

Examination: Fundamentals of Engineering (FE)
Report title: Subject Matter Report by Major and Examination
Exams administered: Jul 01—Dec 31, 2018
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 ²
No. Examinees Taking ¹	1	3
No. Examinees Passing	1	3
Percent Examinees Passing	100%	100%

Uncertainty Range for Scaled Score ⁴ ± 1.00
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	4	7.5	10.1	3.5	0.74	-0.74
Probability and Statistics	3	5.9	7.7	1.3	0.77	-1.38
Ethics and Professional Practice	5	9.7	11.6	2.4	0.84	-0.79
Engineering Economics	4	15.0	15.0	0.0	1.00	—
Materials Science	3	15.0	13.1	2.7	1.15	0.70
Environmental Science and Chemistry	11	9.5	10.5	3.3	0.90	-0.30
Risk Assessment	5	7.7	10.9	3.0	0.71	-1.07
Fluid Mechanics	9	8.8	9.8	1.1	0.90	-0.91
Thermodynamics	3	8.0	12.7	3.3	0.63	-1.42
Water Resources	10	8.6	12.9	3.0	0.67	-1.43
Water and Wastewater	14	9.2	9.4	0.7	0.98	-0.29
Air Quality	10	9.1	9.2	1.2	0.99	-0.08
Solid and Hazardous Waste	10	8.7	9.0	0.7	0.97	-0.43
Groundwater and Soils	9	9.2	8.8	1.9	1.05	0.21

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	4	627
No. Examinees Passing	3	329
Percent Examinees Passing	75%	52%

Uncertainty Range for Scaled Score ⁴ ± 0.50
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	7	9.8	9.6	3.0	1.02	0.07
Probability and Statistics	4	11.6	8.9	3.3	1.30	0.82
Computational Tools	4	11.9	9.6	3.7	1.24	0.62
Ethics and Professional Practice	4	10.1	10.0	3.4	1.01	0.03
Engineering Economics	4	10.4	9.4	3.6	1.11	0.28
Statics	7	10.1	9.1	2.7	1.11	0.37
Dynamics	4	9.4	9.0	3.5	1.04	0.11
Mechanics of Materials	7	8.7	8.9	2.4	0.98	-0.08
Materials	4	9.2	9.2	3.3	1.00	0.00
Fluid Mechanics	4	10.2	9.5	3.8	1.07	0.18
Hydraulics and Hydrologic Systems	8	11.8	8.7	2.3	1.36	1.35
Structural Analysis	6	10.5	8.7	2.6	1.21	0.69
Structural Design	6	8.2	8.4	2.8	0.98	-0.07
Geotechnical Engineering	9	9.5	8.5	2.2	1.12	0.45
Transportation Engineering	8	9.7	8.7	2.4	1.11	0.42
Environmental Engineering	6	11.5	8.5	2.9	1.35	1.03
Construction	4	12.0	9.5	4.0	1.26	0.63
Surveying	4	10.9	7.8	4.0	1.40	0.78

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Graduation Date: Examinees testing more than 12 months after graduation date

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	18
No. Examinees Passing	0	11
Percent Examinees Passing	0%	61%

Uncertainty Range for Scaled Score ⁴ ± 1.00
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	11	7.4	10.3	2.7	0.72	-1.07
Probability and Statistics	4	8.6	10.8	3.1	0.80	-0.71
Ethics and Professional Practice	3	15.0	11.8	3.6	1.27	0.89
Engineering Economics	3	9.3	10.1	3.7	0.92	-0.22
Properties of Electrical Materials	4	6.1	8.9	3.6	0.69	-0.78
Engineering Sciences	6	9.5	10.2	3.4	0.93	-0.21
Circuit Analysis (DC and AC Steady State)	10	6.3	9.0	2.0	0.70	-1.35
Linear Systems	5	0.0	8.0	2.3	0.00	-3.48
Signal Processing	5	8.6	9.5	2.3	0.91	-0.39
Electronics	7	9.1	9.9	3.1	0.92	-0.26
Power	8	8.1	9.1	2.1	0.89	-0.48
Electromagnetics	5	6.5	8.9	2.2	0.73	-1.09
Control Systems	6	7.3	8.3	2.4	0.88	-0.42
Communications	5	9.3	9.5	1.9	0.98	-0.11
Computer Networks	3	10.1	10.0	2.9	1.01	0.03
Digital Systems	7	9.4	9.9	2.6	0.95	-0.19
Computer Systems	4	15.0	10.0	3.5	1.50	1.43
Software Development	4	15.0	11.4	3.8	1.32	0.95

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	5	550
No. Examinees Passing	3	333
Percent Examinees Passing	60%	61%

Uncertainty Range for Scaled Score ⁴ ± 0.45
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	11	11.0	9.3	2.4	1.18	0.71
Probability and Statistics	4	10.4	9.4	3.4	1.11	0.29
Ethics and Professional Practice	3	15.0	11.1	4.0	1.35	0.98
Engineering Economics	3	9.7	9.6	4.3	1.01	0.02
Properties of Electrical Materials	4	10.8	9.4	3.4	1.15	0.41
Engineering Sciences	6	9.9	9.9	3.2	1.00	0.00
Circuit Analysis (DC and AC Steady State)	10	10.6	9.3	2.4	1.14	0.54
Linear Systems	5	8.8	8.9	3.0	0.99	-0.03
Signal Processing	5	9.9	9.0	2.8	1.10	0.32
Electronics	7	10.3	8.9	2.5	1.16	0.56
Power	8	10.1	9.1	2.5	1.11	0.40
Electromagnetics	5	9.6	8.9	2.9	1.08	0.24
Control Systems	6	9.1	8.8	2.8	1.03	0.11
Communications	5	9.6	8.9	2.9	1.08	0.24
Computer Networks	3	11.4	8.8	4.1	1.30	0.63
Digital Systems	7	10.1	9.0	2.7	1.12	0.41
Computer Systems	4	12.7	8.8	3.8	1.44	1.03
Software Development	4	11.1	9.0	3.9	1.23	0.54

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	3	979
No. Examinees Passing	3	721
Percent Examinees Passing	100%	74%

Uncertainty Range for Scaled Score ⁴ ± 0.58
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	6	9.8	10.0	2.9	0.98	-0.07
Probability and Statistics	4	9.3	9.5	3.2	0.98	-0.06
Computational Tools	3	13.2	11.0	4.1	1.20	0.54
Ethics and Professional Practice	3	15.0	11.7	4.0	1.28	0.83
Engineering Economics	3	10.5	10.4	4.1	1.01	0.02
Electricity and Magnetism	3	6.0	10.1	3.9	0.59	-1.05
Statics	8	9.0	9.6	2.6	0.94	-0.23
Dynamics, Kinematics, and Vibrations	9	9.1	9.6	2.2	0.95	-0.23
Mechanics of Materials	8	8.8	9.2	2.2	0.96	-0.18
Material Properties and Processing	8	9.8	9.5	2.2	1.03	0.14
Fluid Mechanics	9	8.9	9.6	2.1	0.93	-0.33
Thermodynamics	13	10.4	9.3	1.6	1.12	0.69
Heat Transfer	9	10.1	9.4	2.2	1.07	0.32
Measurements, Instrumentation, and Controls	5	9.1	8.8	3.3	1.03	0.09
Mechanical Design and Analysis	9	10.0	8.9	2.5	1.12	0.44

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	6
No. Examinees Passing	1	6
Percent Examinees Passing	100%	100%

Uncertainty Range for Scaled Score ⁴ ± 1.00
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics and Advanced Engineering Mathematics	12	9.3	8.8	1.0	1.06	0.50
Probability and Statistics	6	9.1	9.4	2.8	0.97	-0.11
Chemistry	7	9.4	9.5	1.2	0.99	-0.08
Instrumentation and Data Acquisition	4	15.0	10.2	3.6	1.47	1.33
Ethics and Professional Practice	3	15.0	12.2	2.9	1.23	0.97
Safety, Health, and Environment	4	15.0	12.2	2.8	1.23	1.00
Engineering Economics	7	15.0	12.1	2.0	1.24	1.45
Statics	8	11.8	8.9	1.6	1.33	1.81
Dynamics	7	9.7	9.5	2.6	1.02	0.08
Strength of Materials	8	8.1	9.0	1.3	0.90	-0.69
Materials Science	6	10.2	9.7	0.9	1.05	0.56
Fluid Mechanics and Dynamics of Liquids	8	9.4	9.1	0.9	1.03	0.33
Fluid Mechanics and Dynamics of Gases	4	9.7	9.1	1.1	1.07	0.55
Electricity, Power, and Magnetism	7	11.2	9.7	1.0	1.15	1.50
Heat, Mass, and Energy Transfer	9	9.1	8.7	0.6	1.05	0.67

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