Examination: Fundamentals of Engineering (FE)
Report title: Subject Matter Report by Major and Examination
Exams administered: Jan 01—Jun 30, 2020
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:	**Environmental**

	Institution	ABET Comparator[2]
No. Examinees Taking [1]	1	4
No. Examinees Passing	1	4
Percent Examinees Passing	100%	100%

	Number of Exam Questions	Institution Average Performance Index [3]	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score [4]	Scaled Score [4]
						Uncertainty Range for Scaled Score [4] ± 1.00
Mathematics	4	8.1	13.3	3.0	0.61	-1.73
Probability and Statistics	3	15.0	13.5	2.7	1.11	0.56
Ethics and Professional Practice	5	8.1	10.1	2.8	0.80	-0.71
Engineering Economics	4	9.0	12.0	3.0	0.75	-1.00
Materials Science	3	8.4	11.1	4.0	0.76	-0.68
Environmental Science and Chemistry	11	9.8	10.8	2.6	0.91	-0.38
Risk Assessment	5	15.0	10.9	2.4	1.38	1.71
Fluid Mechanics	9	10.4	11.1	2.4	0.94	-0.29
Thermodynamics	3	5.9	12.7	3.9	0.46	-1.74
Water Resources	10	8.2	9.2	1.1	0.89	-0.91
Water and Wastewater	14	9.0	8.9	1.6	1.01	0.06
Air Quality	10	15.0	12.0	1.9	1.25	1.58
Solid and Hazardous Waste	10	9.1	9.6	1.4	0.95	-0.36
Groundwater and Soils	9	10.8	10.2	0.9	1.06	0.67

1. **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.
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Name of Institution:	**University of Kentucky, Lexington**		
Major:	**Chemical**	FE Examination:	**Chemical**

	Institution	**ABET Comparator[2]**
No. Examinees Taking [1]	2	170
No. Examinees Passing	2	133
Percent Examinees Passing	100%	78%

	Number of Exam Questions	**Institution Average Performance Index [3]**	**ABET Comparator Average Performance Index**	**ABET Comparator Standard Deviation**	**Ratio Score [4]**	**Scaled Score [4]**
						Uncertainty Range for Scaled Score [4] ± 0.71
Mathematics	8	8.0	10.3	3.1	0.78	-0.74
Probability and Statistics	4	8.5	10.8	3.6	0.79	-0.64
Engineering Sciences	4	15.0	10.6	3.7	1.42	1.19
Computational Tools	4	11.4	10.0	3.3	1.14	0.42
Materials Science	4	10.0	10.4	3.5	0.96	-0.11
Chemistry	8	9.6	10.1	2.8	0.95	-0.18
Fluid Mechanics/Dynamics	8	11.7	9.9	2.7	1.18	0.67
Thermodynamics	8	8.7	9.5	2.2	0.92	-0.36
Material/Energy Balances	8	7.5	9.9	2.8	0.76	-0.86
Heat Transfer	8	8.7	10.2	2.8	0.85	-0.54
Mass Transfer and Separation	8	10.5	9.7	2.0	1.08	0.40
Chemical Reaction Engineering	8	9.9	9.7	2.3	1.02	0.09
Process Design and Economics	8	9.6	9.8	2.4	0.98	-0.08
Process Control	5	7.3	9.7	2.9	0.75	-0.83
Safety, Health, and Environment	5	9.6	9.5	3.6	1.01	0.03
Ethics and Professional Practice	2	15.0	11.1	5.5	1.35	0.71

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

	Institution	ABET Comparator[2]
No. Examinees Taking [1]	4	405
No. Examinees Passing	2	239
Percent Examinees Passing	50%	59%

	Number of Exam Questions	Institution Average Performance Index [3]	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score [4]	Scaled Score [4] (Uncertainty Range for Scaled Score [4] ± 0.50)
Mathematics	7	9.4	9.4	3.0	1.00	0.00
Probability and Statistics	4	8.3	9.6	3.5	0.86	-0.37
Computational Tools	4	7.5	9.4	3.5	0.80	-0.54
Ethics and Professional Practice	4	8.3	10.3	3.8	0.81	-0.53
Engineering Economics	4	9.3	9.8	3.9	0.95	-0.13
Statics	7	10.8	9.1	2.9	1.19	0.59
Dynamics	4	7.4	9.5	3.7	0.78	-0.57
Mechanics of Materials	7	10.1	8.8	2.4	1.15	0.54
Materials	4	10.3	9.2	3.4	1.12	0.32
Fluid Mechanics	4	8.8	9.6	3.7	0.92	-0.22
Hydraulics and Hydrologic Systems	8	9.6	9.4	2.5	1.02	0.08
Structural Analysis	6	9.0	8.7	2.7	1.03	0.11
Structural Design	6	6.2	8.6	2.7	0.72	-0.89
Geotechnical Engineering	9	8.6	8.8	1.9	0.98	-0.11
Transportation Engineering	8	10.1	8.9	2.2	1.13	0.55
Environmental Engineering	6	10.6	8.8	2.7	1.20	0.67
Construction	4	9.6	9.8	3.7	0.98	-0.05
Surveying	4	7.0	8.3	3.9	0.84	-0.33

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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]	5	388
No. Examinees Passing	5	252
Percent Examinees Passing	100%	65%

	Number of Exam Questions	Institution Average Performance Index [3]	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score [4]	Scaled Score [4] (Uncertainty Range for Scaled Score [4] ± 0.45)
Mathematics	11	9.3	9.4	2.6	0.99	-0.04
Probability and Statistics	4	9.0	9.6	3.3	0.94	-0.18
Ethics and Professional Practice	3	8.4	11.4	4.0	0.74	-0.75
Engineering Economics	3	11.3	10.4	4.2	1.09	0.21
Properties of Electrical Materials	4	11.1	9.5	3.4	1.17	0.47
Engineering Sciences	6	11.2	9.7	3.0	1.15	0.50
Circuit Analysis (DC and AC Steady State)	10	11.0	9.1	2.1	1.21	0.90
Linear Systems	5	9.0	8.9	3.0	1.01	0.03
Signal Processing	5	9.2	8.5	3.1	1.08	0.23
Electronics	7	8.9	8.8	2.1	1.01	0.05
Power	8	10.5	9.0	2.2	1.17	0.68
Electromagnetics	5	9.2	9.0	2.8	1.02	0.07
Control Systems	6	9.3	8.8	2.8	1.06	0.18
Communications	5	8.9	8.7	2.9	1.02	0.07
Computer Networks	3	10.9	8.8	4.2	1.24	0.50
Digital Systems	7	11.3	9.0	2.4	1.26	0.96
Computer Systems	4	11.3	8.6	4.0	1.31	0.68
Software Development	4	13.5	9.2	3.9	1.47	1.10

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

	Institution	**ABET Comparator[2]**
No. Examinees Taking [1]	6	693
No. Examinees Passing	4	540
Percent Examinees Passing	67%	78%

	Number of Exam Questions	**Institution Average Performance Index [3]**	**ABET Comparator Average Performance Index**	**ABET Comparator Standard Deviation**	**Ratio Score [4]**	**Scaled Score [4]** (Uncertainty Range for Scaled Score [4] ± 0.41)
Mathematics	6	9.7	9.8	2.7	0.99	-0.04
Probability and Statistics	4	11.5	9.8	3.5	1.17	0.49
Computational Tools	3	12.1	10.8	4.3	1.12	0.30
Ethics and Professional Practice	3	12.9	11.9	3.8	1.08	0.26
Engineering Economics	3	10.9	10.2	4.1	1.07	0.17
Electricity and Magnetism	3	10.1	10.2	4.0	0.99	-0.02
Statics	8	10.2	9.7	2.5	1.05	0.20
Dynamics, Kinematics, and Vibrations	9	8.4	9.5	2.1	0.88	-0.52
Mechanics of Materials	8	8.7	9.4	2.1	0.93	-0.33
Material Properties and Processing	8	9.6	9.6	2.2	1.00	0.00
Fluid Mechanics	9	10.1	9.7	2.2	1.04	0.18
Thermodynamics	13	9.6	9.4	1.7	1.02	0.12
Heat Transfer	9	10.1	9.5	2.5	1.06	0.24
Measurements, Instrumentation, and Controls	5	10.1	9.1	3.0	1.11	0.33
Mechanical Design and Analysis	9	8.4	9.1	2.5	0.92	-0.28

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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	6
No. Examinees Passing	1	4
Percent Examinees Passing	100%	67%

	Number of Exam Questions	Institution Average Performance Index [3]	ABET Comparator Average Performance Index	ABET Comparator Standard Deviation	Ratio Score [4]	Scaled Score [4] (Uncertainty Range for Scaled Score [4] ± 1.00)
Mathematics and Advanced Engineering Mathematics	12	15.0	9.9	2.6	1.52	1.96
Probability and Statistics	6	10.7	9.9	2.5	1.08	0.32
Chemistry	7	8.2	8.5	1.9	0.96	-0.16
Instrumentation and Data Acquisition	4	15.0	10.0	2.5	1.50	2.00
Ethics and Professional Practice	3	7.6	10.4	3.3	0.73	-0.85
Safety, Health, and Environment	4	9.5	10.8	3.1	0.88	-0.42
Engineering Economics	7	9.4	9.6	0.9	0.98	-0.22
Statics	8	9.2	9.3	0.7	0.99	-0.14
Dynamics	7	9.6	9.1	1.3	1.05	0.38
Strength of Materials	8	9.6	9.0	1.1	1.07	0.55
Materials Science	6	9.5	9.9	2.5	0.96	-0.16
Fluid Mechanics and Dynamics of Liquids	8	9.9	9.4	0.8	1.05	0.63
Fluid Mechanics and Dynamics of Gases	4	9.5	10.2	3.5	0.93	-0.20
Electricity, Power, and Magnetism	7	8.7	9.5	2.5	0.92	-0.32
Heat, Mass, and Energy Transfer	9	6.7	9.7	2.7	0.69	-1.11

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