

**Examination:** Fundamentals of Engineering (FE)  
**Report title:** Subject Matter Report by Major and Examination  
**Exams administered:** Jul 01—Nov 30, 2014  
**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:	Other Disciplines

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	30
No. Examinees Passing	1	27
Percent Examinees Passing	100%	90%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 1.00$
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	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics and Advanced Engineering Mathematics	12	9.9	9.2	1.6	1.08	0.44
Probability and Statistics	6	15.0	10.1	2.2	1.49	2.23
Chemistry	7	15.0	10.6	2.6	1.42	1.69
Instrumentation and Data Acquisition	4	15.0	10.0	4.3	1.50	1.16
Ethics and Professional Practice	3	15.0	11.3	3.9	1.33	0.95
Safety, Health, and Environment	4	15.0	12.1	3.1	1.24	0.94
Engineering Economics	7	10.4	10.3	2.6	1.01	0.04
Statics	8	15.0	10.3	2.5	1.46	1.88
Dynamics	7	10.6	9.7	2.2	1.09	0.41
Strength of Materials	8	9.3	10.2	1.7	0.91	-0.53
Materials Science	6	8.2	9.8	2.3	0.84	-0.70
Fluid Mechanics and Dynamics of Liquids	8	9.9	9.6	2.1	1.03	0.14
Fluid Mechanics and Dynamics of Gases	4	15.0	10.6	3.0	1.42	1.47
Electricity, Power, and Magnetism	7	10.8	9.8	3.3	1.10	0.30
Heat, Mass, and Energy Transfer	9	8.2	9.2	1.4	0.89	-0.71

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- Comparator includes all examinees from programs accredited by the ABET commission noted.
- 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 <sup>2</sup>
No. Examinees Taking <sup>1</sup>	4	434
No. Examinees Passing	4	337
Percent Examinees Passing	100%	78%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 0.50$
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	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	8	11.9	10.9	3.0	1.09	0.33
Probability and Statistics	4	11.3	10.7	3.4	1.06	0.18
Engineering Sciences	4	12.2	10.7	3.6	1.14	0.42
Computational Tools	4	12.0	10.4	3.4	1.15	0.47
Materials Science	4	10.6	10.6	3.1	1.00	0.00
Chemistry	8	12.9	10.2	2.8	1.26	0.96
Fluid Mechanics/Dynamics	8	11.9	9.8	1.9	1.21	1.11
Thermodynamics	8	10.5	9.3	2.0	1.13	0.60
Material/Energy Balances	8	8.9	9.1	2.2	0.98	-0.09
Heat Transfer	8	10.0	9.9	2.3	1.01	0.04
Mass Transfer and Separation	8	9.6	9.3	2.1	1.03	0.14
Chemical Reaction Engineering	8	12.5	9.3	2.2	1.34	1.45
Process Design and Economics	8	9.4	9.1	2.7	1.03	0.11
Process Control	5	8.8	9.1	3.0	0.97	-0.10
Safety, Health and Environment	5	9.7	8.7	3.3	1.11	0.30
Ethics and Professional Practice	2	15.0	10.7	5.6	1.40	0.77

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	22	2,499
No. Examinees Passing	18	1,760
Percent Examinees Passing	82%	70%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 0.21
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	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	7	9.9	9.8	2.7	1.01	0.04
Probability and Statistics	4	9.3	10.1	3.5	0.92	-0.23
Computational Tools	4	10.8	9.9	3.7	1.09	0.24
Ethics and Professional Practice	4	11.9	11.1	3.8	1.07	0.21
Engineering Economics	4	10.6	10.1	3.6	1.05	0.14
Statics	7	8.5	9.5	2.8	0.89	-0.36
Dynamics	4	8.5	10.3	3.6	0.83	-0.50
Mechanics of Materials	7	9.8	9.7	2.5	1.01	0.04
Materials	4	9.0	9.2	3.1	0.98	-0.06
Fluid Mechanics	4	12.1	10.9	3.4	1.11	0.35
Hydraulics and Hydrologic Systems	8	9.1	9.4	2.2	0.97	-0.14
Structural Analysis	6	8.6	8.9	2.5	0.97	-0.12
Structural Design	6	8.5	8.9	2.6	0.96	-0.15
Geotechnical Engineering	9	9.3	9.4	2.1	0.99	-0.05
Transportation Engineering	8	8.9	9.0	2.2	0.99	-0.05
Environmental Engineering	6	9.4	8.8	2.7	1.07	0.22
Construction	4	10.7	9.5	3.7	1.13	0.32
Surveying	4	9.1	8.1	3.6	1.12	0.28

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Name of Institution:		<b>University of Kentucky, Lexington</b>	
Major:	<b>Computer</b>	FE Examination:	<b>Electrical and Computer</b>

	<b>Institution</b>	<b>ABET Comparator<sup>2</sup></b>
No. Examinees Taking <sup>1</sup>	1	35
No. Examinees Passing	1	31
Percent Examinees Passing	100%	89%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 1.00$
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	<b>Number of Exam Questions</b>	<b>Institution Average Performance Index <sup>3</sup></b>	<b>ABET Comparator Average Performance Index</b>	<b>ABET Comparator Standard Deviation</b>	<b>Ratio Score <sup>4</sup></b>	<b>Scaled Score <sup>4</sup></b>
Mathematics	11	15.0	10.4	2.6	1.44	1.77
Probability and Statistics	4	15.0	10.9	3.0	1.38	1.37
Ethics and Professional Practice	3	15.0	12.6	4.0	1.19	0.60
Engineering Economics	3	9.6	9.9	3.7	0.97	-0.08
Properties of Electrical Materials	4	15.0	11.3	3.2	1.33	1.16
Engineering Sciences	6	8.1	11.2	3.8	0.72	-0.82
Circuit Analysis	10	15.0	9.5	2.2	1.58	2.50
Linear Systems	5	10.5	9.0	2.2	1.17	0.68
Signal Processing	5	8.9	10.5	2.7	0.85	-0.59
Electronics	7	9.1	9.8	2.2	0.93	-0.32
Power	8	9.9	9.4	2.0	1.05	0.25
Electromagnetics	5	10.1	10.1	3.1	1.00	0.00
Control Systems	6	9.1	9.3	2.6	0.98	-0.08
Communications	5	15.0	8.8	2.4	1.70	2.58
Computer Networks	3	15.0	10.7	3.9	1.40	1.10
Digital Systems	7	9.2	10.4	2.4	0.88	-0.50
Computer Systems	4	8.8	10.9	2.9	0.81	-0.72
Software Development	4	15.0	12.6	3.4	1.19	0.71

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Name of Institution:		<b>University of Kentucky, Lexington</b>	
Major:	<b>Electrical</b>	FE Examination:	<b>Electrical and Computer</b>

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	5	595
No. Examinees Passing	5	462
Percent Examinees Passing	100%	78%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 0.45$
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	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	11	11.8	10.1	2.4	1.17	0.71
Probability and Statistics	4	12.6	10.3	3.2	1.22	0.72
Ethics and Professional Practice	3	13.6	11.8	4.0	1.15	0.45
Engineering Economics	3	11.2	9.9	4.1	1.13	0.32
Properties of Electrical Materials	4	12.7	11.0	2.9	1.15	0.59
Engineering Sciences	6	11.5	11.6	3.3	0.99	-0.03
Circuit Analysis	10	12.3	9.9	2.6	1.24	0.92
Linear Systems	5	9.1	9.4	3.0	0.97	-0.10
Signal Processing	5	9.4	9.7	3.0	0.97	-0.10
Electronics	7	8.6	9.7	2.3	0.89	-0.48
Power	8	10.7	9.6	2.1	1.11	0.52
Electromagnetics	5	11.3	10.0	3.1	1.13	0.42
Control Systems	6	8.8	9.2	2.5	0.96	-0.16
Communications	5	9.8	9.0	2.8	1.09	0.29
Computer Networks	3	11.6	9.5	4.3	1.22	0.49
Digital Systems	7	10.0	9.2	2.7	1.09	0.30
Computer Systems	4	6.9	8.9	3.7	0.78	-0.54
Software Development	4	12.5	10.5	4.4	1.19	0.45

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Name of Institution: <b>University of Kentucky, Lexington</b>	
Major: <b>Mechanical</b>	FE Examination: <b>Mechanical</b>

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	4	1,707
No. Examinees Passing	4	1,452
Percent Examinees Passing	100%	85%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 0.50$
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	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics	6	12.9	10.5	3.0	1.23	0.80
Probability and Statistics	4	12.1	10.5	3.2	1.15	0.50
Computational Tools	3	11.8	11.0	4.2	1.07	0.19
Ethics and Professional Practice	3	10.9	11.8	3.9	0.92	-0.23
Engineering Economics	3	10.0	10.2	4.2	0.98	-0.05
Electricity and Magnetism	3	11.5	11.0	3.8	1.05	0.13
Statics	8	9.5	10.1	2.6	0.94	-0.23
Dynamics, Kinematics, and Vibrations	9	10.3	10.0	2.3	1.03	0.13
Mechanics of Materials	8	10.4	9.9	2.1	1.05	0.24
Material Properties and Processing	8	9.7	9.9	2.1	0.98	-0.10
Fluid Mechanics	9	10.1	10.3	2.2	0.98	-0.09
Thermodynamics	13	11.0	9.6	1.5	1.15	0.93
Heat Transfer	9	11.1	9.9	2.2	1.12	0.55
Measurements, Instrumentation, and Controls	5	12.6	9.5	3.1	1.33	1.00
Mechanical Design and Analysis	9	12.5	9.1	2.4	1.37	1.42

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	6	45
No. Examinees Passing	6	39
Percent Examinees Passing	100%	87%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 0.41$
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	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
Mathematics and Advanced Engineering Mathematics	12	9.6	9.3	2.1	1.03	0.14
Probability and Statistics	6	10.7	9.8	2.1	1.09	0.43
Chemistry	7	10.0	9.9	2.3	1.01	0.04
Instrumentation and Data Acquisition	4	9.2	8.4	3.6	1.10	0.22
Ethics and Professional Practice	3	13.8	12.2	4.0	1.13	0.40
Safety, Health, and Environment	4	14.1	10.8	3.6	1.31	0.92
Engineering Economics	7	11.1	10.1	2.6	1.10	0.38
Statics	8	10.3	9.6	2.0	1.07	0.35
Dynamics	7	11.5	10.1	2.4	1.14	0.58
Strength of Materials	8	11.3	9.6	1.9	1.18	0.89
Materials Science	6	9.4	9.1	1.7	1.03	0.18
Fluid Mechanics and Dynamics of Liquids	8	12.0	9.9	2.2	1.21	0.95
Fluid Mechanics and Dynamics of Gases	4	10.9	10.5	2.4	1.04	0.17
Electricity, Power, and Magnetism	7	10.5	9.5	1.6	1.11	0.63
Heat, Mass, and Energy Transfer	9	8.8	9.4	1.4	0.94	-0.43

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