

Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:		University of Kentucky, Lexington		
Major:	Agricultural	PE Examination:	Civil-Water Resources and Environmental	

No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing	Number of Exam Questions	Institution 1 100% Institution Average Percent Correct	ABET Comparator <sup>2</sup> 16 9 56% ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning	4	75.0	89.1	0.5
Means and Methods	3	100.0	60.4	0.9
Soil Mechanics	6	83.3	65.6	0.7
Structural Mechanics	6	66.7	63.5	1.2
Hydraulics and Hydrology	7	71.4	75.0	1.3
Geometrics	3	66.7	72.9	0.9
Materials	6	83.3	66.7	1.2
Site Development	5	80.0	83.8	0.6
Analysis and Design	4	75.0	46.9	1.1
Hydraulics Closed Conduit	5	40.0	65.0	0.8
Hydraulics Open Channel	5	20.0	51.3	1.3
Hydrology	7	100.0	65.2	1.4
Groundwater and Wells	3	66.7	66.7	1.0
Wastewater Collection and Treatment	6	83.3	37.5	1.5
Water Quality	3	66.7	43.8	0.8
Drinking Water Distribution and Treatment	6	83.3	47.9	1.7
Engineering Economics Analysis	1	100.0	31.3	0.5

<u>0</u> examinees have been removed from this data because they were flagged as a random guesser.
Comparator includes all examinees from programs accredited by the ABET commission noted.
The standard deviation is based on number of questions correct, not percentage of questions correct.

## TERMS AND CONDITIONS OF DATA USE



Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution: University of Kentucky, Lexington PE Examination: Civil-Construction Major: Civil

No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing		Institution 7 2 29%	<b>ABET</b> <b>Comparator <sup>2</sup></b> 661 377 57%	
	Number of Exam Questions	Institution Average Percent Correct	ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning	4	71.4	72.3	1.0
Means and Methods	3	47.6	54.5	0.9
Soil Mechanics	6	45.2	56.3	1.3
Structural Mechanics	6	64.3	68.0	1.3
Hydraulics and Hydrology	7	63.3	73.4	1.3
Geometrics	3	57.1	76.5	0.7
Materials	6	61.9	65.7	1.2
Site Development	5	74.3	78.5	1.0
Earthwork Construction and Layout	6	76.2	79.3	1.0
Estimating Quantities and Costs	6	59.5	68.6	1.0
Construction Operations and Methods	7	36.7	44.2	1.4
Scheduling	5	60.0	62.8	1.0
Material Quality Control and Production	6	45.2	61.0	1.3
Temporary Structures	7	34.7	49.2	1.4
Construction Health and Safety	3	66.7	75.4	0.8

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution: University of Kentucky, Lexington PE Examination: **Civil-Geotechnical** Major: Civil

No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing		Institution 3 3 100%	ABET Comparator <sup>2</sup> 320 205 64% ABET	ABET
	Number of Exam Questions	Average Percent Correct	Comparator Average Percent Correct	Comparator Standard Deviation <sup>3</sup>
Project Planning	4	100.0	82.2	0.8
Means and Methods	3	88.9	61.7	0.8
Soil Mechanics	6	94.4	77.7	1.2
Structural Mechanics	6	83.3	70.5	1.4
Hydraulics and Hydrology	7	85.7	73.9	1.5
Geometrics	3	88.9	80.8	0.8
Materials	6	83.3	77.8	1.2
Site Development	5	93.3	84.3	0.9
Site Characterization	5	66.7	50.7	1.1
Soil Mechanics; Laboratory Testing; and Analysis	5	66.7	58.4	1.2
Field Materials Testing; Methods; and Safety	3	77.8	74.5	0.8
Earthquake Engineering and Dynamic Loads	2	33.3	60.3	0.7
Earth Structures	4	33.3	49.7	1.0
Groundwater and Seepage	3	66.7	47.1	0.8
Problematic Soil and Rock Conditions	3	88.9	63.1	0.9
Earth Retaining Structures (ASD or LRFD)	5	60.0	51.6	1.2
Shallow Foundations (ASD or LRFD)	5	80.0	53.9	1.1
Deep Foundations (ASD or LRFD)	5	60.0	59.8	1.2

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021

First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:	University of	of Kentucky,	Lexington		
Major: Civil PE	Examination:		Civil-Structural		
			Institution	ABET Comparator <sup>2</sup>	
No. Examinees Taking <sup>1</sup>			5	1,031	
No. Examinees Passing			3	612	
Percent Examinees Passing			60%	59%	
	of	imber Exam estions	Institution Average Percent Correct	ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning		4	75.0	71.6	1.0
Means and Methods		3	86.7	71.7	0.8
Soil Mechanics		6	70.0	59.7	1.4
Structural Mechanics		6	90.0	85.5	1.0
Hydraulics and Hydrology		7	71.4	75.0	1.2
Geometrics		3	73.3	77.2	0.7
Materials		6	60.0	67.6	1.1
Site Development		5	60.0	77.0	1.0
Analysis of Structures: Loads and load applications		4	60.0	56.2	1.1
Analysis of Structures: Forces and load effects		10	60.0	59.1	1.8
Design and Details of Structures: Materials and material properti		5	64.0	61.8	1.0
Design and Details of Structures: Component design and detailin		15	56.0	49.2	2.4
Codes and Construction: Codes; standards; and guidance docur	nents	4	60.0	56.4	1.0
Codes and Construction: Temporary structures and other topics		2	60.0	62.5	0.6

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:		University	of Kentucky, Lexington	
Major:	Civil	PE Examination:	<b>Civil-Transportation</b>	
			Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>			12	1.538

			oomparator	
No. Examinees Taking <sup>1</sup>		12	1,538	
No. Examinees Passing		8	1,088	
Percent Examinees Passing		67%	71%	
	Number of Exam Questions	Institution Average Percent Correct	ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning	4	85.4	83.1	0.7
Means and Methods	3	61.1	54.8	0.8
Soil Mechanics	6	70.8	66.0	1.1
Structural Mechanics	6	62.5	62.7	1.4
Hydraulics and Hydrology	7	67.9	73.1	1.5
Geometrics	3	88.9	90.7	0.6
Materials	6	58.3	70.0	1.2
Site Development	5	86.7	84.2	0.9
Traffic Engineering (Capacity Analysis and Transportation Planning)	11	47.7	53.7	1.8
Horizontal Design	4	47.9	63.3	1.0
Vertical Design	4	66.7	66.6	1.1
Intersection Geometry	4	50.0	61.4	1.1
Roadside and Cross Section Design	4	52.1	62.9	1.1
Signal Design	3	47.2	69.7	0.9
Traffic Control Design	3	72.2	73.8	0.8
Geotechnical and Pavement	4	68.8	68.0	1.0
Drainage	2	54.2	60.6	0.7
Alternatives Analysis	1	66.7	63.6	0.5

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:			University of Kentucky, Lexington
Major:	Civil	PE Examination:	Civil-Water Resources and Environmental

No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing	Number of Exam	Institution 4 3 75% Institution Average Percent	ABET Comparator <sup>2</sup> 1,297 879 68% ABET Comparator Average	ABET Comparator Standard
	Questions	Correct	Percent Correct	Deviation <sup>3</sup>
Project Planning	4	93.8	83.2	0.7
Means and Methods	3	83.3	55.4	0.8
Soil Mechanics	6	62.5	67.8	1.1
Structural Mechanics	6	66.7	63.5	1.4
Hydraulics and Hydrology	7	85.7	79.9	1.3
Geometrics	3	91.7	81.9	0.7
Materials	6	62.5	69.3	1.2
Site Development	5	80.0	82.7	0.9
Analysis and Design	4	37.5	57.4	0.9
Hydraulics Closed Conduit	5	55.0	54.3	1.2
Hydraulics Open Channel	5	75.0	57.5	1.2
Hydrology	7	75.0	68.6	1.4
Groundwater and Wells	3	91.7	77.5	0.8
Wastewater Collection and Treatment	6	37.5	40.4	1.3
Water Quality	3	25.0	43.2	0.9
Drinking Water Distribution and Treatment	6	66.7	58.0	1.5
Engineering Economics Analysis	1	50.0	52.3	0.5

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:		University of Kentucky, Lexington		
Major:	Materials	Civil-Structural		
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No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing		Institution 1 100%	ABET Comparator <sup>2</sup> 1 1 100%	
	Number of Exam Questions	Institution Average Percent Correct	ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning	4	75.0	75.0	0.0
Means and Methods	3	100.0	100.0	0.0
Soil Mechanics	6	50.0	50.0	0.0
Structural Mechanics	6	83.3	83.3	0.0
Hydraulics and Hydrology	7	85.7	85.7	0.0
Geometrics	3	66.7	66.7	0.0
Materials	6	66.7	66.7	0.0
Site Development	5	80.0	80.0	0.0
Analysis of Structures: Loads and load applications	4	25.0	25.0	0.0
Analysis of Structures: Forces and load effects	10	70.0	70.0	0.0
Design and Details of Structures: Materials and material properties	5	60.0	60.0	0.0
Design and Details of Structures: Component design and detailing	15	53.3	53.3	0.0
Codes and Construction: Codes; standards; and guidance documents	4	75.0	75.0	0.0
Codes and Construction: Temporary structures and other topics	2	100.0	100.0	0.0

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021

First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:	University of Kentucky, Lexington			
Major:	Mechanical PE Examination: Civil-Structural			

No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing	Number of Exam Questions	Institution 1 100% Institution Average Percent Correct	ABET Comparator <sup>2</sup> 24 13 54% ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning	4	100.0	76.0	1.2
Means and Methods	3	100.0	72.2	0.9
Soil Mechanics	6	83.3	59.0	1.7
Structural Mechanics	6	100.0	84.7	0.9
Hydraulics and Hydrology	7	71.4	77.4	1.2
Geometrics	3	100.0	68.1	0.8
Materials	6	66.7	66.7	1.2
Site Development	5	80.0	80.8	0.9
Analysis of Structures: Loads and load applications	4	75.0	54.2	1.4
Analysis of Structures: Forces and load effects	10	70.0	57.5	1.9
Design and Details of Structures: Materials and material properties	5	60.0	50.0	1.3
Design and Details of Structures: Component design and detailing	15	46.7	46.1	2.8
Codes and Construction: Codes; standards; and guidance documents	4	50.0	53.1	1.0
Codes and Construction: Temporary structures and other topics	2	100.0	56.3	0.7

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:		University of Kentucky, Lexington		
Major:	Mining/Mineral	PE Examination:	Civil-Geotechnical	

No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing		Institution 1 0 0%	ABET Comparator <sup>2</sup> 1 0 0%	
	Number of Exam Questions	Institution Average Percent Correct	ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning	4	75.0	75.0	0.0
Means and Methods	3	33.3	33.3	0.0
Soil Mechanics	6	66.7	66.7	0.0
Structural Mechanics	6	33.3	33.3	0.0
Hydraulics and Hydrology	7	85.7	85.7	0.0
Geometrics	3	66.7	66.7	0.0
Materials	6	50.0	50.0	0.0
Site Development	5	60.0	60.0	0.0
Site Characterization	5	40.0	40.0	0.0
Soil Mechanics; Laboratory Testing; and Analysis	5	40.0	40.0	0.0
Field Materials Testing; Methods; and Safety	3	100.0	100.0	0.0
Earthquake Engineering and Dynamic Loads	2	0.0	0.0	0.0
Earth Structures	4	25.0	25.0	0.0
Groundwater and Seepage	3	66.7	66.7	0.0
Problematic Soil and Rock Conditions	3	66.7	66.7	0.0
Earth Retaining Structures (ASD or LRFD)	5	60.0	60.0	0.0
Shallow Foundations (ASD or LRFD)	5	0.0	0.0	0.0
Deep Foundations (ASD or LRFD)	5	40.0	40.0	0.0

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Principles and Practice of Engineering (PE) Subject Matter Report by Major and Examination Jan 01-Jun 30, 2021 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

Name of Institution:		University of Kentucky, Lexington		
Major:	Mining/Mineral	PE Examination: Civil-Water Resources and Environmental		

No. Examinees Taking <sup>1</sup> No. Examinees Passing Percent Examinees Passing	Number of Exam Questions	Institution 2 100% Institution Average Percent Correct	ABET Comparator <sup>2</sup> 4 4 100% ABET Comparator Average Percent Correct	ABET Comparator Standard Deviation <sup>3</sup>
Project Planning	4	75.0	75.0	0.0
Means and Methods	3	50.0	41.7	0.4
Soil Mechanics	6	75.0	79.2	0.8
Structural Mechanics	6	75.0	75.0	1.1
Hydraulics and Hydrology	7	100.0	100.0	0.0
Geometrics	3	83.3	83.3	0.5
Materials	6	75.0	70.8	0.8
Site Development	5	60.0	75.0	1.1
Analysis and Design	4	75.0	56.3	0.8
Hydraulics Closed Conduit	5	70.0	70.0	0.5
Hydraulics Open Channel	5	70.0	75.0	0.8
Hydrology	7	71.4	71.4	1.0
Groundwater and Wells	3	66.7	83.3	0.9
Wastewater Collection and Treatment	6	33.3	29.2	0.4
Water Quality	3	16.7	25.0	0.8
Drinking Water Distribution and Treatment	6	83.3	66.7	1.9
Engineering Economics Analysis	1	0.0	50.0	0.5

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