Program Outcome Assessment Matrix (Updated May 2009)

Assessment Tool Mapping

Assessment Tool	A	B	C	D	E	F	G	H	I	J	K	Assessed/Reviewed by:
Student Examples	P	P	P		P	P	P	P	P	P	P	Faculty & DAC/Faculty
FE Exam	P					S			S			Faculty & DAC
Senior Exit Survey	S	S	S	S	S	S	S	S	S	S	S	Student/Faculty & DAC
Alumni Survey	S	S	S	S	S	S	S	S	S	S	S	Alumni/Faculty & DAC
Employer Survey	S	S	S	S	S	S	S	S	S		S	Employer/Faculty & DAC

P = primary assessment tool, S = secondary assessment tool

Inputs Mapping - Required Courses

Course	A	B	C	D	E	F	G	H	I	J	K	Title	Reviewed by:
CHBE 100	P	P					S			S	S	Intro. CHBE	Faculty
CHBE 120	P										P	CHBE Comp.	Faculty
CHBE 213	P									S		Materials Science	Faculty
CHBE 215	P				P							Elem. Principles I	Faculty
CHBE 216	P				P			S		S	P	Elem. Principles II	Faculty
CHBE 307	P										S	Thermodynamics I	Faculty
CHBE 321	P		S		P							Fluid Mechanics Ops	Faculty
CHBE 322	P		S		P						P	Heat Transfer Ops	Faculty
CHBE 323	P		S		P							Mass Transfer Ops	Faculty
CHBE 328	P	S	P		P		S		S	S		Reaction Engineering	Faculty
CHBE 407	P				P						S	Thermodynamics II	Faculty
CHBE 411R	P		P			P	P	P	P	S	P	Design I	Faculty
CHBE 412R	P		P			P	P	S	P	S		Design II	Faculty
CHBE 424	P		S		P					S	P	Transport Analysis	Faculty
CHBE 438	P		S		P					P		Bioprocess Engineering	Faculty
CHBE 442	P	P			S		P					CHBE Laboratory I	Faculty
CHBE 443	P	P			S		P					CHBE Laboratory II	Faculty
CHBE 451	P		P		S						S	Proc. Dynamics & Cont.	Faculty
ENGR 310				P								Intro to Eng. Design	Faculty

P = primary input, S = secondary input

Inputs Mapping - Electives and CORE 2.0 courses

Course	A	B	C	D	E	F	G	H	I	J	K	Title	Reviewed by:
ENVE 444						P		P	S	P		Haz. Waste Manage.	Faculty
CORE US							P					University Seminar	
CORE W							P					Writing	
CORE (12 credits)								P				Diversity, IH, IS, IA	

P = primary input, S = secondary input

Student Examples for Direct Outcomes Assessment:

	Project/Activity	Outcome(s)	Scored by	Semester collected	DAC Review
CHBE 411	Ethics case studies	F	Instructor and DAC	Fall 2008	2009
CHBE 411	Oral presentation	G	Faculty	Fall 2008	2009
CHBE 411	Interim design report	C, H	Advisor and DAC	Fall 2007 Spring 2008	2008 2009
CHBE 412	Final design report	C	Advisor and DAC	Spring 2008	2009
CHBE 443	Unit Operations lab report	B, G	Instructor and DAC	Spring 2006	2006
CHBE 424	Transport modeling project	A, E	Instructor and DAC	Fall 2006	2007
Various	Computer-based projects	K	Faculty and DAC	Fall 2006 Spring 2007	2008
Various	Research Projects	I	DAC	Fall 2008 Spring 2009	2009
Various	Contemporary issues examples	H, J	DAC	Fall 2008 Spring 2009	2009
Co-Op	Intern Performance Evaluation	D	DAC	2007 - 2009	2009

Computer-based Projects:

- CHBE 216 – Design Case Study (Design Software)
- CHBE 323 – Project using Design Software
- CHBE 322 – Heat Transfer solution (Mathcad, Differential equations)
- CHBE 424 – Transport Project (COMSOL)

Contemporary Issues Examples:

- CHBE 438 – Bioproduct Report
- CHBE 411 or 412 – Design Report
- CHBE 424 – Global Climate Assignment

Research Projects

- CHBE 328 – Kinetics Research Paper
- CHBE 438 – Bioproduct Report
- CHBE 411 or 412 – Design Report

Program Outcomes

A - An ability to apply knowledge of mathematics, science, and engineering.

B - An ability to design and conduct experiments, as well as to analyze and interpret data.

C - An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

D - An ability to function on multi-disciplinary teams.

E - An ability to identify, formulate, and solve engineering problems.

F - An understanding of professional and ethical responsibility.

G - An ability to communicate effectively.

H - The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

I - The recognition of the need for, and an ability to engage in life-long learning.

J - A knowledge of contemporary issues.

K - An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.