Mission/Vision Statement

The department is committed to offering a well-rounded academic program that is supportive of the mission and goals of the College of Science and Engineering (CSE) and the University. In order to fulfill its role, the Department of Mathematics and Computer Science aims to develop in each student:

- The ability to think clearly, independently, and critically;
- The development of a strong foundation of classical and modern concepts in mathematics, computer science, and information systems for majors;
- The understanding and successful application of basic quantitative and algorithmic skills and techniques necessary for non-majors to enable them to analyze and solve real-world problems;
- The necessary specialized background required for those students planning continued studies at the advanced graduate level.

Students/Customer

The Department serves undergraduate students interested in the pursuit of a major (BA/BS) or minor in Mathematics, as well as graduate students seeking an MS in Mathematics. The Department also contributes to the general education core through the Quantitative Reasoning skill area and provides a significant number of service courses to the institution, enabling students in biology, business, chemistry, engineering, nursing, and pharmacy to fulfill necessary requirements.

Program Objectives (PO)

Upon graduation, a student majoring in mathematics should be competent in each of the following three areas:

- **Knowledge and understanding.** Demonstrate breadth-of-knowledge and understanding of essential facts, concepts, principles, and theories relating to the discipline.
- **Communication.** Make succinct presentations and written reports about mathematical/statistical problems and their solutions.
- **Project/Topic Development.** Reading, assimilation, and presentation of mathematical/statistical results that integrates knowledge and techniques learned from other courses within the discipline.

Student Learning Objectives (SLO)

- Graduates demonstrate proficiency in fundamental concepts pertaining to analysis, algebra, probability and statistics, and applied mathematics.
- Graduates demonstrate the ability to model and solve real-world problems, formulate a problem mathematically, and determine an appropriate approach towards its solution.
- Graduates will learn fundamental logic needed for deductive reasoning and will construct proofs of some elementary theorems using quantifiers, indirect and direct proofs, and mathematical induction.
- Graduates will be mathematically conversant, and explain basic mathematical results from an appropriate mathematical sub-discipline precisely and correctly while making this material accessible to their listening audience.

Key Assessment Activities

- Department Assessment Exam
- PRAXIS Exam
- Senior Capstone Experience
- Major Portfolio
- Oral Presentation
- 10 Page Written paper
**University Strategic Plan Goals (SPG)**

1. Achieving excellence & growth in academic programs.
2. Developing a world-class support environment.
3. Valuing our people.

**Institutional Student Learning Outcomes (ISLO)**

Through coursework, learning experiences, co-curricular and extracurricular activities, students will develop and demonstrate:

1. Knowledge, skills, and scholarship appropriate to general and major field areas of study.
2. Effective written and oral communication skills and information literacy using an array of media and modalities.
3. Practical, critical, analytical, and quantitative reasoning skills.
4. Actions reflecting ethical reasoning, civic responsibility, environmental stewardship, and respect for diversity.
5. Interpersonal skills and knowledge of self as a learner that contribute to effective team work, mentoring, and life-long learning.

**Strategic Alignment**

<p>| <strong>Graduates demonstrate proficiency in fundamental concepts pertaining to analysis, algebra, probability and statistics, and applied mathematics.</strong> |</p>
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**Classification of Instructional Program (CIP) Code: 27.0101**