

Examination: Fundamentals of Engineering (FE)
Report title: Subject Matter Report by Major and Examination
Exams administered: Jul 01—Dec 31, 2019
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:	Other Disciplines

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

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	7.0	7.3	0.3	0.96	-1.00
Probability and Statistics	6	9.2	9.1	0.2	1.01	0.50
Chemistry	7	9.1	8.9	0.3	1.02	0.67
Instrumentation and Data Acquisition	4	0.0	4.4	4.4	0.00	-1.00
Ethics and Professional Practice	3	15.0	11.9	3.1	1.26	1.00
Safety, Health, and Environment	4	7.6	8.5	0.9	0.89	-1.00
Engineering Economics	7	9.6	10.1	0.5	0.95	-1.00
Statics	8	9.5	8.2	1.4	1.16	0.93
Dynamics	7	6.0	7.7	1.7	0.78	-1.00
Strength of Materials	8	8.1	8.0	0.2	1.01	0.50
Materials Science	6	8.1	7.8	0.3	1.04	1.00
Fluid Mechanics and Dynamics of Liquids	8	7.9	8.6	0.7	0.92	-1.00
Fluid Mechanics and Dynamics of Gases	4	15.0	11.9	3.2	1.26	0.97
Electricity, Power, and Magnetism	7	6.3	6.1	0.3	1.03	0.67
Heat, Mass, and Energy Transfer	9	8.3	7.5	0.8	1.11	1.00

- 0 examinees have been removed from this data because they were flagged as a random guesser.
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- Performance index is based on a 0–15 scale.
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Name of Institution:	University of Kentucky, Lexington		
Major:	Chemical	FE Examination:	Chemical

	Institution	ABET Comparator ²
No. Examinees Taking ¹	2	286
No. Examinees Passing	2	217
Percent Examinees Passing	100%	76%

Uncertainty Range for Scaled Score ⁴ ± 0.71
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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	8	11.8	10.5	3.2	1.12	0.41
Probability and Statistics	4	15.0	10.8	3.5	1.39	1.20
Engineering Sciences	4	12.0	10.6	3.8	1.13	0.37
Computational Tools	4	12.3	9.9	3.4	1.24	0.71
Materials Science	4	9.9	10.2	3.4	0.97	-0.09
Chemistry	8	10.5	10.1	2.9	1.04	0.14
Fluid Mechanics/Dynamics	8	12.3	10.2	2.6	1.21	0.81
Thermodynamics	8	11.0	9.8	2.3	1.12	0.52
Material/Energy Balances	8	15.0	9.7	2.7	1.55	1.96
Heat Transfer	8	11.3	10.1	2.9	1.12	0.41
Mass Transfer and Separation	8	10.7	9.5	2.3	1.13	0.52
Chemical Reaction Engineering	8	9.7	9.4	2.6	1.03	0.12
Process Design and Economics	8	15.0	9.2	2.5	1.63	2.32
Process Control	5	10.1	9.3	3.4	1.09	0.24
Safety, Health, and Environment	5	12.6	9.2	3.8	1.37	0.89
Ethics and Professional Practice	2	15.0	11.0	5.4	1.36	0.74

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	3	674
No. Examinees Passing	2	371
Percent Examinees Passing	67%	55%

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	7	9.7	9.4	2.9	1.03	0.10
Probability and Statistics	4	10.0	9.4	3.7	1.06	0.16
Computational Tools	4	8.5	10.0	3.7	0.85	-0.41
Ethics and Professional Practice	4	10.6	10.1	3.5	1.05	0.14
Engineering Economics	4	7.7	9.5	3.7	0.81	-0.49
Statics	7	10.5	8.8	2.7	1.19	0.63
Dynamics	4	5.7	9.3	3.8	0.61	-0.95
Mechanics of Materials	7	7.2	8.8	2.6	0.82	-0.62
Materials	4	10.1	8.9	3.5	1.13	0.34
Fluid Mechanics	4	10.2	9.5	3.9	1.07	0.18
Hydraulics and Hydrologic Systems	8	7.5	9.0	2.6	0.83	-0.58
Structural Analysis	6	9.1	8.4	2.8	1.08	0.25
Structural Design	6	8.7	8.7	2.4	1.00	0.00
Geotechnical Engineering	9	9.1	8.8	1.9	1.03	0.16
Transportation Engineering	8	11.4	8.8	2.0	1.30	1.30
Environmental Engineering	6	7.9	8.5	2.6	0.93	-0.23
Construction	4	9.7	9.4	3.7	1.03	0.08
Surveying	4	7.9	7.8	3.6	1.01	0.03

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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	4	615
No. Examinees Passing	3	360
Percent Examinees Passing	75%	59%

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	11	8.9	9.1	2.2	0.98	-0.09
Probability and Statistics	4	10.5	9.5	3.4	1.11	0.29
Ethics and Professional Practice	3	13.2	11.2	4.2	1.18	0.48
Engineering Economics	3	9.0	9.9	4.4	0.91	-0.20
Properties of Electrical Materials	4	8.9	9.4	3.5	0.95	-0.14
Engineering Sciences	6	12.0	9.8	3.2	1.22	0.69
Circuit Analysis (DC and AC Steady State)	10	9.2	9.2	2.2	1.00	0.00
Linear Systems	5	9.2	8.8	3.1	1.05	0.13
Signal Processing	5	10.2	8.6	2.8	1.19	0.57
Electronics	7	8.8	8.7	2.5	1.01	0.04
Power	8	9.4	8.8	2.1	1.07	0.29
Electromagnetics	5	8.3	8.7	2.9	0.95	-0.14
Control Systems	6	6.2	8.5	2.7	0.73	-0.85
Communications	5	8.2	8.7	2.9	0.94	-0.17
Computer Networks	3	10.0	9.0	4.2	1.11	0.24
Digital Systems	7	9.8	8.8	2.7	1.11	0.37
Computer Systems	4	8.7	8.4	3.6	1.04	0.08
Software Development	4	13.2	8.6	3.9	1.53	1.18

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	4	1,007
No. Examinees Passing	4	736
Percent Examinees Passing	100%	73%

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	6	9.1	9.8	2.9	0.93	-0.24
Probability and Statistics	4	10.3	9.6	3.4	1.07	0.21
Computational Tools	3	10.9	10.4	4.1	1.05	0.12
Ethics and Professional Practice	3	13.1	11.4	3.8	1.15	0.45
Engineering Economics	3	11.9	10.6	4.3	1.12	0.30
Electricity and Magnetism	3	11.3	9.7	4.0	1.16	0.40
Statics	8	9.1	9.5	2.4	0.96	-0.17
Dynamics, Kinematics, and Vibrations	9	9.8	9.4	2.0	1.04	0.20
Mechanics of Materials	8	8.8	9.3	2.3	0.95	-0.22
Material Properties and Processing	8	10.2	9.6	2.2	1.06	0.27
Fluid Mechanics	9	9.3	9.5	2.0	0.98	-0.10
Thermodynamics	13	9.8	9.2	1.6	1.07	0.38
Heat Transfer	9	9.6	9.3	2.2	1.03	0.14
Measurements, Instrumentation, and Controls	5	11.2	8.9	3.2	1.26	0.72
Mechanical Design and Analysis	9	8.6	8.9	2.7	0.97	-0.11

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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	7
No. Examinees Passing	1	4
Percent Examinees Passing	100%	57%

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	8.6	7.9	1.0	1.09	0.70
Probability and Statistics	6	8.4	8.9	1.4	0.94	-0.36
Chemistry	7	10.8	9.0	1.1	1.20	1.64
Instrumentation and Data Acquisition	4	15.0	10.7	2.9	1.40	1.48
Ethics and Professional Practice	3	15.0	13.2	2.9	1.14	0.62
Safety, Health, and Environment	4	15.0	12.3	3.3	1.22	0.82
Engineering Economics	7	15.0	10.6	3.0	1.42	1.47
Statics	8	8.5	8.0	1.7	1.06	0.29
Dynamics	7	7.6	8.7	1.0	0.87	-1.10
Strength of Materials	8	10.2	8.7	1.5	1.17	1.00
Materials Science	6	7.1	7.5	3.2	0.95	-0.13
Fluid Mechanics and Dynamics of Liquids	8	10.6	9.5	1.8	1.12	0.61
Fluid Mechanics and Dynamics of Gases	4	15.0	10.0	2.2	1.50	2.27
Electricity, Power, and Magnetism	7	9.0	8.6	1.5	1.05	0.27
Heat, Mass, and Energy Transfer	9	8.4	8.8	1.5	0.95	-0.27

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