

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 more than 12 months after graduation date

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

	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

	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	9.2	9.6	1.1	0.96	-0.36
Probability and Statistics	6	15.0	13.0	2.8	1.15	0.71
Chemistry	7	10.8	10.1	0.8	1.07	0.88
Instrumentation and Data Acquisition	4	15.0	13.5	2.2	1.11	0.68
Ethics and Professional Practice	3	15.0	13.0	2.8	1.15	0.71
Safety, Health, and Environment	4	15.0	15.0	0.0	1.00	_
Engineering Economics	7	15.0	10.8	3.4	1.39	1.24
Statics	8	7.0	8.3	0.9	0.84	-1.44
Dynamics	7	11.1	11.9	2.3	0.93	-0.35
Strength of Materials	8	7.3	9.3	1.6	0.78	-1.25
Materials Science	6	7.3	9.1	1.3	0.80	-1.38
Fluid Mechanics and Dynamics of Liquids	8	9.7	13.2	2.5	0.73	-1.40
Fluid Mechanics and Dynamics of Gases	4	7.8	10.7	3.1	0.73	-0.94
Electricity, Power, and Magnetism	7	10.3	10.0	0.3	1.03	1.00
Heat, Mass, and Energy Transfer	9	10.8	10.2	0.7	1.06	0.86

- 1. $\underline{\mathbf{0}}$ 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.
- These scores are made available for assessment purposes. See the NCEES publication entitled Using the FE as an Outcomes Assessment Tool at http://ncees.org/licensure/educator-resources/.

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Name of Institution:				
Major:	Chemical	FE Examination:	Chemical	

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	191
No. Examinees Passing	1	124
Percent Examinees Passing	100%	65%

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	8	6.4	10.2	3.2	0.63	-1.19
Probability and Statistics	4	9.2	10.3	3.8	0.89	-0.29
Engineering Sciences	4	6.5	9.6	3.9	0.68	-0.79
Computational Tools	4	8.1	9.9	3.5	0.82	-0.51
Materials Science	4	9.3	10.1	3.4	0.92	-0.24
Chemistry	8	15.0	9.7	3.0	1.55	1.77
Fluid Mechanics/Dynamics	8	9.9	9.6	2.5	1.03	0.12
Thermodynamics	8	10.0	9.2	2.1	1.09	0.38
Material/Energy Balances	8	9.4	9.4	2.9	1.00	0.00
Heat Transfer	8	9.8	9.4	2.4	1.04	0.17
Mass Transfer and Separation	8	7.9	9.1	2.0	0.87	-0.60
Chemical Reaction Engineering	8	8.5	9.1	2.4	0.93	-0.25
Process Design and Economics	8	8.1	9.2	2.6	0.88	-0.42
Process Control	5	6.2	8.7	2.9	0.71	-0.86
Safety, Health, and Environment	5	7.5	9.0	3.6	0.83	-0.42
Ethics and Professional Practice	2	0.0	10.0	6.0	0.00	-1.67

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Name of Institution:		University of Kentucky, Lexington Sectrical FF Examination: Flectrical and Computer		
Major:	Electrical	FE Examination:	Electrical and Computer	

	Institution	ABET Comparator ²
No. Examinees Taking ¹	2	425
No. Examinees Passing	1	258
Percent Examinees Passing	50%	61%

Uncertainty Range for Scaled Score ⁴ ± 0.71

	Number of Exam Questions	Institution Average Performance Index ³		ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	11	9.0	9.5	2.4	0.95	-0.21
Probability and Statistics	4	15.0	9.6	3.3	1.56	1.64
Ethics and Professional Practice	3	15.0	12.0	3.9	1.25	0.77
Engineering Economics	3	4.1	9.7	4.2	0.42	-1.33
Properties of Electrical Materials	4	7.5	9.7	3.2	0.77	-0.69
Engineering Sciences	6	8.4	10.0	3.3	0.84	-0.48
Circuit Analysis (DC and AC Steady State)	10	8.2	9.3	2.2	0.88	-0.50
Linear Systems	5	6.7	9.0	3.0	0.74	-0.77
Signal Processing	5	6.9	8.8	3.1	0.78	-0.61
Electronics	7	8.9	8.9	2.7	1.00	0.00
Power	8	9.6	9.3	2.5	1.03	0.12
Electromagnetics	5	5.1	9.5	3.1	0.54	-1.42
Control Systems	6	9.0	8.6	2.6	1.05	0.15
Communications	5	4.2	8.8	2.7	0.48	-1.70
Computer Networks	3	11.0	9.9	3.9	1.11	0.28
Digital Systems	7	8.1	8.6	2.7	0.94	-0.19
Computer Systems	4	8.7	8.3	3.6	1.05	0.11
Software Development	4	12.2	9.3	4.5	1.31	0.64

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