

Program:	CHEMICAL ENGINEERING
Degree:	BS
Department:	CHEMICAL ENGINEERING
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Outcome	Master the depth of knowledge required for a degree (a), (b)
Marketable Skills	<ul style="list-style-type: none"> • Use effectively an accounting framework to solve material and energy balance problems. • Apply fluid flow and heat transfer principles in the operation and design of process equipment. • Synthesize and design chemical and biological processes • Use design computational tools

Outcome	Demonstrate critical thinking (c), (e)
Marketable Skills	<ul style="list-style-type: none"> • Startup and analyze assigned process control apparatus and relate its operation with industrial control situations. • Apply conservation of mass and linear momentum to simple Newtonian fluid mechanics problems such as Poiseuille and Couette flow. • Manipulate variables in the design equations to design reactors that achieve specific conversions and/or volumes under constraints.

Outcome	Communicate effectively (g)
Marketable Skills	<ul style="list-style-type: none"> • Write business focused reports on each of the experiments • Produce a process design report • Practice oral communication skills and lower the anxiety associated with oral presentations

Outcome	Practice personal and social responsibility (f), (h), (j)
Marketable Skills	<ul style="list-style-type: none"> • Evaluate ethical issues that may occur in professional engineering practice. • Recognize ethical standards and professional codes of conduct for engineers, e.g., NSPE Code of Ethics for Engineers • Describe the impact of contemporary issues on the engineering profession and the practice of engineering

Outcome	Demonstrate social, cultural, and global competence (f), (j)
Marketable Skills	<ul style="list-style-type: none"> • Identify government agencies, regulatory bodies, codes, and standards that govern the global, societal, and environmental impact of plant design projects • Recognize professional and ethical elements of an outstanding safety program. • Describe future challenges to chemical engineering in a societal and global context

Outcome	Prepare to engage in lifelong learning (i)
Marketable Skills	<ul style="list-style-type: none"> • Find, evaluate, and use resources to promote independent learning, including library resources, computer tools and databases.

	<ul style="list-style-type: none"> • Synthesize new concepts by making connections, transferring prior knowledge, and generalizing. Demonstrate willingness to learn new material independently • Describe and apply the principles and approach of inherently safer design to reduce and eliminate hazards and thereby lower the risk of new or currently operating chemical systems.
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Outcome	Work collaboratively (d)(g)
Marketable Skills	<ul style="list-style-type: none"> • Work effectively on project teams in both member and leader roles, with team members who may have different backgrounds (ethical, gender, or cultural) and technical skill levels. • Effectively perform in process design teams • Work effectively in homework assignment teams and develop problem solving skills

(a)-(k) correspond to ABET outcomes, which are attached to this page. These are drawn from Criterion 3 and are required for program accreditation.

Other data is drawn from ENGL210 Technical Writing which is taught by instructors hired by the Chemical Engineering Department specifically to cover areas of communication, lifelong learning

These Marketable Skills are directly evaluated as part of our continuous assessment plan.