

Examination: Report title:

Fundamentals of Engineering (FE)

Subject Matter Report by Major and Examination

Exams administered: Examinees included:

No. Examinees Taking 1 No. Examinees Passing Percent Examinees Passing

3¢0114 \*

Jan 01 – Jun 30, 2022 First-Time Examinees from EAC/ABET-Accredited Engineering Programs

**Graduation Date:** 

Examinees testing more than 12 months after graduation date

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

Institution	ABET
institution	Comparator <sup>2</sup>
1	4
0	1
0%	25%

Uncertainty Range for Scaled

	± 1.00
Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
0.83	-1.18
0.80	-0.67
0.86	-0.60
0.92	-0.87
1.40	0.69
1.00	0.00
1.28	0.48
1.08	0.87
0.93	-0.25
1.08	0.47
0.91	-1.40
1.10	0.62
0.80	-1.07
1.35	0.62

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation
Mathematics and Statistics	8	6.5	7.8	1.1
Ethics and Professional Practice	4	7.9	9.9	3.0
Engineering Economics	5	9.1	10.6	2.5
Statics	8	7.9	8.6	0.8
Dynamics	4	8.4	6.0	3.5
Mechanics of Materials	7	7.7	7.7	0.4
Materials	5	9.1	7.1	4.2
Fluid Mechanics	6	9.0	8.3	0.8
Surveying	6	9.7	10.4	2.8
Water Resources and Environmental Engineering	10	9.1	8.4	1.5
Structural Engineering	10	7.4	8.1	0.5
Geotechnical Engineering	10	9.0	8.2	1.3
Transportation Engineering	9	5.9	7.4	1.4
Construction Engineering	8	8.8	6.5	3.7

- examinees have been removed from this data because they were flagged as a random guesser.
   Comparate includes all associates from programs acceptived by the ARST comparation or trade of the state of the st

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**Graduation Date:** 

Examinees testing more than 12 months after graduation date

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

Institution	ABET Comparator <sup>2</sup>
1	5
1	1
100%	20%

Uncertainty Range for Scaled

	± 1.00		
Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>		
1.15	0.69		
2.11	1.65		
0.93	-0.35		
1.24	1.06		
0.95	-0.19		
1.42	1.82		
1.16	1.30		
1.03	0.17		
0.00	-1.18		
-1.6	1.17	0.94	
2.9	1.60	1.93	
1.0	1.16	1.30	
1.1	1.14	1.00	
4.4	2.40	1.50	
3.5	1.55	1.03	

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation
Mathematics	5	8.6	7.5	1.6
Probability and Statistics	4	15.0	7.1	4.8
Ethics and Professional Practice	5	7.4	8.0	1.7
Engineering Economics	5	9.7	7.8	1.8
Fundmental Principles	7	9.1	9.6	2.7
Environmental Chemistry	7	10.4	7.3	1.7
Health Hazards and Risk Assessment	4	9.4	8.1	1.0
Fluid Mechanics and Hydraulics	12	8.1	7.9	1.2
Thermodynamics	3	0.0	4.0	3.4
Surface Water Resources and Hydrology		9	10.2	8.7
Groundwater, Soils, and Sediments		8	15.0	9.4
Water and Wastewater		12	9.3	8.0
Air Quality and Control		8	9.2	8.1
Solid and Hazardous Waste		7	11.3	4.7
Energy and Environment		4	10.1	6.5

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  A. Comparator houdes a stam feestrom programs abored tectory fless to commission house 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 https://ncees.org/education/outcomes-assessment/.

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Subject Matter Report by Major and Examination Report title:

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

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>	3	6
No. Examinees Passing	2	4
Percent Examinees Passing	67%	67%

Uncertainty Range for Scaled Score <sup>4</sup>  $\pm 0.58$ 

	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	8.7	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

- 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.

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Subject Matter Report by Major and Examination Report title:

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

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

	Institution	ABE I Comparator <sup>2</sup>
No. Examinees Taking <sup>1</sup>	6	859
No. Examinees Passing	5	489
Percent Examinees Passing	83%	57%

Uncertainty Range for Scaled Score 4

	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	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	
FI TAME TO FILID VISCHENICS	^	٥ ^ ٠	19.8	8.3	Z.5 1 1 1	Uo ^ 1 <b>^</b>	Ų.
Surveying		6	9.5	8.9	2.5	1.07	0
Water Resources and Environmental Engineering		10	9.0	8.8	2.1	1.02	0
Structural Engineering		10	8.9	8.6	1.9	1.03	0
Geotechnical Engineering		10	9.7	8.7	1.9	1.11	0
Transportation Engineering		9	8.6	8.7	2.2	0.99	-0
Construction Engineering		8	10.0	8.9	2.6	1.12	0

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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

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>	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 <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>		
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 Pract	ice	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 Mater	als	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		
Cinnel December 1	5 G.18 = 1008888 1.6	-	7.0	5 ···^^	ru ^^	5.5 ^ ^^	200 001	U.5U	-0.04
	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

- 1.  $\underline{\mathbf{0}}$  examinees have been removed from this data because they were flagged as a random guesser.
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Exams administered: Jan 01 – Jun 30, 2022

No. Examinees Taking 1 No. Examinees Passing Percent Examinees Passing

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 Comparator <sup>2</sup>
4	982
4	690
100%	70%

Uncertainty Range for Scaled Score <sup>4</sup>  $\pm 0.50$ 

	Institution ABE	T ABF	τ			
	Miniser	Average	Comparator	Comparator	Balic	Scaled
	¢f Esam Sucedane	Renformanice	Avaraga Poriormanas	Stemdend	Soons 4	Score 4
	(3)(36)(3)(16)	Index <sup>8</sup>	Index	l Devilatiforn		
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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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:	Mining/Mineral	FE Examination:	Other Disciplines

lu atituti au	ABET
Institution	Comparator <sup>2</sup>
1	11
1	6
100%	55%

 $\pm 1.00$ 

Ratio Score <sup>4</sup>	Scaled Score <sup>4</sup>
0.98	-0.07
1.01	0.05
0.86	-0.41
0.98	-0.06
0.91	-0.26
1.27	0.94
0.95	-0.15
1.02	0.22
0.95	-0.33
1.01	0.10
1.16	0.68
1.12	0.71
1.12	0.75
1.04	0.23

	Number of Exam Questions	Institution Average Performance Index <sup>3</sup>	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation
Mathematics	8	9.5	9.7	2.8
Probability and Statistics	6	8.2	8.1	2.2
Chemistry	5	8.3	9.7	3.4
Instrumentation and Controls	4	7.9	8.1	3.3
Engineering Ethics and Societal Impacts	5	9.6	10.5	3.5
Safety, Health, and Environment	6	15.0	11.8	3.4
Engineering Economics	6	9.3	9.8	3.3
Statics	9	8.4	8.2	0.9
Dynamics	9	8.0	8.4	1.2
Strength of Materials	9	8.7	8.6	1.0
Materials	6	10.6	9.1	2.2
Fluid Mechanics	12	9.6	8.6	1.4
Basic Electrical Engineering	6	8.5	7.6	1.2
Thermodynamics and Heat Transfer	9	7.9	7.6	1.3

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