

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% |

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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 | 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 |

- 0 examinees have been removed from this data because they were flagged as a random guesser.
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- 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 | 170 |
| No. Examinees Passing | 2 | 133 |
| Percent Examinees Passing | 100% | 78% |

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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 | 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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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: | Civil | FE Examination: | Civil |

| | Institution | ABET Comparator ² |
|-----------------------------------|-------------|---------------------------------|
| No. Examinees Taking ¹ | 4 | 405 |
| No. Examinees Passing | 2 | 239 |
| Percent Examinees Passing | 50% | 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 | 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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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 | 5 | 388 |
| No. Examinees Passing | 5 | 252 |
| Percent Examinees Passing | 100% | 65% |

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| Uncertainty Range for Scaled Score ⁴ ± 0.45 |
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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 | 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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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 ² |
|-----------------------------------|-------------|---------------------------------|
| No. Examinees Taking ¹ | 6 | 693 |
| No. Examinees Passing | 4 | 540 |
| Percent Examinees Passing | 67% | 78% |

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| Uncertainty Range for Scaled Score ⁴ ± 0.41 |
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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 | 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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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 | 6 |
| No. Examinees Passing | 1 | 4 |
| Percent Examinees Passing | 100% | 67% |

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|--|
| 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 | 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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