**Amarillo College Curriculum Map Template**

**Division:** STEM
**Degree/Academic Program(s):** AS Mathematics (MATH.AS)
**Person Responsible for Area/Title:** Collin Witherspoon
**Component Director/Chair:** Collin Witherspoon
**Submission Date:** Fall 2015 **Purpose Statement:** The Mathematics Department is dedicated to providing students with a sound mathematical foundation in order to successfully complete a bachelor’s degree at a transfer university or college.

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| 1. **Goal #1:** To graduate students who demonstrate the mathematical content knowledge and skills from several foundational areas of mathematics and demonstrate understanding that the knowledge interrelates.
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| **Program-Specific Courses** | **PLO #1:** Students will solve problems by identifying and applying core concepts of College Algebra.  | **PLO #2:** Students will solve problems by identifying and applying core concepts of Trigonometry | **PLO #3:**Students will solve problems by identifying and applying core concepts of Differential & Integral Calculus | **PLO #4:**Students will solve problems by identifying and applying core concepts of Differential Equations  | **PLO #5:**Students will recognize the relationships between and among the aforementioned core concepts. |
| **MATH-1414** | **D** |  |  |  | **I** |
| **MATH-1316** | **D** | **I** |  |  | **D** |
| **MATH-2413** | **M** | **D** | **I** | **I** | **D** |
| **MATH-2414** |  | **M** | **D** | **D** | **D** |
| **MATH-2415** |  |  | **D** |  | **D** |
| **MATH-2320** |  |  | **M** | **D** | **D** |

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

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| 1. **Goal #2:** To graduate students who solve real-world problems involving mathematical models.
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| **Program-Specific Courses** | **PLO #1:**Students will formulate mathematical models for complex real-world situations. | **PLO #2:**Students will use mathematical models to solve problems that are related to real-world situations. | **PLO #3:**Students will determine the reasonableness of their solutions and effectively communicate their analysis. | **PLO #4:**Students will be able to make appropriate use of technology in solving real-world problems. |
| MATH-1414 | **I** | **D** | **I** | **D** |
| MATH-1316 | **D** | **D** | **D** | **M** |
| MATH-2413 | **D** | **M** | **M** |  |
| MATH-2414 | **D** |  |  |  |
| MATH-2415 | **D** |  |  |  |
| MATH-2320 | **D** |  |  |  |

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| **Goal #3:** To graduate students who demonstrate analytical skills required for success at a transfer university and/or in their career. |
| **Program-Specific Courses** | **PLO #1:**Students will analyze mathematical arguments, determine if there are any flaws in the reasoning, and modify the argument in order to remove the flaws. | **PLO #2:**Students will learn from mathematical literature such as textbooks and journals. |
| MATH-1414 | **I** | **I** |
| MATH-1316 | **D** | **D** |
| MATH-2413 | **D** | **D** |
| MATH-2414 | **D** | **D** |
| MATH-2415 | **D** | **D** |
| MATH-2320 | **D** | **D** |

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