

**University of Arkansas - Fort Smith 5210
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General Syllabus

CSCE 10903 Computer Science Concepts

Credit Hours: 3

Lecture Hours: 3

Laboratory Hours: 0

Effective Catalog: 2020-2021

I. Course Information

A. Catalog Description

An overview of the computer science discipline introducing the student to logic concepts, computational thinking and problem solving.

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Apply computational thinking to solve problems.
2. Explain computing structures and vocabulary.
3. Identify and explain the abilities and limitations of technology.
4. Map problems into computational solutions.

B. University Learning Outcomes (ULO)

This course enhances student abilities in the following area:

Analytical Skills

Critical Thinking Skills

Students will identify a problem, break it down into its component parts, and develop an algorithm for solving the problem using computational thinking tools and techniques.

III. Major Course Topics

- A.** Computing Structures- Hardware & Software
- B.** Computing - Binary and Hexadecimal
- C.** Problem solving models and algorithms
- D.** Flow charts
- E.** Security

- F.** Artificial Intelligence and Robotic design
- G.** Scripting Languages
- H.** Python
- I.** Basic Syntax
- J.** Decision Structures
- K.** Functions
- L.** Control Structures
- M.** Current topics of interest