

Petitions for substitutions are reviewed by the STEM Director. Students are informed of the outcome of the petition through the email or phone number noted below. Approvals are also recorded in your DegreeWorks.

**INSTRUCTIONS - To complete the petition, please:**

- Complete 'Section 1'. **Please use one petition form for each class you petition.**
- Attach a course description, both for the course and the immediate prerequisite course, if there is one.
- Attach a syllabus for the course that includes the name of the text and topics or sections covered when possible.
- Attach a current copy of your DegreeWorks audit.
- Complete 'Section 2' with a signature from either your advisor or Student Success Coordinator.
- Submit the completed packet to: **Dr. Sherry Ettlich in the Science Building, Room 159.**

**Section 1: To be completed by student:**

I request the following course to count for:

**D Strand:** Quantitative Reasoning

<u>Course Prefix</u>	<u>Number</u>	<u>Course Title</u>	<u>SOU Class*</u>	<u>Term Completed</u>
			Y / N	

*\*Normally, proposed courses are 100 or 200 level mathematics courses, though they do not need to have math prefixes. If this course was not taken at SOU, please make note of the institution where the course was taken. Transfer courses proposed must appear on an official transcript prior to petition.*

Student Name \_\_\_\_\_ Student ID \_\_\_\_\_

Student Email \_\_\_\_\_ Student Phone \_\_\_\_\_

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**Section 2: To be completed by the academic adviser:**

- This course substitution seems appropriate for the goals of the Quantitative Reasoning strand.
- I am unable to determine if this substitution is appropriate for meeting the goals of the Quantitative Reasoning strand.

Student's Catalog Year \_\_\_\_\_ Expected Term of Graduation \_\_\_\_\_

\_\_\_\_\_  
Adviser's Signature Print Name Date

**Section 3: STEM Director's ruling:**

- This course substitution is a one-time exception for this student only.
- This course substitution is denied.

\_\_\_\_\_  
STEM Director's Signature Date

## **Quantitative Reasoning (Strand D) 4 credits**

*Effectively formulate and use mathematical models and procedures to address abstract and applied problems.*

### **1. Recognize and express relationships using quantitative symbols.**

*Proficiencies: Students will be able to –*

1. Translate real world phenomena into algebraic expressions that correctly reflect quantitative relationships among variables.
2. Know the four forms of quantitative symbols
  - Given numbers
  - Unknown constants
  - Parameters (unknown numbers fixed by an applied context)
  - Variables (unknown numbers that vary within an applied context) and use them appropriately.
3. Apply fundamental mathematical models to a variety of academic contexts.

### **2. Interpret, evaluate, and manipulate quantitative representations appropriately.**

*Proficiencies: Students will be able to –*

1. Know the important features of various quantitative models (algebraic, graphical, numeric, tables, charts, verbal).
2. Use various quantitative models to analyze phenomena.
3. Choose critically among quantitative models to efficiently discover relevant conclusions.

### **3. Communicate quantitative concepts and relationships in plain language.**

*Proficiencies: Students will be able to –*

1. Reason inductively in a quantitative context by imagining, testing, and communicating general relationships from patterns.
2. Reason deductively in a quantitative context by identifying mathematical premises, inferred conclusions, and errors in reasoning.
3. Translate and communicate quantitative results into real world contexts.