Program Educational Objectives

PEO1 Graduates apply their technical knowledge and skills in mathematics, science, and engineering to solve complex problems in their professional practice.

PEO2 Graduates identify, analyze, design, and evaluate complex chemical engineering processes and systems to meet the needs and multiple realistic constraints of the industries.

PEO3 Graduates exercise their leadership, written and oratory communication skills to work effectively and collaboratively in multi-disciplinary and multi-cultural teams.

PEO4 Graduates employ their skills in critical, systematic and holistic thinking, and their proficient problem-solving skills, coupled with strategic pursuit of advanced and life-long learning to drive growth and success of their career paths both in chemical engineering practice and others.

PEO5 Graduates practice chemical engineering profession proficiently and ethically while ensuring to take appropriate measures to address applicable concerns on public safety, environmental impacts, and significant societal consequences.

Student Outcomes

SO1 An ability to apply knowledge of mathematics, sciences, basic engineering, and specific engineering to define scope of engineering problem and be able to apply engineering practices into real situations.

SO2 An ability to define engineering problem, apply material and energy balance equations, thermodynamics of physical and chemical equilibrium, heat transfer, mass transfer and momentum transfer to analyze and design chemical process to solve complex chemical engineering problem to arrive at solutions using proper engineering concepts and mathematical, science and engineering tools.

SO3 An ability to determine solutions for complex chemical engineering problem applying chemical engineering design concept, heuristics and standard for piping system, vessels, pumps, valves, instrument, and other unit operations within social, laws, safety, health, environment and engineering ethics.

SO4 An ability to identify, formulate and evaluate complex engineering problems by applying proper assumptions, experimental design, analyses to analyze data and information to acquire proper chemical engineering solutions.

SO5 An ability to use, design, select, and apply appropriate modern engineering and technological methods, resources and tools realizing real constrains of those methods and tools.

SO6 An ability to function on multidisciplinary teams and efficiently taking leading role or team member.

SO7 An ability to communicate effectively using oral, report writing, presentation and engineering drawing both in Thai and in English in engineering work with multidisciplinary groups.

SO8 An ability to understand engineering responsibility to the impact of solutions in a societal, environmental, and sustainability context.

SO9 An understanding of professional and ethical responsibility of chemical engineers.

SO10 The broad education necessary to understand the impact of engineering solutions in economic, investment and management realizing risk and world changing context.

SO11 A recognition of the need for, and an ability to engage in life-long learning to adapt to the fast changing world.