Creighton Mathematics Department
Learning Objectives for Majors

1. Logic and Proof
Students will learn the basic principles of mathematical logic, to formulate conjectures, state them in clear mathematical form, and prove them as theorems or reject them with counterexamples.They will develop sufficient competency to read basic mathematical literature and be able to rewrite, expand upon and explain the proofs.

2. Communication in Mathematics
The ability to communicate effectively in both oral and written forms while applying their mathematical skills. Students will learn the basic language of proof and counterexample. Students will organize and present significant ideas and calculations in written form.

3. Problem Solving
A good understanding of basic mathematical methods for problem solving. Students will have a command of the fundamental methods of the calculus, linear algebra, differential equations, and abstract algebra.

4. Breadth and Depth
Students will develop an awareness of the breadth and depth of mathematics of mathematics. This will include an awareness of historical and contemporary contexts in which mathematics is practiced. They will develop critical perspectives of the inherent limitations of the discipline.