

Report title: Subject Matter Report by Major and Examination

Exams administered: Jul 01—Dec 31, 2016

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, Lex	ington
Major:	Agricultural	FE Examination:	Other Disciplines

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	33
No. Examinees Passing	1	22
Percent Examinees Passing	100%	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 and Advanced Engineering Mathematics	12	9.4	8.5	1.1	1.11	0.82
Probability and Statistics	6	15.0	9.1	2.8	1.65	2.11
Chemistry	7	9.2	9.0	1.4	1.02	0.14
Instrumentation and Data Acquisition	4	15.0	9.0	3.2	1.67	1.88
Ethics and Professional Practice	3	15.0	11.6	4.2	1.29	0.81
Safety, Health, and Environment	4	6.8	10.3	3.1	0.66	-1.13
Engineering Economics	7	10.8	10.1	2.8	1.07	0.25
Statics	8	9.9	8.9	1.4	1.11	0.71
Dynamics	7	9.7	8.5	2.5	1.14	0.48
Strength of Materials	8	10.3	9.7	2.4	1.06	0.25
Materials Science	6	7.9	9.4	2.2	0.84	-0.68
Fluid Mechanics and Dynamics of Liquids	8	15.0	9.9	2.1	1.52	2.43
Fluid Mechanics and Dynamics of Gases	4	10.1	10.2	2.6	0.99	-0.04
Electricity, Power, and Magnetism	7	9.9	9.0	2.6	1.10	0.35
Heat, Mass, and Energy Transfer	9	10.1	9.4	2.5	1.07	0.28

- 1. **Q** examinees have been removed from this data because they were flagged as a random guesser.
- 2. Comparator includes all examinees from programs accredited by the ABET commission noted.
- 3. 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	4	517
No. Examinees Passing	2	381
Percent Examinees Passing	50%	74%

Uncertainty
Range for
Scaled
Score 4
± 0.50

	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	10.2	10.4	3.0	0.98	-0.07
Probability and Statistics	4	10.7	10.4	3.2	1.03	0.09
Engineering Sciences	4	8.7	10.3	3.5	0.84	-0.46
Computational Tools	4	9.9	10.0	3.5	0.99	-0.03
Materials Science	4	9.0	10.1	3.3	0.89	-0.33
Chemistry	8	10.4	10.3	3.0	1.01	0.03
Fluid Mechanics/Dynamics	8	8.1	9.7	2.3	0.84	-0.70
Thermodynamics	8	7.3	9.3	2.0	0.78	-1.00
Material/Energy Balances	8	7.2	9.4	2.6	0.77	-0.85
Heat Transfer	8	8.8	9.6	2.4	0.92	-0.33
Mass Transfer and Separation	8	8.7	9.4	2.2	0.93	-0.32
Chemical Reaction Engineering	8	8.8	9.6	2.3	0.92	-0.35
Process Design and Economics	8	8.5	9.6	2.7	0.89	-0.41
Process Control	5	6.9	9.4	3.0	0.73	-0.83
Safety, Health, and Environment	5	8.8	9.4	3.3	0.94	-0.18
Ethics and Professional Practice	2	11.3	11.2	5.3	1.01	0.02

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	24	2,948
No. Examinees Passing	21	1,982
Percent Examinees Passing	88%	67%

Uncertainty Range for Scaled Score ⁴ ± 0.20

	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	11.4	9.8	2.8	1.16	0.57
Probability and Statistics	4	10.8	9.5	3.4	1.14	0.38
Computational Tools	4	11.2	10.0	3.7	1.12	0.32
Ethics and Professional Practice	4	10.8	10.3	3.6	1.05	0.14
Engineering Economics	4	9.8	9.7	3.5	1.01	0.03
Statics	7	9.6	9.4	2.8	1.02	0.07
Dynamics	4	9.9	9.9	3.5	1.00	0.00
Mechanics of Materials	7	8.4	9.2	2.3	0.91	-0.35
Materials	4	9.3	9.2	3.2	1.01	0.03
Fluid Mechanics	4	10.4	10.1	3.6	1.03	0.08
Hydraulics and Hydrologic Systems	8	9.6	9.3	2.2	1.03	0.14
Structural Analysis	6	9.6	9.0	2.5	1.07	0.24
Structural Design	6	8.8	8.7	2.4	1.01	0.04
Geotechnical Engineering	9	9.8	9.2	2.0	1.07	0.30
Transportation Engineering	8	9.3	9.1	2.1	1.02	0.10
Environmental Engineering	6	9.8	9.2	2.6	1.07	0.23
Construction	4	11.3	9.8	3.5	1.15	0.43
Surveying	4	9.7	8.4	3.6	1.15	0.36

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	2	775
No. Examinees Passing	2	559
Percent Examinees Passing	100%	72%

Uncertainty Range for Scaled Score ⁴ ± 0.71

	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	9.4	9.8	2.4	0.96	-0.17
Probability and Statistics	4	8.5	9.9	3.3	0.86	-0.42
Ethics and Professional Practice	3	8.4	11.4	4.0	0.74	-0.75
Engineering Economics	3	7.6	9.3	4.3	0.82	-0.40
Properties of Electrical Materials	4	11.1	9.3	3.2	1.19	0.56
Engineering Sciences	6	9.2	10.3	3.2	0.89	-0.34
Circuit Analysis (DC and AC Steady State)	10	8.7	9.5	2.2	0.92	-0.36
Linear Systems	5	7.5	9.3	2.8	0.81	-0.64
Signal Processing	5	7.4	8.9	2.7	0.83	-0.56
Electronics	7	8.0	9.3	2.3	0.86	-0.57
Power	8	9.9	9.4	2.2	1.05	0.23
Electromagnetics	5	8.7	9.3	2.6	0.94	-0.23
Control Systems	6	8.5	9.3	2.5	0.91	-0.32
Communications	5	8.2	9.3	2.7	0.88	-0.41
Computer Networks	3	10.5	9.2	4.1	1.14	0.32
Digital Systems	7	7.4	9.2	2.6	0.80	-0.69
Computer Systems	4	8.9	9.1	3.4	0.98	-0.06
Software Development	4	12.5	10.0	4.0	1.25	0.63

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

	Institution	
No. Examinees Taking ¹	12	2,198
No. Examinees Passing	11	1,724
Percent Examinees Passing	92%	78%

Uncertainty Range for Scaled Score ⁴ ± 0.29

	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	9.9	10.2	2.9	0.97	-0.10	
Probability and Statistics	4	9.4	9.9	3.2	0.95	-0.16	
Computational Tools	3	11.7	10.9	4.1	1.07	0.20	
Ethics and Professional Practice	3	10.1	11.5	3.9	0.88	-0.36	
Engineering Economics	3	11.2	9.8	4.0	1.14	0.35	
Electricity and Magnetism	3	12.0	10.4	4.0	1.15	0.40	
Statics	8	10.1	9.7	2.4	1.04	0.17	
Dynamics, Kinematics, and Vibrations	9	10.2	9.6	2.1	1.06	0.29	
Mechanics of Materials	8	10.2	9.4	2.0	1.09	0.40	
Material Properties and Processing	8	10.6	9.7	2.2	1.09	0.41	
Fluid Mechanics	9	10.0	9.7	2.2	1.03	0.14	
Thermodynamics	13	9.4	9.3	1.5	1.01	0.07	
Heat Transfer	9	9.9	9.5	2.1	1.04	0.19	
Measurements, Instrumentation, and Controls	5	10.0	9.2	2.9	1.09	0.28	
Mechanical Design and Analysis	9	10.0	9.2	2.2	1.09	0.36	

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Graduation Date: Examinees Testing within 12 months of Graduation Date

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	4	37
No. Examinees Passing	4	28
Percent Examinees Passing	100%	76%

Uncertainty Range for Scaled Score ⁴ ± 0.50

	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	8.9	1.5	1.06	0.33
Probability and Statistics	6	9.6	9.5	2.2	1.01	0.05
Chemistry	7	9.5	9.1	1.8	1.04	0.22
Instrumentation and Data Acquisition	4	9.3	9.4	2.9	0.99	-0.03
Ethics and Professional Practice	3	10.0	11.7	3.5	0.85	-0.49
Safety, Health, and Environment	4	11.1	11.8	3.2	0.94	-0.22
Engineering Economics	7	11.2	9.8	2.8	1.14	0.50
Statics	8	9.0	8.6	1.4	1.05	0.29
Dynamics	7	9.6	8.9	2.0	1.08	0.35
Strength of Materials	8	8.7	9.0	1.5	0.97	-0.20
Materials Science	6	10.4	9.5	2.1	1.09	0.43
Fluid Mechanics and Dynamics of Liquids	8	9.2	9.0	1.5	1.02	0.13
Fluid Mechanics and Dynamics of Gases	4	10.5	9.3	2.9	1.13	0.41
Electricity, Power, and Magnetism	7	8.8	9.0	2.0	0.98	-0.10
Heat, Mass, and Energy Transfer	9	9.2	9.3	1.4	0.99	-0.07

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