

**Examination:** Fundamentals of Engineering (FE)  
**Report title:** Subject Matter Report by Major and Examination  
**Exams administered:** Jul 01—Dec 31, 2016  
**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:	Agricultural	FE Examination:	Environmental

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

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 1.00
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	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	9.2	9.2	0.0	1.00	—
Probability and Statistics	3	9.4	9.4	0.0	1.00	—
Ethics and Professional Practice	5	8.2	8.2	0.0	1.00	—
Engineering Economics	4	9.3	9.3	0.0	1.00	—
Materials Science	3	7.2	7.2	0.0	1.00	—
Environmental Science and Chemistry	11	11.4	11.4	0.0	1.00	—
Risk Assessment	5	9.5	9.5	0.0	1.00	—
Fluid Mechanics	9	8.6	8.6	0.0	1.00	—
Thermodynamics	3	8.4	8.4	0.0	1.00	—
Water Resources	10	8.3	8.3	0.0	1.00	—
Water and Wastewater	14	6.1	6.1	0.0	1.00	—
Air Quality	10	7.7	7.7	0.0	1.00	—
Solid and Hazardous Waste	10	9.5	9.5	0.0	1.00	—
Groundwater and Soils	9	9.0	9.0	0.0	1.00	—

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- Comparator includes all examinees from programs accredited by the ABET commission noted.
- Performance index is based on a 0–15 scale.
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Name of Institution:	University of Kentucky, Lexington		
Major:	Civil	FE Examination:	Civil

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	3	442
No. Examinees Passing	3	232
Percent Examinees Passing	100%	52%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 0.58
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	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	13.3	9.6	2.8	1.39	1.32
Probability and Statistics	4	12.9	9.4	3.7	1.37	0.95
Computational Tools	4	15.0	9.7	3.9	1.55	1.36
Ethics and Professional Practice	4	10.2	10.5	3.6	0.97	-0.08
Engineering Economics	4	8.4	9.1	3.9	0.92	-0.18
Statics	7	11.1	9.0	2.7	1.23	0.78
Dynamics	4	13.4	9.5	3.7	1.41	1.05
Mechanics of Materials	7	10.2	8.8	2.4	1.16	0.58
Materials	4	12.4	8.8	3.5	1.41	1.03
Fluid Mechanics	4	11.1	9.8	3.6	1.13	0.36
Hydraulics and Hydrologic Systems	8	9.3	8.9	2.2	1.04	0.18
Structural Analysis	6	9.0	8.6	2.4	1.05	0.17
Structural Design	6	9.1	8.5	2.7	1.07	0.22
Geotechnical Engineering	9	11.0	8.8	2.1	1.25	1.05
Transportation Engineering	8	9.7	8.7	2.2	1.11	0.45
Environmental Engineering	6	10.6	8.6	2.7	1.23	0.74
Construction	4	10.0	9.5	3.6	1.05	0.14
Surveying	4	11.4	8.2	3.9	1.39	0.82

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	23
No. Examinees Passing	0	8
Percent Examinees Passing	0%	35%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 1.00
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	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 and Advanced Engineering Mathematics	12	4.6	7.9	1.9	0.58	-1.74
Probability and Statistics	6	5.6	8.7	2.1	0.64	-1.48
Chemistry	7	6.7	8.7	2.3	0.77	-0.87
Instrumentation and Data Acquisition	4	7.7	7.7	2.8	1.00	0.00
Ethics and Professional Practice	3	15.0	10.8	3.8	1.39	1.11
Safety, Health, and Environment	4	9.5	9.2	3.0	1.03	0.10
Engineering Economics	7	5.9	8.1	2.0	0.73	-1.10
Statics	8	8.5	8.8	2.0	0.97	-0.15
Dynamics	7	7.1	7.8	2.6	0.91	-0.27
Strength of Materials	8	8.9	8.5	2.5	1.05	0.16
Materials Science	6	6.5	8.4	2.6	0.77	-0.73
Fluid Mechanics and Dynamics of Liquids	8	7.4	8.0	2.0	0.93	-0.30
Fluid Mechanics and Dynamics of Gases	4	6.6	6.6	4.0	1.00	0.00
Electricity, Power, and Magnetism	7	8.0	6.9	2.5	1.16	0.44
Heat, Mass, and Energy Transfer	9	7.9	7.8	1.2	1.01	0.08

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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>	3	712
No. Examinees Passing	3	534
Percent Examinees Passing	100%	75%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 0.58
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	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	12.9	10.0	2.9	1.29	1.00
Probability and Statistics	4	10.9	9.8	3.3	1.11	0.33
Computational Tools	3	15.0	10.6	4.3	1.42	1.02
Ethics and Professional Practice	3	10.5	11.6	3.9	0.91	-0.28
Engineering Economics	3	11.3	10.1	4.1	1.12	0.29
Electricity and Magnetism	3	7.8	10.0	4.2	0.78	-0.52
Statics	8	13.5	9.7	2.5	1.39	1.52
Dynamics, Kinematics, and Vibrations	9	13.4	9.6	2.2	1.40	1.73
Mechanics of Materials	8	12.0	9.4	2.1	1.28	1.24
Material Properties and Processing	8	9.2	9.6	2.4	0.96	-0.17
Fluid Mechanics	9	11.4	9.7	2.4	1.18	0.71
Thermodynamics	13	8.7	9.2	1.7	0.95	-0.29
Heat Transfer	9	9.1	9.4	2.3	0.97	-0.13
Measurements, Instrumentation, and Controls	5	9.7	8.7	3.5	1.11	0.29
Mechanical Design and Analysis	9	11.1	9.0	2.5	1.23	0.84

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Name of Institution:		University of Kentucky, Lexington	
Major:	Mining/Mineral	FE Examination:	Other Disciplines

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	14
No. Examinees Passing	0	7
Percent Examinees Passing	0%	50%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 1.00
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Mathematics and Advanced Engineering Mathematics	12	6.6	8.6	1.4	0.77	-1.43
Probability and Statistics	6	7.5	9.4	2.5	0.80	-0.76
Chemistry	7	8.9	9.2	2.1	0.97	-0.14
Instrumentation and Data Acquisition	4	0.0	7.7	2.5	0.00	-3.08
Ethics and Professional Practice	3	15.0	13.2	3.4	1.14	0.53
Safety, Health, and Environment	4	7.7	9.6	3.1	0.80	-0.61
Engineering Economics	7	9.3	9.9	2.9	0.94	-0.21
Statics	8	8.4	8.1	1.6	1.04	0.19
Dynamics	7	5.9	7.6	2.5	0.78	-0.68
Strength of Materials	8	8.3	8.6	1.5	0.97	-0.20
Materials Science	6	9.5	8.6	1.0	1.10	0.90
Fluid Mechanics and Dynamics of Liquids	8	5.4	8.7	1.5	0.62	-2.20
Fluid Mechanics and Dynamics of Gases	4	7.1	9.4	2.5	0.76	-0.92
Electricity, Power, and Magnetism	7	9.1	8.3	2.2	1.10	0.36
Heat, Mass, and Energy Transfer	9	7.3	8.0	2.5	0.91	-0.28

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