**Amarillo College Curriculum Map Template**

**Division:** STEM **Degree/Academic Program(s):** Engineering Computer Science (ENGR.AS.COMPSC) **Person Responsible for Division:** Dan Ferguson, Dean

**Person Responsible for Area/Title:** Mark Usnick **Component Director/Chair:** Collin Witherspoon **Submission Date:** 11/10/2015
**Purpose Statement:**  The purpose of the Engineering Computer Science program is to prepare
 students for employment in computer science related areas and/or for the
 pursuit of advanced degrees in computer science by educating them in the
 fundamental concepts, knowledge and skills of computer science.

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| **Goal #1:**Possess and use problem-solving and critical thinking skills as applied to computer programming. |
| **Program-Specific Courses** | **PLO #1:**Students will solve problems and implement their solutions in an appropriate programming language and computational environment. | **PLO #2:**Students will demonstrate the ability to trouble-shoot, and debug computer programs written by themselves, or others. |
| COSC 1336 Programming Fundamentals 1 | **I** | **I** |
| COSC 1337 Programming Fundamentals 2 | **D** | **D** |
| COSC 2336 Programming Fundamentals 3 | **M** | **M** |

**I = Introduced; D = Developed & Practiced with Feedback; M = Demonstrated at Mastery**

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| **Goal #2:**Possess a working knowledge of the theoretical foundations of computer science. |
| **Program-Specific Courses** | **PLO #1:**Students will use, implement and compare fundamental abstract data types. | **PLO #2:**Students will analyze the complexity and efficiency of algorithmic solutions. |
| COSC 1336 Programming Fundamentals 1 | **I** |  |
| COSC 1337 Programming Fundamentals 2 | **D** | **I** |
| COSC 2336 Programming Fundamentals 3 | **M** | **D** |

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| **Goal #3:**Be prepared for success at a transfer university and in careers requiring computer programming skills. |
| **Program-Specific Courses** | **PLO #1:**Students will read and comprehend a computer program written in a common computer programming language. | **PLO #2:** Students will learn a new computer programming language quickly by leveraging their existing computer programming skills. |
| COSC 1336 Programming Fundamentals 1 | **I** |  |
| COSC 1337 Programming Fundamentals 2 | **D** | **I** |
| COSC 2336 Programming Fundamentals 3 | **M** | **D** |

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