Computer Science

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 skills and competencies, both theoretical and practical, involved in the use of the computer as a tool in solving problems in the rapidly expanding number of fields now influenced by computer science technology; and
- The necessary specialized background required for those students planning continued studies at the advanced graduate level.

Students/Customers
The Department serves students interested in the pursuit of a major or minor in Computer Science. The Department also serves the general student population by providing CS 115: Computers and Applications to address the Computer Literacy skill area.

Program Objectives (PO)
Upon graduation, a student majoring in Computer Science should be competent in each of the following 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 problems in Computer Science and their solutions.
- **Project/Topic Development.** Reading, assimilation, and presentation of results in Computer Science that integrates knowledge and techniques learned from other courses within the discipline.
- **Ethics.** An understanding of professional, ethical, legal, security, and social issues and responsibilities germane to the discipline of Computer Science.

Student Learning Objectives (SLO)
Upon graduation, it is expected that:

- Graduates will be proficient in at least two modern programming languages, applying design principles.
- Graduates will demonstrate a solid understanding of concepts fundamental to the computer science discipline and the relationship of theory to practice.
- Graduates will demonstrate the ability to function on a professional level, which includes effective communication both orally and in written form, demonstrating expected ethical and socially responsible behavior as specified in the ACM Code of Ethics and Professional Conduct, and working as a team member in a problem-solving situation.
- Graduates will demonstrate proficiency in applying architectural and system theory to effectively solve systems engineering problems. (Classic Track)
- Graduates will be proficient in designing autonomous interactive agents including multimedia interfaces. (Gaming Track)
Key Assessment Activities
Selected programming assignments
Embedded exam questions
Group work

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.

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Classification of Instructional Program (CIP) Code: 11.0101