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.