



# NCEES

**Examination:** Fundamentals of Engineering (FE)  
**Report title:** Subject Matter Report by Major and Examination  
**Exams administered:** Jan 01 – Jun 30, 2021  
**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:	Civil

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	3
No. Examinees Passing	0	2
Percent Examinees Passing	0%	67%

**Uncertainty  
 Range for  
 Scaled  
 Score <sup>4</sup>**  
 ± 1.00

	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 Statistics	8	6.5	8.2	1.2	0.79	-1.42
Ethics and Professional Practice	4	8.4	10.9	2.9	0.77	-0.86
Engineering Economics	5	10.0	11.6	2.4	0.86	-0.67
Statics	8	9.0	9.1	0.7	0.99	-0.14
Dynamics	4	5.7	10.1	3.8	0.56	-1.16
Mechanics of Materials	7	8.3	8.7	0.6	0.95	-0.67
Materials	5	10.8	9.6	1.4	1.13	0.86
Fluid Mechanics	6	8.0	8.1	0.3	0.99	-0.33
Surveying	6	8.4	8.9	0.4	0.94	-1.25
Water Resources and Environmental Engineering	10	9.8	10.3	0.5	0.95	-1.00
Structural Engineering	10	7.3	8.5	0.9	0.86	-1.33
Geotechnical Engineering	10	7.0	8.2	0.9	0.85	-1.33
Transportation Engineering	9	8.6	8.3	0.2	1.04	1.50
Construction Engineering	8	8.9	9.0	0.1	0.99	-1.00

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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>	2	240
No. Examinees Passing	2	161
Percent Examinees Passing	100%	67%

**Uncertainty  
 Range for  
 Scaled  
 Score <sup>4</sup>**  
 ± 0.71

	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	9.9	3.2	1.24	0.75
Probability and Statistics	4	11.4	10.2	3.5	1.12	0.34
Engineering Sciences	4	8.3	10.0	3.7	0.83	-0.46
Materials Science	4	15.0	10.5	3.4	1.43	1.32
Chemistry and Biology	7	9.2	9.8	3.1	0.94	-0.19
Fluid Mechanics/Dynamics	8	12.3	9.8	2.5	1.26	1.00
Thermodynamics	8	7.3	9.2	2.0	0.79	-0.95
Material/Energy Balances	10	8.8	9.1	2.2	0.97	-0.14
Heat Transfer	8	10.3	10.2	2.8	1.01	0.04
Mass Transfer and Separation	8	8.0	9.2	2.4	0.87	-0.50
Solids Handling	3	12.2	10.0	4.0	1.22	0.55
Chemical Reaction Engineering	7	11.0	9.4	2.8	1.17	0.57
Economics	4	7.8	9.8	3.9	0.80	-0.51
Process Design	7	9.4	9.6	3.0	0.98	-0.07
Process Control	4	4.2	9.4	4.0	0.45	-1.30
Safety, Health, and Environment	5	11.4	9.7	3.7	1.18	0.46
Ethics and Professional Practice	3	15.0	11.1	4.9	1.35	0.80

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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>	7	961
No. Examinees Passing	3	558
Percent Examinees Passing	43%	58%

<b>Uncertainty Range for Scaled Score <sup>4</sup></b> $\pm 0.38$
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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 Statistics	8	8.7	9.1	2.6	0.96	-0.15
Ethics and Professional Practice	4	9.8	10.6	3.6	0.92	-0.22
Engineering Economics	5	8.4	9.6	3.2	0.88	-0.38
Statics	8	8.6	8.8	2.5	0.98	-0.08
Dynamics	4	9.5	9.0	3.7	1.06	0.14
Mechanics of Materials	7	7.6	8.8	2.3	0.86	-0.52
Materials	5	9.4	9.0	2.7	1.04	0.15
Fluid Mechanics	6	7.9	9.4	2.8	0.84	-0.54
Surveying	6	9.9	9.2	2.5	1.08	0.28
Water Resources and Environmental Engineering	10	8.2	8.9	1.9	0.92	-0.37
Structural Engineering	10	8.4	8.5	1.8	0.99	-0.06
Geotechnical Engineering	10	8.0	8.8	1.8	0.91	-0.44
Transportation Engineering	9	8.2	8.8	2.0	0.93	-0.30
Construction Engineering	8	9.1	9.0	2.7	1.01	0.04

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	29
No. Examinees Passing	1	18
Percent Examinees Passing	100%	62%

<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	5	10.3	10.2	3.4	1.01	0.03
Probability and Statistics	4	15.0	10.8	3.5	1.39	1.20
Ethics and Professional Practice	5	10.4	11.2	3.0	0.93	-0.27
Engineering Economics	5	15.0	10.8	3.7	1.39	1.14
Fundamental Principles	7	15.0	10.4	3.0	1.44	1.53
Environmental Chemistry	7	9.0	9.4	2.6	0.96	-0.15
Health Hazards and Risk Assessment	4	7.8	10.5	3.5	0.74	-0.77
Fluid Mechanics and Hydraulics	12	10.5	9.2	2.0	1.14	0.65
Thermodynamics	3	8.0	9.3	4.8	0.86	-0.27
Surface Water Resources and Hydrology	9	10.0	9.6	1.7	1.04	0.24
Groundwater, Soils, and Sediments	8	11.9	9.5	1.8	1.25	1.33
Water and Wastewater	12	11.8	9.0	1.4	1.31	2.00
Air Quality and Control	8	11.4	8.4	2.9	1.36	1.03
Solid and Hazardous Waste	7	15.0	9.8	3.3	1.53	1.58
Energy and Environment	4	10.0	8.6	4.2	1.16	0.33

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	4	626
No. Examinees Passing	3	404
Percent Examinees Passing	75%	65%

**Uncertainty  
 Range for  
 Scaled  
 Score <sup>4</sup>**  
 ± 0.50

	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	10.7	9.4	2.3	1.14	0.57
Probability and Statistics	4	11.6	9.9	3.7	1.17	0.46
Ethics and Professional Practice	4	15.0	11.3	3.7	1.33	1.00
Engineering Economics	5	10.6	9.9	3.2	1.07	0.22
Properties of Electrical Materials	4	12.2	9.5	3.4	1.28	0.79
Circuit Analysis (DC and AC Steady State)	11	9.8	9.2	2.3	1.07	0.26
Linear Systems	5	8.7	8.8	3.1	0.99	-0.03
Signal Processing	5	9.3	9.2	2.7	1.01	0.04
Electronics	7	9.7	8.9	2.5	1.09	0.32
Power Systems	8	9.8	9.3	2.3	1.05	0.22
Electromagnetics	4	11.3	9.3	3.5	1.22	0.57
Control Systems	6	9.1	8.9	2.6	1.02	0.08
Communications	5	10.1	8.7	2.8	1.16	0.50
Computer Networks	4	9.5	9.3	3.1	1.02	0.06
Digital Systems	8	10.1	9.2	2.5	1.10	0.36
Computer Systems	5	7.5	8.6	3.3	0.87	-0.33
Software Engineering	4	10.9	9.4	4.0	1.16	0.38

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	3	1,227
No. Examinees Passing	3	876
Percent Examinees Passing	100%	71%

Uncertainty Range for Scaled Score <sup>4</sup> ± 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	9.5	9.9	2.9	0.96	-0.14
Probability and Statistics	4	9.8	9.4	3.4	1.04	0.12
Ethics and Professional Practice	4	12.1	11.2	3.7	1.08	0.24
Engineering Economics	4	9.3	10.1	3.5	0.92	-0.23
Electricity and Magnetism	5	9.9	9.8	3.0	1.01	0.03
Statics	9	9.2	9.6	2.3	0.96	-0.17
Dynamics, Kinematics, and Vibrations	10	9.6	9.4	2.1	1.02	0.10
Mechanics of Materials	9	8.3	9.2	2.0	0.90	-0.45
Material Properties and Processing	7	9.1	9.3	2.4	0.98	-0.08
Fluid Mechanics	10	9.7	9.4	2.2	1.03	0.14
Thermodynamics	10	8.5	9.2	1.9	0.92	-0.37
Heat Transfer	7	10.4	9.5	2.7	1.09	0.33
Measurements, Instrumentation, and Controls	5	9.3	9.0	3.2	1.03	0.09
Mechanical Design and Analysis	10	9.1	9.1	2.6	1.00	0.00

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	2	57
No. Examinees Passing	2	31
Percent Examinees Passing	100%	54%

<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	8	9.0	8.8	2.4	1.02	0.08
Probability and Statistics	6	11.7	8.5	2.1	1.38	1.52
Chemistry	5	7.7	8.0	2.3	0.96	-0.13
Instrumentation and Controls	4	8.8	9.4	3.6	0.94	-0.17
Engineering Ethics and Societal Impacts	5	9.7	9.4	3.1	1.03	0.10
Safety, Health, and Environment	6	12.1	9.3	2.6	1.30	1.08
Engineering Economics	6	12.9	8.7	2.6	1.48	1.62
Statics	9	8.9	8.9	2.0	1.00	0.00
Dynamics	9	9.0	9.0	1.9	1.00	0.00
Strength of Materials	9	8.7	9.0	1.5	0.97	-0.20
Materials	6	11.5	9.6	2.8	1.20	0.68
Fluid Mechanics	12	10.3	8.7	1.8	1.18	0.89
Basic Electrical Engineering	6	10.3	8.8	2.9	1.17	0.52
Thermodynamics and Heat Transfer	9	9.2	8.4	1.9	1.10	0.42

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

	Institution	ABET Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	1	6
No. Examinees Passing	1	3
Percent Examinees Passing	100%	50%

<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	8	8.4	9.4	2.6	0.89	-0.38
Probability and Statistics	6	9.8	10.1	2.2	0.97	-0.14
Chemistry	5	15.0	9.4	2.6	1.60	2.15
Instrumentation and Controls	4	15.0	11.7	3.3	1.28	1.00
Engineering Ethics and Societal Impacts	5	7.1	9.4	2.7	0.76	-0.85
Safety, Health, and Environment	6	15.0	10.8	3.0	1.39	1.40
Engineering Economics	6	15.0	10.3	3.5	1.46	1.34
Statics	9	10.0	9.4	2.8	1.06	0.21
Dynamics	9	9.8	8.9	1.5	1.10	0.60
Strength of Materials	9	11.3	9.9	2.7	1.14	0.52
Materials	6	8.8	9.7	2.4	0.91	-0.37
Fluid Mechanics	12	8.2	7.8	3.5	1.05	0.11
Basic Electrical Engineering	6	10.0	6.9	3.7	1.45	0.84
Thermodynamics and Heat Transfer	9	6.6	8.2	1.3	0.80	-1.23

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