

COMPUTER SCIENCE FIELD OF STUDY CURRICULUM

Course Content	Prefix & Number	Course Name	Course Type	Semester Credit Hour (SCH)
Computer Science	COSC 1336 or 1436	Programming Fundamentals I	ACGM	3 or 4
Computer Science	COSC 1337 or 1437	Programming Fundamentals II	ACGM	3 or 4
Computer Science	COSC 2336 or 2436	Programming Fundamentals III	ACGM	3 or 4
Computer Science	COSC 2325 or 2425	Computer Organization and Machine Language	ACGM	3 or 4
Math	MATH 2313 or 2413	Calculus I	ACGM	3 or 4
Math	MATH 2314 or 2414	Calculus II	ACGM	3 or 4
Physics	PHYS 2425	Physics I	ACGM	4
Physics	PHYS 2426	Physics II	ACGM	4
26-32 SCH Total				

Notes:

1. COSC 1336/1436 and 1337/1437 are preparatory and sequential in nature; however, not all courses are required for the Computer Science major at all universities, but may apply to general degree requirements.
 - a) COSC 1336/1436 is not part of the Computer Science major requirements at The University of Texas at Austin, University of Texas at Arlington, University of Texas at Dallas, and Texas A & M University.
 - b) COSC 1337/1437 is not part of the Computer Science major requirements at The University of Texas at Austin. Preparatory courses such as COSC 1336/1436 and COSC 1337/1437 will assist students that need additional background but do not apply toward the computer science major requirements.
2. COSC 2325/2425 is not part of the Computer Science major requirements at the University of Texas at Austin or Texas A&M University, but may be applied to general degree requirements.
3. It is recommended that students complete the math sequence, physics sequence, and computer science sequence at the same institution to reduce the likelihood of potential gaps in the curriculum.

COURSE DESCRIPTIONS

COSC 1336/1436 PROGRAMMING FUNDAMENTALS I

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

COSC 1337/1437 PROGRAMMING FUNDAMENTALS II

Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. *{Prerequisite: COSC 1336/1436}*

COSC 2336/2436 PROGRAMMING FUNDAMENTALS III

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. *{Prerequisite: COSC 1337/1437}*

***COSC 2325/2425 COMPUTER ORGANIZATION AND MACHINE LANGUAGE**

Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages. *{Prerequisite: COSC 1336/1436}*

**Course description has been updated.*