Degrees and Admission

Master of Science
The master’s degree program is a broadly based curriculum designed to prepare students for advanced positions in the power, renewable energy, communications and computing industry, as well as for further academic studies. The master’s degree requires a minimum of 30 credit hours of graduate-level coursework.

Doctor of Philosophy
The doctorate program is a research-oriented curriculum and requires 60 hours beyond the master’s degree, including original research of sufficient quality and importance to merit publication in a refereed journal. Graduates of the program find employment in national laboratories, academic institutions, government facilities and private industries.

Minimum admission requirements
- A bachelor’s degree from a college or university accredited by the cognizant regional accrediting agency
- Undergraduate preparation in the proposed major field equivalent to that acquired by a graduate of Kansas State University, or evidence of an appropriate background for undertaking an advanced degree program
- Cumulative GPA of 3.0 or higher on a 4.0 scale, or GPA of 3.0 in the last 60 hours of coursework

Application deadlines
- Jan. 8 for fall (August) enrollment
- Aug. 1 for spring (January) enrollment
- Dec. 1 for summer (June) enrollment

All application materials can be submitted online at k-state.edu/grad/application.

Financial assistance
The Carl R. Ice College of Engineering offers competitive graduate research assistantships (GRAs) and graduate teaching assistantships (GTAs), providing stipend and tuition support. Competitive research grants and contracts support GRAs and the college supports GTAs. Several graduate student scholarships are available through the college. Graduate students are also eligible for philanthropic and nationally funded graduate fellowships.

International student requirements

<table>
<thead>
<tr>
<th>Test</th>
<th>Minimum score</th>
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</thead>
<tbody>
<tr>
<td>IBT TOEFL (interest-based)</td>
<td>79</td>
</tr>
<tr>
<td>TOEFL (PBT)</td>
<td>550</td>
</tr>
<tr>
<td>IELTS</td>
<td>6.5</td>
</tr>
<tr>
<td>Pearson Test of English (PTE)</td>
<td>58</td>
</tr>
</tbody>
</table>

English language program (ELP)
Kansas State University offers English language graduate support courses. ELP academic advisers help students, who are admitted to study in a degree program, make the transition from the ELP into their academic departments. For more information, visit k-state.edu/elp.

Helpful websites
- Engineering graduate programs engg.k-state.edu/academics/graduate
- Graduate catalog catalog.k-state.edu/index.php
- Tuition and fee information k-state.edu/finsvcs/cashiers/costs
- Graduate student life information k-state.edu/grad/students

Notice of Nondiscrimination
Kansas State University is committed to nondiscrimination in admissions, programs and employment. Inquiries and complaints: Contact Director of Institutional Equity, Kansas State University, 103 Edwards Hall, Manhattan, KS 66506-4801, (Phone) 785-532-6220.
Power systems and smart grids
Research in the power systems and smart grids area is focused on creating an adaptive, secure and intelligent power grid to help ensure consistent power delivery from a changing grid topology. This includes more distributed, renewables-based power generation and new power demands from emerging markets such as electric cars.

Renewable energy
Renewable energy research at K-State ECE is focused on wind power data and accessibility, helping teach students at primary and secondary schools learn about renewable energy through the Wind for Schools program.

Wireless communications
This research includes work on distributed sensor networks, GPS technology, MC-CMDA systems, software-defined radio, energy harvesting and RFIC inductors, among other fields.

Biomedical
Research in this area includes development of devices for both human and animal health care. This includes biomedical sensors, therapeutic medical devices, embedded systems, biofabrication, communication circuits, wireless communications, energy harvesting, signal processing, brain-computer interfaces, biosecurity and image processing.

Machine learning, multi-agent systems, modeling and optimization
Research in the artificial intelligence field is focused on the software that makes smart power systems function, with work in areas such as machine learning, game theory, multi-objective optimization and soft computing, among others.

Network science and engineering
Research in this field includes work in cutting-edge network theory problems, and developing real-world solutions to computer network and infectious disease modeling problems.

Power electronics and energy
Research in this area includes work in single-stage boost inverters for three-phase power systems, fault-tolerant cascaded multilevel converters and grid-interactive voltage source inverters. This work intersects with K-State’s research into smart grid technology and renewable energy sources.