Mathematics
General Education Skill Competency and Knowledge Objectives

Definition:
Coursework in this area is intended to develop an understanding of mathematical reasoning processes and the ability to utilize these processes to solve college-level mathematical problems.

Competency and Knowledge Objectives:
To meet the mathematics requirement of the general education core, courses must cover the competency/knowledge objectives below.

1. Read, interpret, and communicate mathematical concepts.
2. Represent and interpret information/data.
3. Select, execute and explain appropriate strategies/procedures when solving mathematical problems.
4. Apply quantitative reasoning to draw appropriate conclusions and support them.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Exceeds End-of-Course Expectations</th>
<th>Meets End-of-Course Expectations</th>
<th>Entry-Level Expectations</th>
</tr>
</thead>
</table>
| Read, interpret, and communicate mathematical concepts | • Demonstrates ability to extend course concepts to new contexts.  
• Demonstrates the ability to interpret and apply abstractions.  
• Understands and correctly utilizes appropriate mathematical language in new contexts. | • Demonstrates ability to read, interpret, and communicate the course concepts.  
• Understands the use of abstractions related to course material.  
• Understands and correctly utilizes appropriate mathematical language. | • Demonstrates understanding of concepts relating to appropriate pre-requisite material. |
| Represent and interpret information/data.     | • Appropriately represents data or information graphically and/or functionally.  
• Draw valid conclusions from analysis.  
• Predict consequences, trends, or patterns. | • Appropriately represents data or information graphically and/or functionally.  
• Draw valid conclusions from analysis. | • Demonstrates a general understanding of graphs and/or tables. |
| Select, execute and explain appropriate strategies/procedures when solving mathematical problems. | • Student can select the appropriate strategy in a generalized problem.  
• Process is internalized.  
• Student can justify why the process is used. | • Student can select appropriate strategy.  
• Process is performed correctly without assistance.  
• Student can write down steps. | • Student can follow an argument as to which strategy is chosen.  
• Process is performed correctly with assistance.  
• Student can follow steps. |
| --- | --- | --- | --- |
| Apply quantitative reasoning to draw appropriate conclusions and support them. | • Uses appropriate methods to check the solution and recognize that it is reasonable.  
• Demonstrates that the conclusion correctly addresses the initial problem.  
• Explains the problem, process and conclusions to others.  
• Recognize the limitations of the methods and the conclusions.  
• Recognize patterns within a problem that can be applied to other situations. | • Uses appropriate methods to check the solution and recognize that it is reasonable.  
• Demonstrates that the conclusion correctly addresses the initial problem.  
• Explains the problem, process and conclusions to others. | • Uses appropriate methods to check the solution and recognize that it is reasonable. |