

Bachelor of Science in Chemical Engineering

Department of Chemical and Environmental Engineering

Criteria a–k and Evaluation Methods

UArizona Chemical Engineering Response

Chemical Engineering Table 1: Criteria a-k and Evaluation Methods

Criteria	Measure	Timeline	Faculty Member Responsible	% Meeting Criteria
a) The ability to apply knowledge of math, engineering, and science.	Students have completed the required advanced standing courses	Spring sophomore year	Staff/Blowers	88.3/100 ^a
	Minimum GPA at advanced standing of 2.3	Spring sophomore year	Staff/Blowers	88.3/100 ^a
	Four core course GPA average of 2.0 or higher	Spring sophomore year	Staff/Blowers	88.3/100 ^a
b) ability to design and conduct experiments; ability to analyze and interpret data	ChEE 304/401a	Fall senior year	Ogden	89% lab creation
				75% new safety requirement
c) the ability to design a system, component or process to meet needs within realistic constraints	ChEE 303 mass transfer project, passing grade	Fall junior year	Saez	100%
	ChEE 442 Senior design oral report grade	Fall senior year	Sorooshian	100%
	ChEE 442 Senior design written report grade	Fall senior year	Sorooshian	100%

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Chemical Engineering Table 1: Criteria a-k and Evaluation Methods (*continuation*)

d) ability to function on multi-disciplinary teams	ENGR 102 passing grade	Freshman year	Staff/Blowers	100%
	ChEE 201L individual presentation passing grade	Fall sophomore year	Blowers	98.9%
	ChEE 326 equilibrium thermodynamics group evaluation passing grade*	Spring junior year	Farrell/Blowers	N/A this year
	ChEE 443 senior design group evaluations	Spring senior year	Ogden	100% with 20% receiving additional support to meet criteria
e) ability to identify, formulate, and solve engineering problems	Passing grade of all core chemical engineering courses	Summer senior year	Staff/Blowers	100%
f) understanding of professional and ethical responsibility	ChEE 304/401a unit operations laboratory for developing new laboratory exercise passing grade	Fall senior year	Muscat	100%
	ChEE 442 multi-lecture module and case study grade	Fall senior year	Sorooshian	100%
g) ability to communicate effectively	ChEE 201L group presentation grade average > 60%	Fall sophomore year	Blowers	100%
	ChEE 304 laboratory written report passing grade	Fall senior year	Ogden	100%
	ChEE 443 ability to be both a follower and leader as documented in group meetings	Spring senior year	Ogden	90% for managing time
				80% for ability to direct questions 94% for ability to listen

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Chemical Engineering Table 1: Criteria a-k and Evaluation Methods (continuation)

h) broad education	Tier I and Tier II humanities GPA minimum of 2.00	Fall senior year	Staff/Blowers	100%
	Advanced science class passing grade	Spring senior year	Staff/Blowers	100%
	Technical requirement passing grade	Spring senior year	Staff/Blowers	100%
	Technical elective and engineering elective average passing grade	Spring senior year	Staff/Blowers	100%
i) recognize need for, and an ability to engage in, life-long learning	Information literacy homework sophomore year and % using reference	Fall sophomore year	Blowers	58%
	Number of references in ChEE 442 senior design report (avg. > 35)	Fall senior year	Sorooshian	100%
	Quality of reference in ChEE 442 senior design report (<20 % general websites)	Fall senior year	Sorooshian	90% high quality referencing
	Percent of students doing internships or undergraduate research for credit	Fall senior year	Staff/Blowers	88.20%
j) knowledge of contemporary issues	Passing grade on Tier I and Tier II passing grade average	Spring senior year	Staff/Blowers	100%
	ChEE 304/401a dry laboratory grade	Fall senior year	Muscat	100%
	ChEE 442 Individual discussion topics	Fall senior year	Sorooshian	100%
k) ability to use techniques, skills, and tools in engineering practice	ChEE 443 Ability to use ChemCAD/ASPEN to complete design with passing grade	Fall senior year	Ogden	100%
	ChEE 402 key problem requiring Matlab to solve	Fall junior year	Muscat	96.40%
	ChEE 413 passing grade on Labview assignment	Spring senior year	Muscat	94.70%

* Reinstated in Spring 2010, evaluation not complete yet.

^a 88.3% at first evaluation/100% at second