

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 within 12 months of Graduation Date

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

	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	7	8.9	9.3	0.6	0.96	-0.67
Probability and Statistics	4	8.4	7.9	0.3	1.06	1.67
Computational Tools	4	15.0	13.2	2.5	1.14	0.72
Ethics and Professional Practice	4	15.0	12.9	3.0	1.16	0.70
Engineering Economics	4	15.0	15.0	0.0	1.00	—
Statics	7	5.9	10.3	3.7	0.57	-1.19
Dynamics	4	9.8	9.2	0.8	1.07	0.75
Mechanics of Materials	7	7.2	10.5	3.3	0.69	-1.00
Materials	4	15.0	15.0	0.0	1.00	—
Fluid Mechanics	4	9.6	11.7	2.4	0.82	-0.88
Hydraulics and Hydrologic Systems	8	9.8	11.3	2.6	0.87	-0.58
Structural Analysis	6	8.7	11.6	2.6	0.75	-1.12
Structural Design	6	8.9	11.7	2.5	0.76	-1.12
Geotechnical Engineering	9	9.4	9.7	1.4	0.97	-0.21
Transportation Engineering	8	10.5	10.2	0.9	1.03	0.33
Environmental Engineering	6	8.8	8.4	1.1	1.05	0.36
Construction	4	9.9	8.9	1.6	1.11	0.63
Surveying	4	8.8	8.4	1.0	1.05	0.40

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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	475
No. Examinees Passing	2	366
Percent Examinees Passing	100%	77%

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	9.0	10.3	2.9	0.87	-0.45
Probability and Statistics	4	12.5	10.6	3.1	1.18	0.61
Engineering Sciences	4	9.0	10.4	3.6	0.87	-0.39
Computational Tools	4	11.7	10.2	3.3	1.15	0.45
Materials Science	4	9.5	10.3	3.2	0.92	-0.25
Chemistry	8	10.0	10.4	3.0	0.96	-0.13
Fluid Mechanics/Dynamics	8	8.5	9.8	2.2	0.87	-0.59
Thermodynamics	8	8.5	9.4	2.2	0.90	-0.41
Material/Energy Balances	8	10.2	9.5	2.5	1.07	0.28
Heat Transfer	8	9.7	9.9	2.4	0.98	-0.08
Mass Transfer and Separation	8	10.6	9.5	2.1	1.12	0.52
Chemical Reaction Engineering	8	9.7	9.7	2.4	1.00	0.00
Process Design and Economics	8	10.7	9.6	2.5	1.11	0.44
Process Control	5	8.6	9.8	2.9	0.88	-0.41
Safety, Health, and Environment	5	8.7	9.7	3.3	0.90	-0.30
Ethics and Professional Practice	2	15.0	11.5	5.3	1.30	0.66

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	17	3,692
No. Examinees Passing	11	2,490
Percent Examinees Passing	65%	67%

Uncertainty Range for Scaled Score ⁴ ± 0.24
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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	9.5	9.8	2.9	0.97	-0.10
Probability and Statistics	4	9.4	9.6	3.4	0.98	-0.06
Computational Tools	4	10.4	9.8	3.5	1.06	0.17
Ethics and Professional Practice	4	10.5	10.2	3.5	1.03	0.09
Engineering Economics	4	11.1	9.6	3.4	1.16	0.44
Statics	7	9.4	9.4	2.6	1.00	0.00
Dynamics	4	9.9	9.5	3.5	1.04	0.11
Mechanics of Materials	7	9.4	9.2	2.4	1.02	0.08
Materials	4	10.0	9.6	3.3	1.04	0.12
Fluid Mechanics	4	9.9	9.9	3.5	1.00	0.00
Hydraulics and Hydrologic Systems	8	9.0	9.3	2.3	0.97	-0.13
Structural Analysis	6	8.8	9.0	2.4	0.98	-0.08
Structural Design	6	8.5	8.9	2.4	0.96	-0.17
Geotechnical Engineering	9	9.4	9.0	1.9	1.04	0.21
Transportation Engineering	8	9.2	9.1	2.1	1.01	0.05
Environmental Engineering	6	8.2	9.2	2.5	0.89	-0.40
Construction	4	9.8	9.8	3.6	1.00	0.00
Surveying	4	7.1	8.6	3.6	0.83	-0.42

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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	56
No. Examinees Passing	1	33
Percent Examinees Passing	100%	59%

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	8.4	8.7	1.8	0.97	-0.17
Probability and Statistics	4	9.1	8.6	3.6	1.06	0.14
Ethics and Professional Practice	3	15.0	10.4	4.2	1.44	1.10
Engineering Economics	3	0.0	8.3	4.5	0.00	-1.84
Properties of Electrical Materials	4	9.8	8.9	3.4	1.10	0.26
Engineering Sciences	6	8.4	9.1	3.0	0.92	-0.23
Circuit Analysis (DC and AC Steady State)	10	8.3	8.3	2.0	1.00	0.00
Linear Systems	5	9.8	8.3	3.0	1.18	0.50
Signal Processing	5	8.8	8.0	2.6	1.10	0.31
Electronics	7	11.0	8.6	2.5	1.28	0.96
Power	8	10.8	7.9	1.9	1.37	1.53
Electromagnetics	5	10.4	8.3	2.8	1.25	0.75
Control Systems	6	8.3	7.4	3.0	1.12	0.30
Communications	5	15.0	8.5	3.0	1.76	2.17
Computer Networks	3	6.7	8.4	4.8	0.80	-0.35
Digital Systems	7	10.9	10.1	3.0	1.08	0.27
Computer Systems	4	9.8	9.7	3.6	1.01	0.03
Software Development	4	10.7	11.0	4.3	0.97	-0.07

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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	918
No. Examinees Passing	4	643
Percent Examinees Passing	100%	70%

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	9.0	9.5	2.2	0.95	-0.23
Probability and Statistics	4	13.5	9.4	3.6	1.44	1.14
Ethics and Professional Practice	3	13.3	11.0	4.2	1.21	0.55
Engineering Economics	3	6.5	9.4	4.2	0.69	-0.69
Properties of Electrical Materials	4	8.6	9.5	3.1	0.91	-0.29
Engineering Sciences	6	11.0	9.8	3.2	1.12	0.38
Circuit Analysis (DC and AC Steady State)	10	9.0	9.4	2.1	0.96	-0.19
Linear Systems	5	9.0	9.2	3.1	0.98	-0.06
Signal Processing	5	9.8	9.0	2.7	1.09	0.30
Electronics	7	11.7	9.0	2.2	1.30	1.23
Power	8	9.7	9.0	2.3	1.08	0.30
Electromagnetics	5	10.8	9.1	2.8	1.19	0.61
Control Systems	6	8.9	9.2	2.5	0.97	-0.12
Communications	5	10.9	9.0	2.7	1.21	0.70
Computer Networks	3	7.3	8.5	4.2	0.86	-0.29
Digital Systems	7	10.2	9.2	2.5	1.11	0.40
Computer Systems	4	8.3	8.9	3.4	0.93	-0.18
Software Development	4	11.3	9.6	3.8	1.18	0.45

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	13	2,644
No. Examinees Passing	10	2,055
Percent Examinees Passing	77%	78%

Uncertainty Range for Scaled Score ⁴ ± 0.28
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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	10.2	10.2	2.9	1.00	0.00
Probability and Statistics	4	9.9	9.6	3.1	1.03	0.10
Computational Tools	3	10.4	11.0	4.0	0.95	-0.15
Ethics and Professional Practice	3	12.3	11.4	4.0	1.08	0.23
Engineering Economics	3	10.2	9.9	4.1	1.03	0.07
Electricity and Magnetism	3	10.4	10.0	4.0	1.04	0.10
Statics	8	10.4	9.6	2.4	1.08	0.33
Dynamics, Kinematics, and Vibrations	9	9.5	9.5	2.0	1.00	0.00
Mechanics of Materials	8	9.3	9.3	2.0	1.00	0.00
Material Properties and Processing	8	9.2	9.6	2.2	0.96	-0.18
Fluid Mechanics	9	8.7	9.4	2.1	0.93	-0.33
Thermodynamics	13	9.2	9.3	1.5	0.99	-0.07
Heat Transfer	9	9.3	9.5	2.2	0.98	-0.09
Measurements, Instrumentation, and Controls	5	9.5	9.3	3.0	1.02	0.07
Mechanical Design and Analysis	9	9.5	9.2	2.2	1.03	0.14

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