture

3 Credits

Cache, pipelining, memory design, interconnection networks, multiprocessor systems.

Prerequisite: CMPSC312

COMP 594: Master's Studies

3 Credits/Maximum of 3

Presentation of various research techniques, in-depth study of a specific computer science problem, development of a written paper or project, and an oral defense.

Prerequisite: A minimum of 2 of the 500-level computer science required courses or permission of the program.

COMP 596: Individual Studies

1-9 Credits/Maximum of 9

Creative projects, including nonthesis research, that are supervised on an individual basis and which fall outside the scope of formal courses.

COMP 597: Special Topics

1-9 Credits/Maximum of 9

Formal courses given on a topical or special interest subject which may be offered infrequently; several different topics may be taught in one year or semester.

COMP 600: Thesis Research

1-15 Credits/Maximum of 999

Research into a specific computer science problem, development of a scholarly written paper, and an oral defense.

Prerequisite: A minimum of 2 of the 500-level computer science required courses or permission of the program.