Undergraduate Mathematics
Learning Goals and Objectives

Goal 1: Students shall demonstrate a solid understanding appropriate for the 1000- and 2000-level Mathematics required in their majors.¹

Obj.1 Show proficiency in basic skills and concepts embedded in their courses.

Obj.2 Apply concepts and skills to solve challenging problems that are either purely mathematical or arise in other disciplines.

Goal 2: Students shall demonstrate skill communicating quantitative information and reasoning effectively for courses in their majors.

Obj.3 Use appropriate software as a tool in coursework.

Obj.4 Work effectively in cooperative groups to solve mathematical problems appropriate.

In addition, Mathematics majors, double-majors and minors shall:

Obj.5 Use appropriate presentation tools to support the communication of mathematical documents.

Obj.6 Give oral presentations to mathematics peers and professors.

Goal 3: Students in majors with requirements beyond QA/QB shall demonstrate a breadth and depth of knowledge within mathematics.

Obj.7 Apply such concepts and skills as appropriate in either upper-division mathematics courses or quantitative courses in other majors.

Obj.8 Demonstrate an appreciation for how Mathematics relates to the world around us.

In addition, Mathematics majors, double-majors and minors shall:

Obj.9 Demonstrate an appreciation for the subfields, values and traditions

¹ All students must meet QA-QB requirements while mathematics majors, double majors and minors enroll in Calculus and Linear Algebra. Other undergraduates typically enroll in a specific calculus sequence.
Goal 4: Students in majors with requirements beyond QA/QB shall demonstrate an understanding of mathematical structures and proof.

Obj.10 Show an ability to read technical and rigorous mathematics.

In addition, Mathematics majors, double-majors and minors shall:

Obj.11 Show an ability to complete proofs in courses at both the 3000- and 4000-level.

Obj.12 Show an ability to present purely mathematical ideas and undergraduate-level arguments

Legend

<table>
<thead>
<tr>
<th>Obj in black</th>
<th>All students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj in orange</td>
<td>Only Students beyond QA/QB</td>
</tr>
<tr>
<td>Obj in turquoise</td>
<td>Only Math majors, double majors and minors</td>
</tr>
</tbody>
</table>