

## Graduate Programs in Electrical Engineering

WSU's Department of Electrical Engineering and Computer Science offers courses of study leading to the Master of Science in Electrical Engineering MSEE and the Doctor of Philosophy in Electrical Engineering PhD EE.

Courses of study leading to the MS or PhD degrees are available with specializations in any of the following six fields:

- (1) control systems
- (2) communications
- (3) signal processing
- (4) computers and digital systems
- (5) energy and power systems
- (6) computer networking.

### PhD EE Admission

Admission to the PhD EE program requires the completion of a master's degree in engineering or physical sciences with a graduate grade point average (GPA) of at least 3.250 on a 4.000 scale, and a combined verbal and quantitative GRE score of 1100 (301 on the new revised score scale). Official GRE scores must be submitted.

Evidence of the ability to carry out independent research and present it in written English is highly desirable. Students with deficiency in certain areas may be required to take additional courses. Each applicant is evaluated individually with consideration to the applicant's plans.

### MSEE Admission

To be admitted to the MSEE program, students must have completed the equivalent of an undergraduate degree in electrical engineering or a related field. Students with deficiency in certain areas may be required to take additional courses. For full-standing admission, a minimum GPA of 3.0 on a 4.0 scale is required for the last 60 hours (or two years) of undergraduate work.

Students with a GPA less than 3.0 may be considered for probationary admission. Official scores from the General Test of the Graduate Record Examination (GRE) are recommended, but not required.

### English Proficiency

Non-native speakers of English must provide either an official TOEFL score of at least 550

paper based or 79 on the internet based tests, OR an overall minimum band score of 6.5 on the IELTS examination.

### PhD EE Degree Requirements

The PhD EE degree requires the satisfactory completion of a program approved by the student's doctoral advisory committee and the Dean of the Graduate School. The program normally contains at least 30 hours of post-master's graduate course work. A doctoral student must pass a comprehensive examination, a dissertation approval exam, and a final oral presentation and defense of dissertation.

### MSEE Degree Requirements

The MSEE degree requires the satisfactory completion of a Plan of Study, which must be filed within the first 12 credit hours of graduate course work. The plan of study must be approved by the student's advisor and the MSEE graduate coordinator. Three options are available:

- (1) the thesis option requires a minimum of 24 hours of course work plus a minimum of 6 hours of thesis,
- (2) the directed project option requires a minimum of 30 hours of course work plus a minimum of 3 hours of directed project,
- (3) the course work option requires a minimum of 36 hours of course work.

Each plan of study must contain the following:

- CESP 750D Engineering Research Writing
- Two core courses, which must be selected from the following:
  - 697 Electric Power System Analysis
  - 726 Digital Communications
  - 736 Data Communications
  - 754 Probabilistic Methods in Systems
  - 782 Digital Signal Processing
  - 792 Linear Systems
- A minimum of 18 EECS hours (including thesis, project, and independent study)
- 60 percent of the hours must be at the 700 level or higher
- At least two 800 or 900 level EECS courses (including thesis and project)

## Financial Aid

Several financial aid opportunities are available on a competitive basis to the best qualified students in the form of doctoral fellowships and teaching and research assistantships.

Furthermore, the university at large provides several campus employment opportunities for students.

## The Admission Process

All admissions to graduate study at Wichita State University are processed by the Graduate School, and final determination is made by the Dean of the Graduate School. The admission process starts by filing an official WSU application for admission, an application fee, and two copies of official transcripts of all previous academic work. These materials should be sent directly to the Graduate School office. International students are also required to file additional official documents, such as the official financial support certification and official TOEFL or IELTS scores. Upon request by the Graduate Dean, the department graduate coordinator performs an academic and admissibility evaluation of the materials submitted and makes an admission recommendation to the Dean of the Graduate School. Final action on each case and notification of action is handled by the Graduate School office.

## Faculty

**Visvakumar Aravinthan**, Assistant Professor. Power systems and reliability, smart distribution systems and grids, distribution systems reliability

**Abu Asaduzzaman**, Assistant Professor. Computer systems and architecture, parallel computing, computer modeling and simulation, and computer performance evaluation

**Rajiv Bagai**, Associate Professor and Graduate Coordinator of MSCN and MSCS programs. Web anonymity, data models, deductive databases, logic programming, programming languages

**Aminesh Chakravarthy**, Assistant Professor. Flight dynamics and control, path planning/obstacle avoidance of autonomous vehicles/robots in dynamic environments

**Yanwu Ding**, Assistant Professor.

Communication systems, wireless communications, signal processing

**Murtuza Jadliwala**, Assistant Professor.

Computer networking, information assurance, network security, graph theory and combinatorial optimization

**Ward T. Jewell**, Professor. Power systems, power quality, sustainability

**Hufeza Kagdi**, Assistant Professor. Software maintenance, visualization, and evolution, empirical software engineering, program comprehension

**Preethika Kumar**, Assistant Professor.

Quantum computing architectures

**Hyuck M. Kwon**, Professor. Communication systems/theory, wireless communications

**Vinod Namboodiri**, Assistant Professor.

Wireless networking

**Ravi Pendse**, Professor and Chief Information Officer. Computer engineering, computer networking

**Prakash Ramanan**, Professor. XML, database systems, algorithms, data structures, information retrieval

**Steven R. Skinner**, Professor and Graduate Coordinator of MSEE and PhD EE programs.

Quantum computing

**John M. Watkins**, Professor and Chair. Control systems

## For More Information

Dr. Steven Skinner

Graduate Coordinator, EE program

Electrical Engineering and Computer Science

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## Apply On-Line

<http://webs.wichita.edu/?u=apply&p=/OnlineApplicationGateway>