

Examination: Fundamentals of Engineering (FE)
Report title: Subject Matter Report by Major and Examination
Exams administered: Jan 01—Jun 30, 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:	Chemical	FE Examination:	Chemical

	Institution	ABET Comparator ²
No. Examinees Taking ¹	2	186
No. Examinees Passing	2	130
Percent Examinees Passing	100%	70%

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	7.1	11.0	3.3	0.65	-1.18
Probability and Statistics	4	7.9	10.6	3.6	0.75	-0.75
Engineering Sciences	4	11.3	10.8	3.6	1.05	0.14
Computational Tools	4	9.0	10.3	3.4	0.87	-0.38
Materials Science	4	11.0	10.5	3.7	1.05	0.14
Chemistry	8	8.4	10.2	2.8	0.82	-0.64
Fluid Mechanics/Dynamics	8	9.1	9.7	2.5	0.94	-0.24
Thermodynamics	8	9.4	9.4	1.9	1.00	0.00
Material/Energy Balances	8	9.8	9.4	2.6	1.04	0.15
Heat Transfer	8	10.2	9.9	2.5	1.03	0.12
Mass Transfer and Separation	8	9.3	9.2	2.4	1.01	0.04
Chemical Reaction Engineering	8	5.8	9.6	2.4	0.60	-1.58
Process Design and Economics	8	10.1	9.4	3.0	1.07	0.23
Process Control	5	8.0	8.9	3.4	0.90	-0.26
Safety, Health, and Environment	5	12.7	8.8	4.0	1.44	0.98
Ethics and Professional Practice	2	8.0	9.9	5.9	0.81	-0.32

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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:	Civil	FE Examination:	Civil

	Institution	ABET Comparator ²
No. Examinees Taking ¹	4	470
No. Examinees Passing	2	272
Percent Examinees Passing	50%	58%

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	8.5	9.3	3.0	0.91	-0.27
Probability and Statistics	4	8.6	9.4	3.4	0.91	-0.24
Computational Tools	4	9.2	9.6	3.9	0.96	-0.10
Ethics and Professional Practice	4	11.7	10.5	3.7	1.11	0.32
Engineering Economics	4	8.1	9.4	3.7	0.86	-0.35
Statics	7	8.7	9.3	2.9	0.94	-0.21
Dynamics	4	10.0	9.5	3.5	1.05	0.14
Mechanics of Materials	7	7.8	9.0	2.5	0.87	-0.48
Materials	4	9.9	9.2	3.1	1.08	0.23
Fluid Mechanics	4	8.9	9.8	3.7	0.91	-0.24
Hydraulics and Hydrologic Systems	8	7.9	8.5	2.3	0.93	-0.26
Structural Analysis	6	7.7	8.6	2.4	0.90	-0.38
Structural Design	6	7.9	8.5	2.6	0.93	-0.23
Geotechnical Engineering	9	8.9	8.8	2.3	1.01	0.04
Transportation Engineering	8	8.4	8.6	2.4	0.98	-0.08
Environmental Engineering	6	8.9	8.8	2.8	1.01	0.04
Construction	4	9.3	9.1	3.6	1.02	0.06
Surveying	4	8.3	7.9	3.9	1.05	0.10

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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	496
No. Examinees Passing	3	305
Percent Examinees Passing	75%	61%

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	10.4	9.7	2.6	1.07	0.27
Probability and Statistics	4	10.1	9.5	3.5	1.06	0.17
Ethics and Professional Practice	3	10.8	11.1	4.2	0.97	-0.07
Engineering Economics	3	8.2	9.5	4.5	0.86	-0.29
Properties of Electrical Materials	4	10.8	9.5	3.3	1.14	0.39
Engineering Sciences	6	10.5	9.7	3.4	1.08	0.24
Circuit Analysis (DC and AC Steady State)	10	8.5	9.0	2.1	0.94	-0.24
Linear Systems	5	9.7	8.9	2.6	1.09	0.31
Signal Processing	5	8.7	8.9	3.0	0.98	-0.07
Electronics	7	8.7	9.0	2.1	0.97	-0.14
Power	8	8.9	9.0	2.2	0.99	-0.05
Electromagnetics	5	7.6	9.0	3.0	0.84	-0.47
Control Systems	6	8.9	8.6	2.4	1.03	0.13
Communications	5	7.5	8.5	2.7	0.88	-0.37
Computer Networks	3	8.3	9.3	4.3	0.89	-0.23
Digital Systems	7	9.9	8.7	2.6	1.14	0.46
Computer Systems	4	10.1	8.3	3.7	1.22	0.49
Software Development	4	12.1	9.3	4.2	1.30	0.67

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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	636
No. Examinees Passing	3	473
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	10.8	10.3	3.1	1.05	0.16
Probability and Statistics	4	11.8	10.0	3.5	1.18	0.51
Computational Tools	3	12.4	11.0	4.2	1.13	0.33
Ethics and Professional Practice	3	12.8	11.5	4.0	1.11	0.33
Engineering Economics	3	10.5	10.4	4.2	1.01	0.02
Electricity and Magnetism	3	7.2	9.9	4.1	0.73	-0.66
Statics	8	12.7	9.8	2.5	1.30	1.16
Dynamics, Kinematics, and Vibrations	9	11.7	9.4	2.4	1.24	0.96
Mechanics of Materials	8	11.2	9.5	2.3	1.18	0.74
Material Properties and Processing	8	10.0	9.8	2.5	1.02	0.08
Fluid Mechanics	9	10.8	9.8	2.3	1.10	0.43
Thermodynamics	13	10.0	9.3	1.8	1.08	0.39
Heat Transfer	9	10.4	9.4	2.4	1.11	0.42
Measurements, Instrumentation, and Controls	5	10.7	8.7	3.3	1.23	0.61
Mechanical Design and Analysis	9	9.0	9.0	2.5	1.00	0.00

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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	9.4	10.2	2.2	0.92	-0.36
Probability and Statistics	6	9.0	8.4	0.6	1.07	1.00
Chemistry	7	8.4	8.9	0.8	0.94	-0.63
Instrumentation and Data Acquisition	4	10.2	10.2	2.5	1.00	0.00
Ethics and Professional Practice	3	7.5	13.8	2.8	0.54	-2.25
Safety, Health, and Environment	4	8.4	11.3	2.7	0.74	-1.07
Engineering Economics	7	9.3	10.8	2.0	0.86	-0.75
Statics	8	8.2	10.2	2.4	0.80	-0.83
Dynamics	7	7.2	9.1	1.2	0.79	-1.58
Strength of Materials	8	7.7	9.8	2.4	0.79	-0.88
Materials Science	6	8.7	9.4	0.7	0.93	-1.00
Fluid Mechanics and Dynamics of Liquids	8	7.5	11.2	3.0	0.67	-1.23
Fluid Mechanics and Dynamics of Gases	4	7.4	8.9	1.2	0.83	-1.25
Electricity, Power, and Magnetism	7	9.5	10.4	2.1	0.91	-0.43
Heat, Mass, and Energy Transfer	9	9.1	9.1	0.8	1.00	0.00

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