

Table 3-1. Mapping of Civil Engineering POs to Criterion 3 (a through k) and Criterion 9

		ABET Criteria 3 and 9																
		3a. an ability to apply knowledge of mathematics, science, and engineering	3b. an ability to design and conduct experiments, as well as to analyze and interpret data	3c. 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	3d. an ability to function on multi-disciplinary teams	3e. an ability to identify, formulate, and solve engineering problems	3f. an understanding of professional and ethical responsibility	3g. an ability to communicate effectively	3h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	3i. a recognition of the need for, and an ability to engage in life-long learning	3j. a knowledge of contemporary issues	3k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	9a. apply knowledge of mathematics through differential equations, calculus-based physics, chemistry, and at least one additional area of science.	9b. apply knowledge of four technical areas appropriate to civil engineering	9c. conduct civil engineering experiments and analyze and interpret the resulting data	9d. design a system, component, or process in more than one civil engineering context	9e. explain basic concepts in management, business, public policy, and leadership	9f. explain the importance of professional licensure
Civil Engineering Program Outcomes:																		
a.	an ability to apply knowledge of mathematics through differential equations, calculus based physics, chemistry, and biology	X										X						
b.	an ability to design and conduct experiments, as well as to analyze and interpret data, pertaining to civil engineering systems		X												X			
c.	an ability to design a system, system component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability in more than one civil engineering discipline			X												X		
d.	an ability to function on multi-disciplinary teams;				X													
e.	an ability to identify, formulate, and solve engineering problems					X												
f.	an understanding of professional and ethical responsibility;						X											
g.	an ability to communicate effectively							X										
h.	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;								X									
i.	a recognition of the need for, and an ability to engage in life-long learning;									X								
j.	a knowledge of contemporary issues										X							
k.	an ability to use the techniques, skills, and modern engineering tools necessary for civil engineering practice											X						
l.	an understanding of entrepreneurship and business plans;																	
m.	an ability to define a community problem and to use the engineering design process to deliver a solution;																	
n.	an ability to apply knowledge of environmental, geotechnical, structural, and water resources engineering;												X					
o.	an ability to explain basic concepts in management, business, public policy, and leadership;																X	
p.	an ability to explain the importance of professional licensure.																	X

Table 3-2. Mapping Program Outcomes to Program Educational Objectives

<p>Civil Engineering Program Educational Objectives (1 through 5) The Civil Engineering Program of the Department of Environmental and Civil Engineering in the U.A. Whitaker School of Engineering at Florida Gulf Coast University will produce graduates who:</p>	<p>1. are technically competent and</p>	<p>... are leaders and valued contributors in their professions and communities</p>	<p>2. successfully adapt to and remain competitive in a changing global society and technological world</p>	<p>3. work collaboratively as professionals in a diverse, interdisciplinary environment</p>	<p>4. successfully enter careers in civil engineering, serve society, and pursue further studies in their profession,</p>	<p>5. attain professional licensure.</p>
<p>a. an ability to apply knowledge of mathematics through differential equations, calculus based physics, chemistry and biology;</p>	<p>X</p>				<p>X</p>	
<p>b. an ability to design and conduct experiments, as well as to analyze and interpret data, pertaining to civil engineering systems;</p>	<p>X</p>				<p>X</p>	
<p>c. an ability to design a system, system component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability in more than one civil engineering context;</p>	<p>X</p>		<p>X</p>		<p>X</p>	
<p>d. an ability to function on multi-disciplinary teams;</p>		<p>X</p>		<p>X</p>	<p>X</p>	<p>X</p>
<p>e. an ability to identify, formulate, and solve engineering problems;</p>	<p>X</p>				<p>X</p>	
<p>f. an understanding of professional and ethical responsibility;</p>		<p>X</p>		<p>X</p>	<p>X</p>	<p>X</p>
<p>g. an ability to communicate effectively;</p>				<p>X</p>	<p>X</p>	
<p>h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;</p>			<p>X</p>		<p>X</p>	

i. a recognition of the need for, and an ability to engage in life-long learning;		X	X		X	X
j. a knowledge of contemporary issues;		X	X		X	
k. an ability to use the techniques, skills, and modern engineering tools necessary for civil engineering practice;	X				X	
l. an understanding of entrepreneurship and business plans;			X		X	
m. an ability to define a community problem and to use the engineering design process to deliver a solution;	X	X			X	
n. an ability to apply knowledge of environmental, geotechnical, structural and water resources engineering;	X				X	X
o. an ability to explain basic concepts in management, business, public policy, and leadership;		X			X	
p. an ability to explain the importance of professional licensure.		X		X	X	X

D. Relationship of Courses in the Curriculum to the Program Outcomes

Table 3-3 provides a mapping of Program Outcomes to courses in the curriculum. This table was developed by the faculty so show how each course supports specific outcomes. This table was then used to focus the outcomes assessment process for each of the outcomes. A course was given an X if it either made a “very large contribution” or “substantial contribution” as defined below.

Very large contribution: many examples of student work that directly contribute; outcome is directly related to a course objective

Substantial contribution: some examples of student work that directly correlate to outcome; not an explicit course objective

Color Coding of Table 3-3

Engineering common core - engineering courses
Engineering courses unique to Civil Engineering
Engineering courses shared by Civil and Environmental

