

Examination: Fundamentals of Engineering (FE)
Report title: Subject Matter Report by Major and Examination
Exams administered: Jul 01—Dec 31, 2019
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 ² |
|-----------------------------------|-------------|---------------------------------|
| No. Examinees Taking ¹ | 1 | 2 |
| No. Examinees Passing | 0 | 0 |
| Percent Examinees Passing | 0% | 0% |

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|--|
| Uncertainty Range for Scaled Score ⁴ ± 1.00 |
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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 and Advanced Engineering Mathematics | 12 | 7.0 | 7.3 | 0.3 | 0.96 | -1.00 |
| Probability and Statistics | 6 | 9.2 | 9.1 | 0.2 | 1.01 | 0.50 |
| Chemistry | 7 | 9.1 | 8.9 | 0.3 | 1.02 | 0.67 |
| Instrumentation and Data Acquisition | 4 | 0.0 | 4.4 | 4.4 | 0.00 | -1.00 |
| Ethics and Professional Practice | 3 | 15.0 | 11.9 | 3.1 | 1.26 | 1.00 |
| Safety, Health, and Environment | 4 | 7.6 | 8.5 | 0.9 | 0.89 | -1.00 |
| Engineering Economics | 7 | 9.6 | 10.1 | 0.5 | 0.95 | -1.00 |
| Statics | 8 | 9.5 | 8.2 | 1.4 | 1.16 | 0.93 |
| Dynamics | 7 | 6.0 | 7.7 | 1.7 | 0.78 | -1.00 |
| Strength of Materials | 8 | 8.1 | 8.0 | 0.2 | 1.01 | 0.50 |
| Materials Science | 6 | 8.1 | 7.8 | 0.3 | 1.04 | 1.00 |
| Fluid Mechanics and Dynamics of Liquids | 8 | 7.9 | 8.6 | 0.7 | 0.92 | -1.00 |
| Fluid Mechanics and Dynamics of Gases | 4 | 15.0 | 11.9 | 3.2 | 1.26 | 0.97 |
| Electricity, Power, and Magnetism | 7 | 6.3 | 6.1 | 0.3 | 1.03 | 0.67 |
| Heat, Mass, and Energy Transfer | 9 | 8.3 | 7.5 | 0.8 | 1.11 | 1.00 |

- 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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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: | Chemical | FE Examination: | Chemical |

| | Institution | ABET Comparator ² |
|-----------------------------------|-------------|---------------------------------|
| No. Examinees Taking ¹ | 2 | 286 |
| No. Examinees Passing | 2 | 217 |
| Percent Examinees Passing | 100% | 76% |

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| Uncertainty Range for Scaled Score ⁴ ± 0.71 |
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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 | 8 | 11.8 | 10.5 | 3.2 | 1.12 | 0.41 |
| Probability and Statistics | 4 | 15.0 | 10.8 | 3.5 | 1.39 | 1.20 |
| Engineering Sciences | 4 | 12.0 | 10.6 | 3.8 | 1.13 | 0.37 |
| Computational Tools | 4 | 12.3 | 9.9 | 3.4 | 1.24 | 0.71 |
| Materials Science | 4 | 9.9 | 10.2 | 3.4 | 0.97 | -0.09 |
| Chemistry | 8 | 10.5 | 10.1 | 2.9 | 1.04 | 0.14 |
| Fluid Mechanics/Dynamics | 8 | 12.3 | 10.2 | 2.6 | 1.21 | 0.81 |
| Thermodynamics | 8 | 11.0 | 9.8 | 2.3 | 1.12 | 0.52 |
| Material/Energy Balances | 8 | 15.0 | 9.7 | 2.7 | 1.55 | 1.96 |
| Heat Transfer | 8 | 11.3 | 10.1 | 2.9 | 1.12 | 0.41 |
| Mass Transfer and Separation | 8 | 10.7 | 9.5 | 2.3 | 1.13 | 0.52 |
| Chemical Reaction Engineering | 8 | 9.7 | 9.4 | 2.6 | 1.03 | 0.12 |
| Process Design and Economics | 8 | 15.0 | 9.2 | 2.5 | 1.63 | 2.32 |
| Process Control | 5 | 10.1 | 9.3 | 3.4 | 1.09 | 0.24 |
| Safety, Health, and Environment | 5 | 12.6 | 9.2 | 3.8 | 1.37 | 0.89 |
| Ethics and Professional Practice | 2 | 15.0 | 11.0 | 5.4 | 1.36 | 0.74 |

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Exams administered: Jul 01—Dec 31, 2019
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 | ABET Comparator ² |
|-----------------------------------|-------------|---------------------------------|
| No. Examinees Taking ¹ | 3 | 674 |
| No. Examinees Passing | 2 | 371 |
| Percent Examinees Passing | 67% | 55% |

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| Uncertainty Range for Scaled Score ⁴ ± 0.58 |
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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 | 7 | 9.7 | 9.4 | 2.9 | 1.03 | 0.10 |
| Probability and Statistics | 4 | 10.0 | 9.4 | 3.7 | 1.06 | 0.16 |
| Computational Tools | 4 | 8.5 | 10.0 | 3.7 | 0.85 | -0.41 |
| Ethics and Professional Practice | 4 | 10.6 | 10.1 | 3.5 | 1.05 | 0.14 |
| Engineering Economics | 4 | 7.7 | 9.5 | 3.7 | 0.81 | -0.49 |
| Statics | 7 | 10.5 | 8.8 | 2.7 | 1.19 | 0.63 |
| Dynamics | 4 | 5.7 | 9.3 | 3.8 | 0.61 | -0.95 |
| Mechanics of Materials | 7 | 7.2 | 8.8 | 2.6 | 0.82 | -0.62 |
| Materials | 4 | 10.1 | 8.9 | 3.5 | 1.13 | 0.34 |
| Fluid Mechanics | 4 | 10.2 | 9.5 | 3.9 | 1.07 | 0.18 |
| Hydraulics and Hydrologic Systems | 8 | 7.5 | 9.0 | 2.6 | 0.83 | -0.58 |
| Structural Analysis | 6 | 9.1 | 8.4 | 2.8 | 1.08 | 0.25 |
| Structural Design | 6 | 8.7 | 8.7 | 2.4 | 1.00 | 0.00 |
| Geotechnical Engineering | 9 | 9.1 | 8.8 | 1.9 | 1.03 | 0.16 |
| Transportation Engineering | 8 | 11.4 | 8.8 | 2.0 | 1.30 | 1.30 |
| Environmental Engineering | 6 | 7.9 | 8.5 | 2.6 | 0.93 | -0.23 |
| Construction | 4 | 9.7 | 9.4 | 3.7 | 1.03 | 0.08 |
| Surveying | 4 | 7.9 | 7.8 | 3.6 | 1.01 | 0.03 |

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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 | 4 | 615 |
| No. Examinees Passing | 3 | 360 |
| Percent Examinees Passing | 75% | 59% |

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|--|
| Uncertainty Range for Scaled Score ⁴ ± 0.50 |
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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 | 8.9 | 9.1 | 2.2 | 0.98 | -0.09 |
| Probability and Statistics | 4 | 10.5 | 9.5 | 3.4 | 1.11 | 0.29 |
| Ethics and Professional Practice | 3 | 13.2 | 11.2 | 4.2 | 1.18 | 0.48 |
| Engineering Economics | 3 | 9.0 | 9.9 | 4.4 | 0.91 | -0.20 |
| Properties of Electrical Materials | 4 | 8.9 | 9.4 | 3.5 | 0.95 | -0.14 |
| Engineering Sciences | 6 | 12.0 | 9.8 | 3.2 | 1.22 | 0.69 |
| Circuit Analysis (DC and AC Steady State) | 10 | 9.2 | 9.2 | 2.2 | 1.00 | 0.00 |
| Linear Systems | 5 | 9.2 | 8.8 | 3.1 | 1.05 | 0.13 |
| Signal Processing | 5 | 10.2 | 8.6 | 2.8 | 1.19 | 0.57 |
| Electronics | 7 | 8.8 | 8.7 | 2.5 | 1.01 | 0.04 |
| Power | 8 | 9.4 | 8.8 | 2.1 | 1.07 | 0.29 |
| Electromagnetics | 5 | 8.3 | 8.7 | 2.9 | 0.95 | -0.14 |
| Control Systems | 6 | 6.2 | 8.5 | 2.7 | 0.73 | -0.85 |
| Communications | 5 | 8.2 | 8.7 | 2.9 | 0.94 | -0.17 |
| Computer Networks | 3 | 10.0 | 9.0 | 4.2 | 1.11 | 0.24 |
| Digital Systems | 7 | 9.8 | 8.8 | 2.7 | 1.11 | 0.37 |
| Computer Systems | 4 | 8.7 | 8.4 | 3.6 | 1.04 | 0.08 |
| Software Development | 4 | 13.2 | 8.6 | 3.9 | 1.53 | 1.18 |

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

| | Institution | ABET Comparator ² |
|-----------------------------------|-------------|---------------------------------|
| No. Examinees Taking ¹ | 4 | 1,007 |
| No. Examinees Passing | 4 | 736 |
| Percent Examinees Passing | 100% | 73% |

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|--|
| 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 | 9.1 | 9.8 | 2.9 | 0.93 | -0.24 |
| Probability and Statistics | 4 | 10.3 | 9.6 | 3.4 | 1.07 | 0.21 |
| Computational Tools | 3 | 10.9 | 10.4 | 4.1 | 1.05 | 0.12 |
| Ethics and Professional Practice | 3 | 13.1 | 11.4 | 3.8 | 1.15 | 0.45 |
| Engineering Economics | 3 | 11.9 | 10.6 | 4.3 | 1.12 | 0.30 |
| Electricity and Magnetism | 3 | 11.3 | 9.7 | 4.0 | 1.16 | 0.40 |
| Statics | 8 | 9.1 | 9.5 | 2.4 | 0.96 | -0.17 |
| Dynamics, Kinematics, and Vibrations | 9 | 9.8 | 9.4 | 2.0 | 1.04 | 0.20 |
| Mechanics of Materials | 8 | 8.8 | 9.3 | 2.3 | 0.95 | -0.22 |
| Material Properties and Processing | 8 | 10.2 | 9.6 | 2.2 | 1.06 | 0.27 |
| Fluid Mechanics | 9 | 9.3 | 9.5 | 2.0 | 0.98 | -0.10 |
| Thermodynamics | 13 | 9.8 | 9.2 | 1.6 | 1.07 | 0.38 |
| Heat Transfer | 9 | 9.6 | 9.3 | 2.2 | 1.03 | 0.14 |
| Measurements, Instrumentation, and Controls | 5 | 11.2 | 8.9 | 3.2 | 1.26 | 0.72 |
| Mechanical Design and Analysis | 9 | 8.6 | 8.9 | 2.7 | 0.97 | -0.11 |

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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 |

| | Institution | ABET Comparator ² |
|-----------------------------------|-------------|---------------------------------|
| No. Examinees Taking ¹ | 1 | 7 |
| No. Examinees Passing | 1 | 4 |
| Percent Examinees Passing | 100% | 57% |

| |
|--|
| 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 and Advanced Engineering Mathematics | 12 | 8.6 | 7.9 | 1.0 | 1.09 | 0.70 |
| Probability and Statistics | 6 | 8.4 | 8.9 | 1.4 | 0.94 | -0.36 |
| Chemistry | 7 | 10.8 | 9.0 | 1.1 | 1.20 | 1.64 |
| Instrumentation and Data Acquisition | 4 | 15.0 | 10.7 | 2.9 | 1.40 | 1.48 |
| Ethics and Professional Practice | 3 | 15.0 | 13.2 | 2.9 | 1.14 | 0.62 |
| Safety, Health, and Environment | 4 | 15.0 | 12.3 | 3.3 | 1.22 | 0.82 |
| Engineering Economics | 7 | 15.0 | 10.6 | 3.0 | 1.42 | 1.47 |
| Statics | 8 | 8.5 | 8.0 | 1.7 | 1.06 | 0.29 |
| Dynamics | 7 | 7.6 | 8.7 | 1.0 | 0.87 | -1.10 |
| Strength of Materials | 8 | 10.2 | 8.7 | 1.5 | 1.17 | 1.00 |
| Materials Science | 6 | 7.1 | 7.5 | 3.2 | 0.95 | -0.13 |
| Fluid Mechanics and Dynamics of Liquids | 8 | 10.6 | 9.5 | 1.8 | 1.12 | 0.61 |
| Fluid Mechanics and Dynamics of Gases | 4 | 15.0 | 10.0 | 2.2 | 1.50 | 2.27 |
| Electricity, Power, and Magnetism | 7 | 9.0 | 8.6 | 1.5 | 1.05 | 0.27 |
| Heat, Mass, and Energy Transfer | 9 | 8.4 | 8.8 | 1.5 | 0.95 | -0.27 |

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