

UNDERGRADUATE PROGRAM

Objectives and Outcomes

Objectives

To educate inquiring, investigating, lifelong learning chemical engineers with analytical thinking skills who take pride in their department and university and who consider human relations, production processes efficiency, and economics. To this end, the department provides highly qualified graduate and undergraduate education that meets the needs of contemporary and cutting-edge technologies.

In addition, the objective is to train chemical engineers who can solve all problems and design experiments for their professional activities. Another main objective is to carry out high-quality scientific research at the national and international levels and improve the infrastructure and physical conditions to ensure the sustainability of scientific and technological excellence.

Outcomes

1. a. Sufficient knowledge of mathematics
- b. Sufficient knowledge of basic sciences
- c. Sufficient basic engineering and chemical engineering knowledge
- d. Skill of applying all this knowledge and experience to complicated chemical engineering problems
2. Skill in defining, identifying, formulating, and solving complicated problems in chemical engineering and related areas by applying appropriate analysis and modeling methods
3. Skill in designing a complicated process, system, equipment, or product by applying modern design methods under realistic constraints and conditions.
4. To analyze and solve the complicated engineering problems:
 - a. Skill in developing, selecting, and applying the required techniques and devices
 - b. Skill in using information technologies effectively
5. To study the complicated on the complicated chemical engineering problems and research subjects;
 - a. Skill of experimental design

b. Skill in performing the experiments, collecting the data, and analyzing and interpreting the results

6. a. Skill of performing individual studies

b. Skill in performing intra and interdisciplinary and multidisciplinary teamwork and studies

7. a. Skill of effective oral and written communication in Turkish

b. Skill of improving and using foreign language knowledge

c. Skill in effective reporting, understanding the reports, and preparing the design and production reports

d. Skill of effective presentation and giving and getting clear and understandable instructions

8. Awareness of the necessity of life-long learning and skill of accessing to information and following the improvements in contemporary science and technology

9. a. Awareness of the necessity of behaving in accordance with the ethical principles and awareness of the importance of having professional ethical responsibilities

b. Knowledge about legal regulations and standards of engineering

10. a. Knowledge about project management, risk management, and change management

b. Awareness of the significance of entrepreneurship and innovation

c. Knowledge about sustainable development

11. Knowledge about the effects of engineering applications and practices on global and social health, ecology, and safety, knowledge about the current problems concerning the working areas of chemical engineering; and awareness of the legal issues resulting from engineering solutions.