



NCEES

Examination: Fundamentals of Engineering (FE)
Report title: Subject Matter Report by Major and Examination
Exams administered: Jul 01—Dec 31, 2020
Examinees included: First-Time Examinees from EAC/ABET-Accredited Engineering Programs
Graduation Date: Examinees Testing within 12 months of 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	0	2
Percent Examinees Passing	0%	67%

Uncertainty
 Range for
 Scaled
 Score ⁴
 ± 1.00

	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	5	6.5	9.4	4.0	0.69	-0.73
Probability and Statistics	4	8.8	10.8	2.9	0.81	-0.69
Ethics and Professional Practice	5	15.0	13.2	2.6	1.14	0.69
Engineering Economics	5	0.0	5.8	4.1	0.00	-1.41
Fundamental Principles	7	7.3	8.8	1.5	0.83	-1.00
Environmental Chemistry	7	5.9	8.7	2.1	0.68	-1.33
Health Hazards and Risk Assessment	4	6.3	12.1	4.1	0.52	-1.41
Fluid Mechanics and Hydraulics	12	6.9	9.7	2.0	0.71	-1.40
Thermodynamics	3	4.8	9.6	4.2	0.50	-1.14
Surface Water Resources and Hydrology	9	8.7	12.9	3.0	0.67	-1.40
Groundwater, Soils, and Sediments	8	5.2	9.6	3.1	0.54	-1.42
Water and Wastewater	12	9.6	12.1	2.2	0.79	-1.14
Air Quality and Control	8	6.7	9.5	2.1	0.71	-1.33
Solid and Hazardous Waste	7	6.7	9.2	1.9	0.73	-1.32
Energy and Environment	4	8.2	11.0	2.9	0.75	-0.97

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	40
No. Examinees Passing	1	26
Percent Examinees Passing	100%	65%

Uncertainty
 Range for
 Scaled
 Score ⁴
 ± 1.00

	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	8.5	8.5	2.0	1.00	0.00
Probability and Statistics	6	8.9	9.3	2.5	0.96	-0.16
Chemistry	5	6.2	9.0	2.5	0.69	-1.12
Instrumentation and Controls	4	8.2	10.1	2.9	0.81	-0.66
Engineering Ethics and Societal Impacts	5	15.0	10.4	3.3	1.44	1.39
Safety, Health, and Environment	6	8.2	9.3	2.2	0.88	-0.50
Engineering Economics	6	10.3	9.4	2.4	1.10	0.38
Statics	9	7.7	9.0	2.2	0.86	-0.59
Dynamics	9	8.2	9.1	1.4	0.90	-0.64
Strength of Materials	9	8.1	8.9	1.9	0.91	-0.42
Materials	6	8.0	8.8	1.7	0.91	-0.47
Fluid Mechanics	12	11.8	9.3	1.7	1.27	1.47
Basic Electrical Engineering	6	8.7	8.9	2.9	0.98	-0.07
Thermodynamics and Heat Transfer	9	8.2	8.7	1.4	0.94	-0.36

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	4	452
No. Examinees Passing	3	337
Percent Examinees Passing	75%	75%

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	7.5	10.3	3.2	0.73	-0.88
Probability and Statistics	4	10.5	10.2	3.3	1.03	0.09
Engineering Sciences	4	5.7	10.0	3.5	0.57	-1.23
Materials Science	4	11.1	10.2	3.4	1.09	0.26
Chemistry and Biology	7	9.0	10.1	3.0	0.89	-0.37
Fluid Mechanics/Dynamics	8	9.5	9.5	2.2	1.00	0.00
Thermodynamics	8	9.6	9.4	2.0	1.02	0.10
Material/Energy Balances	10	8.0	9.3	2.1	0.86	-0.62
Heat Transfer	8	8.8	10.1	2.6	0.87	-0.50
Mass Transfer and Separation	8	9.1	9.8	2.3	0.93	-0.30
Solids Handling	3	12.3	9.9	3.8	1.24	0.63
Chemical Reaction Engineering	7	9.3	9.8	2.7	0.95	-0.19
Economics	4	8.5	9.8	3.8	0.87	-0.34
Process Design	7	13.4	9.8	2.7	1.37	1.33
Process Control	4	8.7	9.5	3.5	0.92	-0.23
Safety, Health, and Environment	5	9.9	10.2	3.3	0.97	-0.09
Ethics and Professional Practice	3	11.6	11.4	4.6	1.02	0.04

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	15	3,751
No. Examinees Passing	11	2,587
Percent Examinees Passing	73%	69%

Uncertainty Range for Scaled Score ⁴ ± 0.26
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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 Statistics	8	9.4	9.5	2.5	0.99	-0.04
Ethics and Professional Practice	4	10.1	10.5	3.7	0.96	-0.11
Engineering Economics	5	9.8	9.9	3.1	0.99	-0.03
Statics	8	9.9	9.2	2.4	1.08	0.29
Dynamics	4	9.4	9.5	3.5	0.99	-0.03
Mechanics of Materials	7	9.5	9.1	2.3	1.04	0.17
Materials	5	9.9	9.3	2.8	1.06	0.21
Fluid Mechanics	6	10.3	9.7	2.8	1.06	0.21
Surveying	6	10.2	9.4	2.4	1.09	0.33
Water Resources and Environmental Engineering	10	9.7	9.3	1.9	1.04	0.21
Structural Engineering	10	8.6	8.9	1.7	0.97	-0.18
Geotechnical Engineering	10	9.3	9.1	1.9	1.02	0.11
Transportation Engineering	9	9.8	9.3	2.1	1.05	0.24
Construction Engineering	8	10.2	9.2	2.5	1.11	0.40

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	44
No. Examinees Passing	1	29
Percent Examinees Passing	100%	66%

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	15.0	9.3	2.6	1.61	2.19
Probability and Statistics	4	15.0	10.0	3.3	1.50	1.52
Ethics and Professional Practice	4	15.0	10.8	3.8	1.39	1.11
Engineering Economics	5	15.0	9.8	2.7	1.53	1.93
Properties of Electrical Materials	4	7.8	8.4	2.6	0.93	-0.23
Circuit Analysis (DC and AC Steady State)	11	11.5	8.6	1.8	1.34	1.61
Linear Systems	5	10.9	8.7	3.5	1.25	0.63
Signal Processing	5	9.7	9.0	3.1	1.08	0.23
Electronics	7	9.0	9.0	2.7	1.00	0.00
Power Systems	8	10.1	8.5	1.8	1.19	0.89
Electromagnetics	4	15.0	9.1	3.1	1.65	1.90
Control Systems	6	9.7	9.1	1.8	1.07	0.33
Communications	5	15.0	9.1	3.4	1.65	1.74
Computer Networks	4	10.7	10.1	2.2	1.06	0.27
Digital Systems	8	11.4	10.3	2.3	1.11	0.48
Computer Systems	5	15.0	10.5	2.4	1.43	1.88
Software Engineering	4	15.0	12.5	3.5	1.20	0.71

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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	9	751
No. Examinees Passing	8	546
Percent Examinees Passing	89%	73%

Uncertainty Range for Scaled Score ⁴ ± 0.33
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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	8.7	9.6	2.4	0.91	-0.38
Probability and Statistics	4	10.7	10.1	3.6	1.06	0.17
Ethics and Professional Practice	4	10.4	11.1	3.7	0.94	-0.19
Engineering Economics	5	8.2	9.7	2.9	0.85	-0.52
Properties of Electrical Materials	4	8.6	9.8	3.4	0.88	-0.35
Circuit Analysis (DC and AC Steady State)	11	9.5	9.4	2.0	1.01	0.05
Linear Systems	5	8.1	9.2	3.0	0.88	-0.37
Signal Processing	5	8.4	9.4	2.8	0.89	-0.36
Electronics	7	8.7	9.0	2.3	0.97	-0.13
Power Systems	8	8.3	9.3	2.2	0.89	-0.45
Electromagnetics	4	9.0	9.9	3.5	0.91	-0.26
Control Systems	6	8.1	9.1	2.7	0.89	-0.37
Communications	5	10.0	9.0	2.8	1.11	0.36
Computer Networks	4	8.8	9.1	3.1	0.97	-0.10
Digital Systems	8	11.0	9.5	2.2	1.16	0.68
Computer Systems	5	8.7	9.1	2.9	0.96	-0.14
Software Engineering	4	12.2	10.3	3.9	1.18	0.49

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	10	2,655
No. Examinees Passing	10	2,000
Percent Examinees Passing	100%	75%

Uncertainty Range for Scaled Score ⁴ ± 0.32
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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	11.5	9.9	2.8	1.16	0.57
Probability and Statistics	4	10.0	9.6	3.2	1.04	0.13
Ethics and Professional Practice	4	9.9	11.0	3.7	0.90	-0.30
Engineering Economics	4	10.3	9.9	3.6	1.04	0.11
Electricity and Magnetism	5	10.8	9.9	3.1	1.09	0.29
Statics	9	12.3	9.5	2.3	1.29	1.22
Dynamics, Kinematics, and Vibrations	10	11.4	9.4	2.0	1.21	1.00
Mechanics of Materials	9	10.8	9.3	2.0	1.16	0.75
Material Properties and Processing	7	10.3	9.4	2.3	1.10	0.39
Fluid Mechanics	10	11.0	9.3	2.0	1.18	0.85
Thermodynamics	10	10.7	9.3	1.8	1.15	0.78
Heat Transfer	7	10.8	9.8	2.6	1.10	0.38
Measurements, Instrumentation, and Controls	5	10.1	9.4	3.1	1.07	0.23
Mechanical Design and Analysis	10	10.1	9.3	2.2	1.09	0.36

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