

NCEES

Examination: Fundamentals of Engineering (FE)
Report title: Subject Matter Report by Major and Examination
Exams administered: Jan 01 – Jun 30, 2022
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:	Environmental

	Institution	ABET Comparator ²
No. Examinees Taking ¹	2	17
No. Examinees Passing	2	12
Percent Examinees Passing	100%	71%

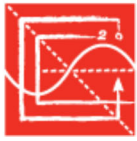
**Uncertainty
 Range for
 Scaled
 Score ⁴**
 ± 0.71

Number	Institution	ABET		ABET			
		Exam Questions	Performance Index ³	Average Performance Index	Standard Deviation	Scaled Score ⁴	Score ⁴
	Mathematics	5	11.3	9.8	3.2	1.15	0.47
	Probability and Statistics	4	10.0	9.5	3.3	1.05	0.15
	Ethics and Professional Practice	5	12.5	10.8	3.7	1.16	0.46
	Engineering Economics	5	10.1	9.3	3.0	1.09	0.27
	Fundamental Principles	7	10.5	8.7	1.7	1.21	1.06
	Environmental Chemistry	7	11.6	9.4	3.0	1.23	0.73
	Health Hazards and Risk Assessment	4	9.2	12.0	3.3	0.77	-0.85
	Fluid Mechanics and Hydraulics	12	13.2	9.3	2.1	1.42	1.86
	Thermodynamics	3	8.2	9.7	4.4	0.85	-0.34
	Surface Water Resources and Hydrology	9	10.4	9.5	1.5	1.09	0.60
	Groundwater, Soils, and Sediments	8	10.4	9.1	1.3	1.14	1.00
	Water and Wastewater	12	10.5	9.2	1.5	1.14	0.87
	Air Quality and Control	8	9.2	8.4	1.5	1.10	0.53
	Solid and Hazardous Waste	7	15.0	9.4	2.6	1.60	2.15
	Energy and Environment	4	9.9	8.9	4.1	1.11	0.24

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	3	33
No. Examinees Passing	1	19
Percent Examinees Passing	33%	58%

**Uncertainty
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 Scaled
 Score ⁴**
 ± 0.58

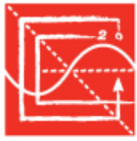
	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	8	8.7	8.1	2.8	1.07	0.21
Probability and Statistics	6	9.2	9.0	2.5	1.02	0.08
Chemistry	5	8.2	8.8	3.2	0.93	-0.19
Instrumentation and Controls	4	11.2	10.0	3.1	1.12	0.39
Engineering Ethics and Societal Impacts	5	10.9	9.5	2.7	1.15	0.52
Safety, Health, and Environment	6	10.2	10.0	3.0	1.02	0.07
Engineering Economics	6	8.8	9.7	2.7	0.91	-0.33
Statics	9	8.8	8.7	1.5	1.01	0.07
Dynamics	9	9.8	8.6	1.7	1.14	0.71
Strength of Materials	9	8.9	8.6	1.7	1.03	0.18
Materials	6	8.8	9.0	2.0	0.98	-0.10
Fluid Mechanics	12	9.8	8.9	1.4	1.10	0.64
Basic Electrical Engineering	6	7.8	8.4	2.4	0.93	-0.25
Thermodynamics and Heat Transfer	9	8.8	9.3	1.4	0.95	-0.36

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	7	600
No. Examinees Passing	6	424
Percent Examinees Passing	86%	71%

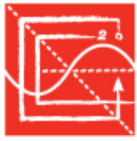
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	6	8.7	10.1	3.3	0.86	-0.42
Probability and Statistics	4	13.1	10.2	3.6	1.28	0.81
Engineering Sciences	4	10.7	9.8	3.5	1.09	0.26
Materials Science	4	10.9	10.0	3.2	1.09	0.28
Chemistry and Biology	7	10.1	9.7	2.8	1.04	0.14
Fluid Mechanics/Dynamics	8	10.2	9.4	2.3	1.09	0.35
Thermodynamics	8	10.4	9.3	2.0	1.12	0.55
Material/Energy Balances	10	10.6	8.9	2.2	1.19	0.77
Heat Transfer	8	9.2	9.4	2.5	0.98	-0.08
Mass Transfer and Separation	8	10.4	9.3	2.1	1.12	0.52
Solids Handling	3	7.2	10.1	3.7	0.71	-0.78
Chemical Reaction Engineering	7	10.7	9.5	2.5	1.13	0.48
Economics	4	12.1	10.1	3.4	1.20	0.59
Process Design	7	11.0	9.7	2.5	1.13	0.52
Process Control	4	11.7	9.6	3.2	1.22	0.66
Safety, Health, and Environment	5	11.1	9.8	3.3	1.13	0.39
Ethics and Professional Practice	3	14.1	12.0	4.3	1.18	0.49

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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	3	987
No. Examinees Passing	2	676
Percent Examinees Passing	67%	68%

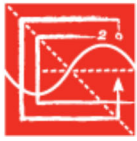
Uncertainty
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	11	9.4	9.5	2.4	0.99	-0.04
Probability and Statistics	4	10.2	10.1	3.5	1.01	0.03
Ethics and Professional Practice	4	10.4	11.3	3.8	0.92	-0.24
Engineering Economics	5	10.2	9.7	3.1	1.05	0.16
Properties of Electrical Materials	4	11.1	9.8	3.6	1.13	0.36
Circuit Analysis (DC and AC Steady State)	11	11.1	9.2	2.2	1.21	0.86
Linear Systems	5	10.9	8.9	2.9	1.22	0.69
Signal Processing	5	11.7	9.1	2.9	1.29	0.90
Electronics	7	10.0	9.0	2.2	1.11	0.45
Power Systems	8	10.5	9.1	2.4	1.15	0.58
Electromagnetics	4	12.4	9.4	3.6	1.32	0.83
Control Systems	6	7.7	9.2	2.7	0.84	-0.56
Communications	5	10.1	9.1	2.9	1.11	0.34
Computer Networks	4	7.3	9.4	3.3	0.78	-0.64
Digital Systems	8	8.1	9.5	2.3	0.85	-0.61
Computer Systems	5	9.4	9.2	3.1	1.02	0.06
Software Engineering	4	11.4	10.0	3.8	1.14	0.37

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	12	3,491
No. Examinees Passing	9	2,463
Percent Examinees Passing	75%	71%

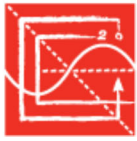
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	Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score ⁴	Scaled Score ⁴
Mathematics	6	10.7	9.8	2.8	1.09	0.32
Probability and Statistics	4	10.0	9.8	3.3	1.02	0.06
Ethics and Professional Practice	4	10.4	10.8	3.6	0.96	-0.11
Engineering Economics	4	12.0	10.1	3.6	1.19	0.53
Electricity and Magnetism	5	8.5	9.3	3.0	0.91	-0.27
Statics	9	8.6	9.3	2.2	0.92	-0.32
Dynamics, Kinematics, and Vibrations	10	9.0	9.3	2.1	0.97	-0.14
Mechanics of Materials	9	8.6	9.1	1.9	0.95	-0.26
Material Properties and Processing	7	10.2	9.4	2.4	1.09	0.33
Thermodynamics	10	9.1	9.0	1.8	1.01	0.06
Heat Transfer	7	9.1	9.5	2.5	0.96	-0.16
Measurements, Instrumentation, and Controls	5	9.4	9.1	2.8	1.03	0.11
Mechanical Design and Analysis	10	9.5	9.2	2.1	1.03	0.14

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	47
No. Examinees Passing	1	26
Percent Examinees Passing	100%	55%

Uncertainty
Range for
Scaled
Score ⁴

Scale
± 1.00

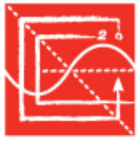
Ratio Score ⁴	Scaled Score ⁴		Number of Exam Questions	Institution Average Performance Index ³	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation
1.50	1.67	Mathematics	8	15.0	10.0	3.0
1.65	1.97	Probability and Statistics	6	15.0	9.1	3.0
1.16	0.64	Chemistry	5	10.0	8.6	2.2
0.99	-0.03	Instrumentation and Controls	4	9.8	9.9	3.4
0.99	-0.04	Engineering Ethics and Societal Impacts	5	9.1	9.2	2.8
0.79	-0.66	Safety, Health, and Environment	6	7.7	9.8	3.2
1.05	0.22	Engineering Economics	6	9.7	9.2	2.3
0.98	-0.09	Statics	9	9.3	9.5	2.3
1.60	2.67	Dynamics	9	15.0	9.4	2.1
1.22	1.25	Strength of Materials	9	11.2	9.2	1.6
1.55	2.12	Materials	6	15.0	9.7	2.5
1.14	1.14	Fluid Mechanics	12	11.5	9.1	2.1
0.64	0.64	Basic Electrical Engineering	6	10.8	9.2	2.5
3.05	3.05	Thermodynamics and Heat Transfer	9	15.0	8.9	2.0

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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	5	38
No. Examinees Passing	5	19
Percent Examinees Passing	100%	50%

Uncertainty
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	Number of Exam Questions	Institution Average Performance Index	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio	Scaled Score	
Mathematics	8	11.7	9.3	2.9	1.26	0.83	
Probability and Statistics	6	10.8	8.2	2.6	1.12	0.88	
Chemistry	5	11.7	9.2	2.9	1.27	0.86	
Engineering Ethics and Societal Impacts	5	11.1	11.3	3.6	0.98	-0.06	
Safety, Health, and Environment	6	11.5	11.2	3.0	1.03	0.10	
Engineering Economics	6	11.8	9.6	2.6	1.23	0.85	
Statistics	8	8.1	8.7	2.1	1.05	0.18	
Dynamics	9	11.0	8.7	2.3	1.26	1.00	
Strength of Materials	8	8.5	8.8	2.1	1.08	0.33	
Materials	6	8.6	8.8	2.7	0.98	-0.07	
Fluid Mechanics	12	8.8	8.3	1.6	1.07	0.38	
Basic Electrical Engineering	6	10.2	8.2	2.5	1.24	0.80	
Thermodynamics and Heat Transfer	8	8.0	8.5	1.3	1.05	0.38	

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