

# INTRODUCTORY SUPPLEMENTARY AUTHORIZATION IN COMPUTER SCIENCE

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The Introductory Supplementary Authorization in Computer Science allows holders of a Multiple Subject (Elementary) Teaching Credential to teach computer science content to students in grades 9 and below. In addition, the authorization may be added to the Single Subject Teaching Credential to teach computer science content that is normally found in grades 9 and below, to students in grades K-12.

To earn this Introductory Supplementary Authorization, students must complete 20 semester units or 10 upper division semester units of coursework which covers the following four areas: computational thinking, computing practice and programming, computers and communication devices, and impacts of computing. At least one course must cover each of the first three listed areas; impacts of computing may be part of other completed courses. The balance of the ten or twenty units may be in any course related to computer science.

Courses in computing and computers topics not offered by the Computer Science department do not automatically meet the requirements without submission of transcripts to the department pre-teaching advisor(s), to verify all the required content areas have been fulfilled. This listing of courses will assist future teachers who are interested in teaching computer science in K-12 settings. Please see a Computer Science department pre-teaching advisor (or inquire at the department office) for more information or for a transcript evaluation.

**Please view the Example Course Completion Pathways for suggestions on efficient ways to complete the following criteria.**

**Computational thinking:** involves solving problems and designing systems, using fundamental computing concepts such as decomposition, data representation, generalization/abstraction, and algorithms. Recommended courses that meet this requirement include CSC 10, CSC 15, CSC 20, CSC 25, CSC 28, CSC 60, or CSC 130.

**Computing practice and programming:** includes expertise in at least one block-based, visual (drag#and#drop) programming language (e.g., Alice, Blockly, Kodu, Logo, Scratch, Snap!) or a modern, high#level programming language. Recommended courses that meet this requirement include CSC 15, CSC 20, CSC 25, CSC 60, or CSC 130.

**Computer and communications devices:** covers the major components and functions of digital devices and the computing systems they compose. Courses that meet this requirement include CSC 35.

**Impacts of computing:** includes the social, ethical, and legal issues and impacts of computing, as well as the contributions of computer science to current and future innovations in the arts, business, humanities, medicine, and science. Courses that meet this requirement include PHIL 103, EDSS 373 A&B, or EDMS 330 A&B (EDSS and EDMS are required teaching credential courses), as well as other approved courses with a subject matter focus on impacts of computing.

**Example Course Completion Pathways:**

Computational thinking: CSC 10 (3)

Computing practice and programming: CSC 15 (3), CSC 20 (3)

Computer and communications devices: CSC 35 (3)

Impacts of computing: PHIL 103 (3), EDMS 330A (1), EDMS 330B (1)

Any other 3-credit CSC course

Computational thinking: CSC 10 (3)

Computing practice and programming: CSC 15 (3), CSC 20 (3)

Computer and communications devices: CSC 35 (3)

Impacts of computing: PHIL 103 (3), EDSS 373A (1), EDSS 373B (1)

Any other 3-credit CSC course