NCEES
advancing licensure for engineers and surveyors

**Examination:** Fundamentals of Engineering (FE)
**Report title:** Subject Matter Report by Major and Examination
**Exams administered:** Jun 01—Nov 30, 2015
**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 | 3 |
| No. Examinees Passing | 1 | 3 |
| 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] |
|---|---|---|---|---|---|---|
| Mathematics and Advanced Engineering Mathematics | 12 | 9.2 | 9.6 | 1.1 | 0.96 | -0.36 |
| Probability and Statistics | 6 | 15.0 | 13.0 | 2.8 | 1.15 | 0.71 |
| Chemistry | 7 | 10.8 | 10.1 | 0.8 | 1.07 | 0.88 |
| Instrumentation and Data Acquisition | 4 | 15.0 | 13.5 | 2.2 | 1.11 | 0.68 |
| Ethics and Professional Practice | 3 | 15.0 | 13.0 | 2.8 | 1.15 | 0.71 |
| Safety, Health, and Environment | 4 | 15.0 | 15.0 | 0.0 | 1.00 | — |
| Engineering Economics | 7 | 15.0 | 10.8 | 3.4 | 1.39 | 1.24 |
| Statics | 8 | 7.0 | 8.3 | 0.9 | 0.84 | -1.44 |
| Dynamics | 7 | 11.1 | 11.9 | 2.3 | 0.93 | -0.35 |
| Strength of Materials | 8 | 7.3 | 9.3 | 1.6 | 0.78 | -1.25 |
| Materials Science | 6 | 7.3 | 9.1 | 1.3 | 0.80 | -1.38 |
| Fluid Mechanics and Dynamics of Liquids | 8 | 9.7 | 13.2 | 2.5 | 0.73 | -1.40 |
| Fluid Mechanics and Dynamics of Gases | 4 | 7.8 | 10.7 | 3.1 | 0.73 | -0.94 |
| Electricity, Power, and Magnetism | 7 | 10.3 | 10.0 | 0.3 | 1.03 | 1.00 |
| Heat, Mass, and Energy Transfer | 9 | 10.8 | 10.2 | 0.7 | 1.06 | 0.86 |

**Uncertainty Range for Scaled Score [4]** ± 1.00

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.
4. These scores are made available for assessment purposes. See the NCEES publication entitled Using the FE as an Outcomes Assessment Tool at http://ncees.org/licensure/educator-resources/.

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

| | Institution | ABET Comparator[2] |
|---|---|---|
| No. Examinees Taking [1] | 1 | 191 |
| No. Examinees Passing | 1 | 124 |
| 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] |
|---|---|---|---|---|---|---|
| Mathematics | 8 | 6.4 | 10.2 | 3.2 | 0.63 | -1.19 |
| Probability and Statistics | 4 | 9.2 | 10.3 | 3.8 | 0.89 | -0.29 |
| Engineering Sciences | 4 | 6.5 | 9.6 | 3.9 | 0.68 | -0.79 |
| Computational Tools | 4 | 8.1 | 9.9 | 3.5 | 0.82 | -0.51 |
| Materials Science | 4 | 9.3 | 10.1 | 3.4 | 0.92 | -0.24 |
| Chemistry | 8 | 15.0 | 9.7 | 3.0 | 1.55 | 1.77 |
| Fluid Mechanics/Dynamics | 8 | 9.9 | 9.6 | 2.5 | 1.03 | 0.12 |
| Thermodynamics | 8 | 10.0 | 9.2 | 2.1 | 1.09 | 0.38 |
| Material/Energy Balances | 8 | 9.4 | 9.4 | 2.9 | 1.00 | 0.00 |
| Heat Transfer | 8 | 9.8 | 9.4 | 2.4 | 1.04 | 0.17 |
| Mass Transfer and Separation | 8 | 7.9 | 9.1 | 2.0 | 0.87 | -0.60 |
| Chemical Reaction Engineering | 8 | 8.5 | 9.1 | 2.4 | 0.93 | -0.25 |
| Process Design and Economics | 8 | 8.1 | 9.2 | 2.6 | 0.88 | -0.42 |
| Process Control | 5 | 6.2 | 8.7 | 2.9 | 0.71 | -0.86 |
| Safety, Health, and Environment | 5 | 7.5 | 9.0 | 3.6 | 0.83 | -0.42 |
| Ethics and Professional Practice | 2 | 0.0 | 10.0 | 6.0 | 0.00 | -1.67 |

**Uncertainty Range for Scaled Score [4]** ± 1.00

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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] | 2 | 425 |
| No. Examinees Passing | 1 | 258 |
| Percent Examinees Passing | 50% | 61% |

| | 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 | 11 | 9.0 | 9.5 | 2.4 | 0.95 | -0.21 |
| Probability and Statistics | 4 | 15.0 | 9.6 | 3.3 | 1.56 | 1.64 |
| Ethics and Professional Practice | 3 | 15.0 | 12.0 | 3.9 | 1.25 | 0.77 |
| Engineering Economics | 3 | 4.1 | 9.7 | 4.2 | 0.42 | -1.33 |
| Properties of Electrical Materials | 4 | 7.5 | 9.7 | 3.2 | 0.77 | -0.69 |
| Engineering Sciences | 6 | 8.4 | 10.0 | 3.3 | 0.84 | -0.48 |
| Circuit Analysis (DC and AC Steady State) | 10 | 8.2 | 9.3 | 2.2 | 0.88 | -0.50 |
| Linear Systems | 5 | 6.7 | 9.0 | 3.0 | 0.74 | -0.77 |
| Signal Processing | 5 | 6.9 | 8.8 | 3.1 | 0.78 | -0.61 |
| Electronics | 7 | 8.9 | 8.9 | 2.7 | 1.00 | 0.00 |
| Power | 8 | 9.6 | 9.3 | 2.5 | 1.03 | 0.12 |
| Electromagnetics | 5 | 5.1 | 9.5 | 3.1 | 0.54 | -1.42 |
| Control Systems | 6 | 9.0 | 8.6 | 2.6 | 1.05 | 0.15 |
| Communications | 5 | 4.2 | 8.8 | 2.7 | 0.48 | -1.70 |
| Computer Networks | 3 | 11.0 | 9.9 | 3.9 | 1.11 | 0.28 |
| Digital Systems | 7 | 8.1 | 8.6 | 2.7 | 0.94 | -0.19 |
| Computer Systems | 4 | 8.7 | 8.3 | 3.6 | 1.05 | 0.11 |
| Software Development | 4 | 12.2 | 9.3 | 4.5 | 1.31 | 0.64 |

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