COMPUTER SCIENCE AND ENGINEERING

Learning Outcomes

Master of Engineering (M.Eng.)

1. **KNOW:** Graduates will explain and apply core principles and methods in selected subfields of Computer Science and Engineering, with an emphasis on practical implementation and professional application.
2. **APPLY/CREATE:** Graduates will apply advanced problem-solving and analytical skills to evaluate and integrate current knowledge and technologies in computer science and engineering, producing practical solutions.
3. **COMMUNICATE:** Graduates will be able to effectively communicate technical content, project outcomes, and practical applications in written reports and presentations tailored to professional and industry audiences.
4. **THINK:** Graduates will be able to apply advanced technical knowledge and engineering practices to develop, evaluate, and improve computing systems and applications in professional or industrial contexts.
5. **PROFESSIONAL PRACTICE:** Graduates will be able to apply ethical principles and professional standards to the development, implementation, and communication of engineering solutions in computing, with a focus on integrity and accountability in applied and collaborative settings.

Master of Science (M.S.)

1. **KNOW:** Graduates will demonstrate advanced, research-informed understanding of core theories, principles, and specialized knowledge in selected subfields of Computer Science and Engineering, with an emphasis on research.
2. **APPLY/CREATE:** Graduates will contribute to the advancement of knowledge in computer science and engineering by synthesizing research literature and applying research methods.
3. **COMMUNICATE:** Graduates will be able to clearly present technical analyses, research results, and project outcomes through professional-quality oral and written communication suited to academic and technical audiences.
4. **THINK:** Graduates will be able to design and implement computational methods and/or experiments, apply advanced analytical s.#techniques to solve complex engineering problems, and evaluate solutions using theoretical and empirical method.
5. **PROFESSIONAL PRACTICE:** Graduates will be able to recognize and apply established standards of research integrity and ethical conduct in the execution and reporting of research or project work in computer science and engineering.

Doctor of Philosophy (Ph.D.)

1. **KNOW:** Graduates will demonstrate original, comprehensive, and critical expertise in advanced core principles, research methods, and emerging knowledge across selected subfields of Computer Science and Engineering, with a focus on developing new knowledge. Such knowledge will be gained from state-of-the-art research results/ papers beyond conventional textbooks and other sources.
2. **APPLY/CREATE:** Graduates will be able to design and conduct original research, advancing knowledge in specialized areas of computer science and engineering.
3. **COMMUNICATE:** Graduates will be able to communicate complex research findings and theoretical concepts clearly and effectively through scholarly writing and oral presentations tailored to academic, professional, and interdisciplinary audiences.
4. **COMMUNICATE:** Graduates will prepare publication quality research papers and presentations for world-class conferences and journals that will be reviewed by an expert audience for assessment of the originality and quality of their research.
5. **THINK:** Graduates will analyze existing solutions for research problems to identify deficiencies and come up with innovative approaches and/or enhancements to improve the state-of-the-art in computer science and engineering.
6. **PROFESSIONAL PRACTICE:** Graduates will be able to apply and uphold the highest standards of scholarship and research integrity by designing, conducting, and evaluating original research in accordance with ethical and professional norms in computer science and engineering.