

**Report title:** Subject Matter Report by Major and Examination

**Exams administered:** Jan 01—May 31, 2015

**Examinees included:** First-Time Examinees from EAC/ABET-Accredited Engineering Programs **Graduation Date:** Examinees testing more than 12 months after graduation date

Name of Institution:		University of Kentucky, Lexington			
Major:	Civil	FE Examination:	Civil		

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	2	263
No. Examinees Passing	1	141
Percent Examinees Passing	50%	54%

Uncertainty Range for Scaled Score <sup>4</sup> ± 0.71

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	7	8.9	9.5	3.0	0.94	-0.20
Probability and Statistics	4	11.1	9.8	3.9	1.13	0.33
Computational Tools	4	10.1	9.9	4.0	1.02	0.05
Ethics and Professional Practice	4	8.0	10.4	3.9	0.77	-0.62
Engineering Economics	4	11.1	9.9	4.2	1.12	0.29
Statics	7	10.0	9.3	3.1	1.08	0.23
Dynamics	4	9.1	9.7	3.7	0.94	-0.16
Mechanics of Materials	7	10.8	8.9	2.4	1.21	0.79
Materials	4	10.7	9.0	3.2	1.19	0.53
Fluid Mechanics	4	11.7	9.9	3.8	1.18	0.47
Hydraulics and Hydrologic Systems	8	7.6	8.7	2.5	0.87	-0.44
Structural Analysis	6	8.4	8.7	2.5	0.97	-0.12
Structural Design	6	7.4	8.3	2.7	0.89	-0.33
Geotechnical Engineering	9	7.8	8.6	2.0	0.91	-0.40
Transportation Engineering	8	7.7	8.5	2.5	0.91	-0.32
Environmental Engineering	6	10.6	8.3	3.0	1.28	0.77
Construction	4	15.0	9.0	4.1	1.67	1.46
Surveying	4	7.5	7.6	3.9	0.99	-0.03

- 1. **o** examinees have been removed from this data because they were flagged as a random guesser.
- ${\bf 2.} \ \ {\bf Comparator} \ {\bf includes} \ {\bf all} \ {\bf examinees} \ {\bf from} \ {\bf programs} \ {\bf accredited} \ {\bf by} \ {\bf the} \ {\bf ABET} \ {\bf commission} \ {\bf noted}.$
- 3. Performance index is based on a 0-15 scale.
- 4. These scores are made available for assessment purposes. See the NCEES publication entitled Using the FE as an Outcomes Assessment Tool at http://ncees.org/licensure/educator-resources/.

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Name of Institution:		University of Kentucky, Lexington		
Major:	Civil	FE Examination:	Environmental	

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	12
No. Examinees Passing	0	8
Percent Examinees Passing	0%	67%

Uncertainty Range for Scaled Score <sup>4</sup> ± 1.00

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	4	5.8	8.9	3.1	0.65	-1.00
Probability and Statistics	3	6.2	11.3	3.3	0.55	-1.55
Ethics and Professional Practice	5	15.0	11.3	3.2	1.33	1.16
Engineering Economics	4	8.0	9.3	3.4	0.86	-0.38
Materials Science	3	7.7	11.6	3.5	0.66	-1.11
Environmental Science and Chemistry	11	3.7	8.6	2.0	0.43	-2.45
Risk Assessment	5	6.6	10.3	2.9	0.64	-1.28
Fluid Mechanics	9	5.7	9.2	2.3	0.62	-1.52
Thermodynamics	3	6.5	10.2	3.5	0.64	-1.06
Water Resources	10	8.2	9.6	2.0	0.85	-0.70
Water and Wastewater	14	5.1	8.7	1.7	0.59	-2.12
Air Quality	10	8.5	9.7	2.9	0.88	-0.41
Solid and Hazardous Waste	10	8.8	8.9	2.0	0.99	-0.05
Groundwater and Soils	9	6.3	8.2	3.1	0.77	-0.61

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Name of Ins	titution:	University of Kentucky, Lexington			
Major:	Computer	FE Examination:	Electrical and Computer		

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	10
No. Examinees Passing	1	6
Percent Examinees Passing	100%	60%

Uncertainty Range for Scaled Score <sup>4</sup> ± 1.00

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>		ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	11	15.0	9.8	2.1	1.53	2.48
Probability and Statistics	4	15.0	10.5	3.1	1.43	1.45
Ethics and Professional Practice	3	15.0	13.4	3.3	1.12	0.48
Engineering Economics	3	15.0	8.2	6.3	1.83	1.08
Properties of Electrical Materials	4	15.0	7.7	3.6	1.95	2.03
Engineering Sciences	6	15.0	9.8	2.8	1.53	1.86
Circuit Analysis (DC and AC Steady State)	10	10.3	8.2	1.2	1.26	1.75
Linear Systems	5	10.3	7.7	2.9	1.34	0.90
Signal Processing	5	10.5	9.5	3.1	1.11	0.32
Electronics	7	8.9	8.4	1.1	1.06	0.45
Power	8	11.0	8.3	1.4	1.33	1.93
Electromagnetics	5	9.4	6.7	3.5	1.40	0.77
Control Systems	6	10.3	7.7	3.0	1.34	0.87
Communications	5	15.0	9.6	2.8	1.56	1.93
Computer Networks	3	15.0	10.4	4.6	1.44	1.00
Digital Systems	7	15.0	9.3	2.3	1.61	2.48
Computer Systems	4	15.0	9.5	2.2	1.58	2.50
Software Development	4	15.0	12.1	3.6	1.24	0.81

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Name of Institution:	University of Kentucky, Lexington			
Major:	Electrical	FE Examination:	Electrical and Computer	

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	5	279
No. Examinees Passing	2	180
Percent Examinees Passing	40%	65%

Uncertainty Range for Scaled Score <sup>4</sup> ± 0.45

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>		ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	11	10.1	9.8	2.4	1.03	0.13
Probability and Statistics	4	10.8	9.7	3.5	1.11	0.31
Ethics and Professional Practice	3	13.5	11.8	4.1	1.14	0.41
Engineering Economics	3	9.3	9.8	4.7	0.95	-0.11
Properties of Electrical Materials	4	10.6	9.6	3.6	1.10	0.28
Engineering Sciences	6	11.1	10.3	3.2	1.08	0.25
Circuit Analysis (DC and AC Steady State)	10	9.4	9.3	2.2	1.01	0.05
Linear Systems	5	9.6	9.0	2.9	1.07	0.21
Signal Processing	5	8.9	8.9	2.7	1.00	0.00
Electronics	7	8.6	9.2	2.3	0.93	-0.26
Power	8	9.8	9.5	2.1	1.03	0.14
Electromagnetics	5	7.1	9.3	2.6	0.76	-0.85
Control Systems	6	7.9	8.7	2.4	0.91	-0.33
Communications	5	9.0	8.8	3.1	1.02	0.06
Computer Networks	3	9.5	9.7	4.2	0.98	-0.05
Digital Systems	7	11.6	8.6	2.7	1.35	1.11
Computer Systems	4	9.2	8.7	3.3	1.06	0.15
Software Development	4	10.7	10.3	4.3	1.04	0.09

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Name of Institution:	University of Kentucky, Lexington				
Major:	Mechanical	FE Examination:	Mechanical		

	Institution	ABET Comparator <sup>2</sup>	
No. Examinees Taking <sup>1</sup>	1	381	
No. Examinees Passing	1	270	
Percent Examinees Passing	100%	71%	

Uncertainty Range for Scaled Score <sup>4</sup> ± 1.00

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	6	8.0	10.3	3.0	0.78	-0.77
Probability and Statistics	4	15.0	9.6	3.7	1.56	1.46
Computational Tools	3	6.1	11.1	4.3	0.55	-1.16
Ethics and Professional Practice	3	9.1	11.9	3.9	0.76	-0.72
Engineering Economics	3	9.1	10.2	4.2	0.89	-0.26
Electricity and Magnetism	3	9.7	10.6	4.0	0.92	-0.23
Statics	8	10.5	9.6	2.5	1.09	0.36
Dynamics, Kinematics, and Vibrations	9	11.3	9.5	2.2	1.19	0.82
Mechanics of Materials	8	10.0	9.4	2.3	1.06	0.26
Material Properties and Processing	8	9.8	9.6	2.2	1.02	0.09
Fluid Mechanics	9	11.3	9.8	2.4	1.15	0.63
Thermodynamics	13	9.6	9.3	1.5	1.03	0.20
Heat Transfer	9	9.6	9.2	2.3	1.04	0.17
Measurements, Instrumentation, and Controls	5	9.6	8.4	3.3	1.14	0.36
Mechanical Design and Analysis	9	10.6	8.5	2.6	1.25	0.81

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