

**Examination:** Fundamentals of Engineering (FE)  
**Report title:** Subject Matter Report by Major and Examination  
**Exams administered:** Jun 01—Nov 30, 2015  
**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>	5	37
No. Examinees Passing	5	32
Percent Examinees Passing	100%	86%

<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 and Advanced Engineering Mathematics	12	11.3	9.3	1.6	1.22	1.25
Probability and Statistics	6	11.0	10.4	2.5	1.06	0.24
Chemistry	7	11.6	9.9	3.0	1.17	0.57
Instrumentation and Data Acquisition	4	9.7	9.1	3.7	1.07	0.16
Ethics and Professional Practice	3	12.4	11.7	3.6	1.06	0.19
Safety, Health, and Environment	4	10.7	10.8	2.9	0.99	-0.03
Engineering Economics	7	9.4	8.9	2.5	1.06	0.20
Statics	8	9.6	9.3	1.7	1.03	0.18
Dynamics	7	10.1	9.5	2.0	1.06	0.30
Strength of Materials	8	9.1	9.1	1.8	1.00	0.00
Materials Science	6	10.2	10.1	2.5	1.01	0.04
Fluid Mechanics and Dynamics of Liquids	8	13.9	10.7	2.5	1.30	1.28
Fluid Mechanics and Dynamics of Gases	4	9.5	9.8	2.8	0.97	-0.11
Electricity, Power, and Magnetism	7	8.5	9.8	2.8	0.87	-0.46
Heat, Mass, and Energy Transfer	9	9.4	9.7	2.0	0.97	-0.15

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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	507
No. Examinees Passing	4	384
Percent Examinees Passing	100%	76%

<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	12.6	10.7	3.1	1.18	0.61
Probability and Statistics	4	10.7	10.6	3.5	1.01	0.03
Engineering Sciences	4	9.8	10.5	3.4	0.93	-0.21
Computational Tools	4	10.9	10.2	3.3	1.07	0.21
Materials Science	4	9.2	10.4	3.2	0.88	-0.38
Chemistry	8	10.3	10.4	2.9	0.99	-0.03
Fluid Mechanics/Dynamics	8	10.2	9.6	2.4	1.06	0.25
Thermodynamics	8	8.6	9.2	2.0	0.93	-0.30
Material/Energy Balances	8	10.1	9.4	2.5	1.07	0.28
Heat Transfer	8	9.7	9.8	2.4	0.99	-0.04
Mass Transfer and Separation	8	8.7	9.2	2.0	0.95	-0.25
Chemical Reaction Engineering	8	9.5	9.5	2.2	1.00	0.00
Process Design and Economics	8	8.9	9.7	2.7	0.92	-0.30
Process Control	5	10.2	9.3	3.2	1.10	0.28
Safety, Health, and Environment	5	9.9	9.5	3.3	1.04	0.12
Ethics and Professional Practice	2	10.8	11.1	5.4	0.97	-0.06

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	19	2,893
No. Examinees Passing	14	1,931
Percent Examinees Passing	74%	67%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 0.23
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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	9.4	9.8	2.7	0.96	-0.15
Probability and Statistics	4	9.8	9.9	3.4	0.99	-0.03
Computational Tools	4	9.1	10.0	3.7	0.91	-0.24
Ethics and Professional Practice	4	10.5	10.7	3.7	0.98	-0.05
Engineering Economics	4	11.1	10.1	3.7	1.10	0.27
Statics	7	10.5	9.5	2.7	1.11	0.37
Dynamics	4	10.2	10.0	3.5	1.02	0.06
Mechanics of Materials	7	9.6	9.4	2.5	1.02	0.08
Materials	4	9.5	9.2	3.1	1.03	0.10
Fluid Mechanics	4	9.5	10.6	3.8	0.90	-0.29
Hydraulics and Hydrologic Systems	8	9.6	9.1	2.2	1.05	0.23
Structural Analysis	6	9.0	8.8	2.4	1.02	0.08
Structural Design	6	8.1	8.9	2.5	0.91	-0.32
Geotechnical Engineering	9	9.2	9.1	2.1	1.01	0.05
Transportation Engineering	8	9.3	9.1	2.0	1.02	0.10
Environmental Engineering	6	9.3	8.9	2.5	1.04	0.16
Construction	4	11.3	9.4	3.5	1.20	0.54
Surveying	4	9.6	8.4	3.7	1.14	0.32

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

	<b>Institution</b>	<b>ABET Comparator<sup>2</sup></b>
No. Examinees Taking <sup>1</sup>	4	727
No. Examinees Passing	4	546
Percent Examinees Passing	100%	75%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> ± 0.50
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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	10.3	10.0	2.3	1.03	0.13
Probability and Statistics	4	9.0	10.1	3.5	0.89	-0.31
Ethics and Professional Practice	3	15.0	11.7	3.8	1.28	0.87
Engineering Economics	3	9.3	9.4	4.2	0.99	-0.02
Properties of Electrical Materials	4	10.1	9.6	3.3	1.05	0.15
Engineering Sciences	6	13.6	10.4	3.2	1.31	1.00
Circuit Analysis (DC and AC Steady State)	10	13.9	9.6	2.2	1.45	1.95
Linear Systems	5	9.3	9.4	2.9	0.99	-0.03
Signal Processing	5	10.9	9.2	3.0	1.18	0.57
Electronics	7	11.6	9.4	2.2	1.23	1.00
Power	8	13.1	9.4	2.3	1.39	1.61
Electromagnetics	5	12.5	9.6	2.8	1.30	1.04
Control Systems	6	11.1	9.4	2.2	1.18	0.77
Communications	5	11.0	9.1	2.5	1.21	0.76
Computer Networks	3	9.8	9.7	3.8	1.01	0.03
Digital Systems	7	12.2	9.2	2.8	1.33	1.07
Computer Systems	4	9.6	8.7	3.8	1.10	0.24
Software Development	4	13.5	10.8	4.0	1.25	0.68

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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>	3	2,194
No. Examinees Passing	2	1,744
Percent Examinees Passing	67%	79%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 0.58$
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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	12.3	10.4	3.0	1.18	0.63
Probability and Statistics	4	10.0	10.0	3.2	1.00	0.00
Computational Tools	3	13.1	10.9	4.2	1.20	0.52
Ethics and Professional Practice	3	15.0	11.5	3.9	1.30	0.90
Engineering Economics	3	8.3	10.1	4.4	0.82	-0.41
Electricity and Magnetism	3	10.4	10.6	4.1	0.98	-0.05
Statics	8	11.0	9.9	2.6	1.11	0.42
Dynamics, Kinematics, and Vibrations	9	10.8	9.7	2.2	1.11	0.50
Mechanics of Materials	8	9.2	9.5	2.0	0.97	-0.15
Material Properties and Processing	8	10.7	9.8	2.3	1.09	0.39
Fluid Mechanics	9	10.9	9.8	2.2	1.11	0.50
Thermodynamics	13	9.7	9.4	1.5	1.03	0.20
Heat Transfer	9	10.1	9.5	2.1	1.06	0.29
Measurements, Instrumentation, and Controls	5	10.8	9.1	3.3	1.19	0.52
Mechanical Design and Analysis	9	11.0	9.2	2.3	1.20	0.78

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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>	2	43
No. Examinees Passing	2	32
Percent Examinees Passing	100%	74%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 0.71$
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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	8.7	8.6	1.3	1.01	0.08
Probability and Statistics	6	9.7	8.9	1.6	1.09	0.50
Chemistry	7	9.7	9.2	2.0	1.05	0.25
Instrumentation and Data Acquisition	4	3.5	8.1	3.0	0.43	-1.53
Ethics and Professional Practice	3	15.0	11.9	3.7	1.26	0.84
Safety, Health, and Environment	4	10.8	11.2	3.1	0.96	-0.13
Engineering Economics	7	8.7	9.4	2.2	0.93	-0.32
Statics	8	10.6	9.3	2.1	1.14	0.62
Dynamics	7	9.2	8.8	2.0	1.05	0.20
Strength of Materials	8	7.5	8.8	2.0	0.85	-0.65
Materials Science	6	9.9	9.5	2.8	1.04	0.14
Fluid Mechanics and Dynamics of Liquids	8	9.1	9.2	1.8	0.99	-0.06
Fluid Mechanics and Dynamics of Gases	4	8.5	8.4	3.3	1.01	0.03
Electricity, Power, and Magnetism	7	7.0	8.8	2.3	0.80	-0.78
Heat, Mass, and Energy Transfer	9	9.6	8.7	1.9	1.10	0.47

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