

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 more than 12 months after graduation date

١	Name of Institution:	f Institution: University of Kentucky, Lexington				
٨	Major:	Agricultural	FE Examination:	Civil		

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	4
No. Examinees Passing	0	1
Percent Examinees Passing	0%	25%

Uncertainty Range for Scaled Score ⁴ + 1 00

						± 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 Statistics	8	6.5	7.8	1.1	0.83	-1.18
Ethics and Professional Practice	4	7.9	9.9	3.0	0.80	-0.67
Engineering Economics	5	9.1	10.6	2.5	0.86	-0.60
Statics	8	7.9	8.6	0.8	0.92	-0.87
Dynamics	4	8.4	6.0	3.5	1.40	0.69
Mechanics of Materials	7	7.7	7.7	0.4	1.00	0.00
Materials	5	9.1	7.1	4.2	1.28	0.48
Fluid Mechanics	6	9.0	8.3	0.8	1.08	0.87
Surveying	6	9.7	10.4	2.8	0.93	-0.25
Water Resources and Environmental Engineering	10	9.1	8.4	1.5	1.08	0.47
Structural Engineering	10	7.4	8.1	0.5	0.91	-1.40
Geotechnical Engineering	10	9.0	8.2	1.3	1.10	0.62
Transportation Engineering	9	5.9	7.4	1.4	0.80	-1.07
Construction Engineering	8	8.8	6.5	3.7	1.35	0.62

- 0 examinees have been removed from this data because they were flagged as a random guesser.
 Comparator includes all examinees from programs accredited by the ABET commission noted.
 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 https://ncees.org/education/outcomes-assessment/.

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	1	5
No. Examinees Passing	1	1
Percent Examinees Passing	100%	20%

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	5	8.6	7.5	1.6	1.15	0.69
Probability and Statistics	4	15.0	7.1	4.8	2.11	1.65
Ethics and Professional Practice	5	7.4	8.0	1.7	0.93	-0.35
Engineering Economics	5	9.7	7.8	1.8	1.24	1.06
Fundmental Principles	7	9.1	9.6	2.7	0.95	-0.19
Environmental Chemistry	7	10.4	7.3	1.7	1.42	1.82
Health Hazards and Risk Assessment	4	9.4	8.1	1.0	1.16	1.30
Fluid Mechanics and Hydraulics	12	8.1	7.9	1.2	1.03	0.17
Thermodynamics	3	0.0	4.0	3.4	0.00	-1.18
Surface Water Resources and Hydrology	9	10.2	8.7	1.6	1.17	0.94
Groundwater, Soils, and Sediments	8	15.0	9.4	2.9	1.60	1.93
Water and Wastewater	12	9.3	8.0	1.0	1.16	1.30
Air Quality and Control	8	9.2	8.1	1.1	1.14	1.00
Solid and Hazardous Waste	7	11.3	4.7	4.4	2.40	1.50
Energy and Environment	4	10.1	6.5	3.5	1.55	1.03

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	3	6
No. Examinees Passing	2	4
Percent Examinees Passing	67%	67%

Uncertainty Range for 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	8.6	1.8	1.01	0.06
Probability and Statistics	6	9.5	9.2	0.7	1.03	0.43
Chemistry	5	7.8	8.3	1.3	0.94	-0.38
Instrumentation and Controls	4	9.9	10.9	3.2	0.91	-0.31
Engineering Ethics and Societal Impacts	5	15.0	11.3	3.7	1.33	1.00
Safety, Health, and Environment	6	13.1	13.1	2.6	1.00	0.00
Engineering Economics	6	10.0	10.4	2.3	0.96	-0.17
Statics	9	9.4	9.8	1.5	0.96	-0.27
Dynamics	9	8.8	8.9	2.2	0.99	-0.05
Strength of Materials	9	10.2	9.7	3.1	1.05	0.16
Materials	6	9.3	9.4	1.4	0.99	-0.07
Fluid Mechanics	12	9.8	10.5	2.4	0.93	-0.29
Basic Electrical Engineering	6	11.6	12.3	2.8	0.94	-0.25
Thermodynamics and Heat Transfer	9	10.7	10.3	2.2	1.04	0.18

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Graduation Date: Examinees testing more than 12 months after graduation date

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

	Institution	ABE I Comparator
No. Examinees Taking ¹	6	859
No. Examinees Passing	5	489
Percent Examinees Passing	83%	57%

Uncertainty Range for Scaled Score ⁴ ± 0.41

	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 Statistics	8	10.4	8.9	2.4	1.17	0.63
Ethics and Professional Practice	4	10.0	10.7	3.7	0.93	-0.19
Engineering Economics	5	10.9	9.1	3.2	1.20	0.56
Statics	8	11.3	8.9	2.7	1.27	0.89
Dynamics	4	9.5	9.1	3.6	1.04	0.11
Mechanics of Materials	7	9.6	8.8	2.6	1.09	0.31
Materials	5	8.2	9.2	2.9	0.89	-0.34
Fluid Mechanics	6	9.8	9.3	2.8	1.05	0.18
Surveying	6	9.5	8.9	2.5	1.07	0.24
Water Resources and Environmental Engineering	10	9.0	8.8	2.1	1.02	0.10
Structural Engineering	10	8.9	8.6	1.9	1.03	0.16
Geotechnical Engineering	10	9.7	8.7	1.9	1.11	0.53
Transportation Engineering	9	8.6	8.7	2.2	0.99	-0.05
Construction Engineering	8	10.0	8.9	2.6	1.12	0.42

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Subject Matter Report by Major and Examination Report title:

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Graduation Date: Examinees testing more than 12 months after graduation date

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

	Institution	ABET Comparator ²
No. Examinees Taking ¹	6	538
No. Examinees Passing	1	339
Percent Examinees Passing	17%	63%

Uncertainty Range for Scaled Score ⁴ ± 0.41

	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	8.6	9.5	2.5	0.91	-0.36
Probability and Statistics	4	8.7	10.1	3.5	0.86	-0.40
Ethics and Professional Practice	4	10.9	11.6	3.7	0.94	-0.19
Engineering Economics	5	9.1	9.9	3.3	0.92	-0.24
Properties of Electrical Materials	4	9.7	9.7	3.6	1.00	0.00
Circuit Analysis (DC and AC Steady State)	11	7.2	9.1	2.2	0.79	-0.86
Linear Systems	5	8.1	9.0	3.0	0.90	-0.30
Signal Processing	5	7.0	8.8	2.8	0.80	-0.64
Electronics	7	7.8	8.8	2.4	0.89	-0.42
Power Systems	8	8.9	9.2	2.4	0.97	-0.13
Electromagnetics	4	7.2	9.4	3.5	0.77	-0.63
Control Systems	6	8.2	9.0	2.6	0.91	-0.31
Communications	5	8.5	8.7	2.9	0.98	-0.07
Computer Networks	4	9.0	9.4	3.4	0.96	-0.12
Digital Systems	8	7.8	9.0	2.4	0.87	-0.50
Computer Systems	5	6.6	8.9	3.3	0.74	-0.70
Software Engineering	4	7.7	9.3	4.1	0.83	-0.39

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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:	Mechanical	FE Examination:	Mechanical		

Institution	ABET	
institution	Comparator ²	
4	982	
4	690	
100%	70%	

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	6	9.4	9.8	3.0	0.96	-0.13
Probability and Statistics	4	12.1	9.6	3.5	1.26	0.71
Ethics and Professional Practice	4	11.8	11.3	3.6	1.04	0.14
Engineering Economics	4	11.2	10.5	3.5	1.07	0.20
Electricity and Magnetism	5	9.5	9.2	3.0	1.03	0.10
Statics	9	12.6	9.5	2.3	1.33	1.35
Dynamics, Kinematics, and Vibrations	10	12.3	9.5	2.2	1.29	1.27
Mechanics of Materials	9	11.6	9.1	2.0	1.27	1.25
Material Properties and Processing	7	8.9	9.5	2.4	0.94	-0.25
Fluid Mechanics	10	10.4	9.3	2.1	1.12	0.52
Thermodynamics	10	9.7	9.0	1.9	1.08	0.37
Heat Transfer	7	9.4	9.4	2.6	1.00	0.00
Measurements, Instrumentation, and Controls	5	10.1	8.8	2.9	1.15	0.45
Mechanical Design and Analysis	10	9.0	8.9	2.5	1.01	0.04

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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	1	11
No. Examinees Passing	1	6
Percent Examinees Passing	100%	55%

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	9.5	9.7	2.8	0.98	-0.07
Probability and Statistics	6	8.2	8.1	2.2	1.01	0.05
Chemistry	5	8.3	9.7	3.4	0.86	-0.41
Instrumentation and Controls	4	7.9	8.1	3.3	0.98	-0.06
Engineering Ethics and Societal Impacts	5	9.6	10.5	3.5	0.91	-0.26
Safety, Health, and Environment	6	15.0	11.8	3.4	1.27	0.94
Engineering Economics	6	9.3	9.8	3.3	0.95	-0.15
Statics	9	8.4	8.2	0.9	1.02	0.22
Dynamics	9	8.0	8.4	1.2	0.95	-0.33
Strength of Materials	9	8.7	8.6	1.0	1.01	0.10
Materials	6	10.6	9.1	2.2	1.16	0.68
Fluid Mechanics	12	9.6	8.6	1.4	1.12	0.71
Basic Electrical Engineering	6	8.5	7.6	1.2	1.12	0.75
Thermodynamics and Heat Transfer	9	7.9	7.6	1.3	1.04	0.23

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