Program Educational Objectives (PEOs)

PEO 1 emphasizes that the graduate will use the computer systems engineering knowledge for the benefit of society through giving sustainable innovative solutions to their problems. This is in line with the University vision to be "among the Top-Ranking Universities of the World through Education, Research and Innovation". It is also included in the University mission, which says "offer research services and innovation for sustainable development". The same has been aimed in DCSE mission saying that the graduates will be "motivated to solve complex engineering problems".

PEO 2 stresses on the leadership, team work, collaboration and communication skills of the graduates. This is in line with the University vision which aims "To Be among the Top-Ranking Universities of the World". The University mission stresses on this by saying "produce highly qualified, well-rounded professional through education who play a leading role in the society by powering and driving knowledge-based economy". The DCSE mission also make a mention of this by saying "produce well rounded graduates, equipped with in-depth knowledge of computer systems engineering and excellent problems solving skills, motivated to solve complex engineering while keeping high professional and ethical standards".

PEO 3 stresses on the ability of the graduates to continuously learn and grow their skills. This is embodied in the University vision "To Be Among the Top-Ranking Universities of the World through Education, Research and Innovation". The University mission also stresses on this by aiming to produce "well-rounded professionals" motivated to engage in life-long learning. In the DCSE mission, it is included in the statement "will also strive for continuous learning and skill development".

Program Learning Outcomes (PLOs)

Program Learning Outcomes (PLOs) are the narrower statements that describe what students are expected to know and be able to do by the time of graduation. Following are the set of PLOs with brief description.

1. **Engineering Knowledge**
   An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

2. **Problem Analysis**
   An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

3. **Design/Development of Solutions**
   An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

4. **Investigation**
   An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

5. **Modern Tool Usage**
   An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

6. **The Engineer and Society**
   An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

7. **Environment and Sustainability**
   An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

8. **Ethics**
   Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

9. **Individual and Teamwork**
   An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

10. **Communication**
    An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being

able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project Management**

An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

12. **Lifelong Learning**

An ability to recognize the need for, and have the preparation and ability to engage in, independent and life-long learning in the broadest context of technological change.