

SDM College of Engineering and Technology, Dharwad

Department of Chemical Engineering

Program Educational Objectives (PEOs)

The Chemical Engineering UG Programme at SDMCET is framed and designed such that within first few years after graduation, the graduates will be able to:

- I.** Analyze, design and professionally practice in the area of Chemical Engineering and allied disciplines by acquiring good knowledge of basic sciences and Chemical Engineering.
- II.** Create applications to solve real-life problems of Chemical Engineering in a broad range of career path to fulfill ethical, economical, environmental and social responsibilities.
- III.** Pursue higher studies and carry out research in Chemical Engineering and allied Engineering and Management.
- IV.** Work in multidisciplinary teams with good communication skills and leadership qualities to solve engineering problems and develop entrepreneurial skills.

Program Outcomes and Program Specific outcomes

Chemical Engineering Graduates will be able to:

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review 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:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage:** 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:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. Communication:** Communicate effectively 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 and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12. Life-long learning:** 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.
- 13. Plant operations and Control:** Conceptualize the knowledge and information gained in mass and energy balance, thermodynamics, transport phenomena, kinetics, unit operations, process control, equipment design that can be used in design, control and optimizing the Chemical processes.
- 14. Quality, Feasibility and impact studies:** Develop an integrated process and modify it attributing to economy, environmental friendly, ethics coupled with safety by applying principles of chemical engineering.
- 15. Development of engineering solutions through experiments:** Apply knowledge of chemical engineering in solving both industry and academic problems using experimental methods including design of experiments and simulation to analyze, interpret and present the data.


H.O.D.
Department of Chemical Engineering
SDM College of Engg & Technology,
Dharwad-580 002