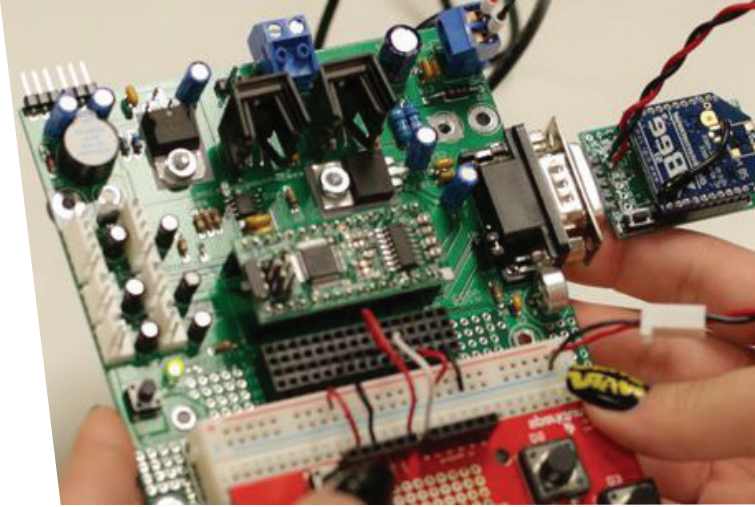


DEPARTMENT OF ELECTRICAL ENGINEERING

ELECTRICAL.MINES.EDU



PROGRAM SCOPE

The Department of Electrical Engineering at Mines strives to produce future leaders who serve the profession, the global community and society. In addition to our ABET-accredited undergraduate curriculum, students attain technical expertise while completing course work and projects reflective of modern technology trends. Students consider the broader impacts of engineering solutions on society and human lives.

82% PROFESSIONAL PLACEMENT RATE*

\$69,242 AVERAGE STARTING SALARY*

19:1 STUDENT TO FACULTY RATIO

AREAS OF STUDY

Students have access to modern technology and advanced laboratories, while being supported by faculty advisors who clarify engineering principles and help select technical electives best aligned with career goals.

DEGREES

✓ **Electrical Engineering**
Bachelor's, Master's and PhD

✓ **Combined BS-MS**

MINORS

▶ **Electrical Engineering**

▶ **Computer Engineering**

INTERNSHIP & CAREER OPPORTUNITIES

With a wide variety of career opportunities available, students and graduates are in charge of their future:

- Renewable energy
- Antennas and Aerospace
- National Government Organizations
- Law
- Intelligence and data managements
- Systems engineering and manufacturing
- Engineering consulting
- Utility industry
- Computer industry
- Microwave and RF industry

EMPHASIS AREAS

ENERGY SYSTEMS & POWER ELECTRONICS

This area encompasses a broad spectrum of electrical energy applications including investor-owned utilities, rural electric associations, manufacturing facilities, regulatory agencies, national laboratories, government agencies and consulting engineering firms.

INFORMATION SYSTEMS & SCIENCES

Interdisciplinary area that encompasses the fields of control systems, signal and image processing, compressive sensing and optimization.

ANTENNAS & WIRELESS COMMUNICATIONS

This area relates to the design of antennas, antenna arrays and microwave and RF devices for communications and sensing applications.

INTEGRATED CIRCUITS AND ELECTRONICS

This area involves analysis and design of analog and digital circuits to solve practical problems in communications, robotics and control.

FACULTY & RESEARCH



Dr. Atef Elsherbeni
Department Head,
Professor

Scatter and diffraction of EM waves, antennas and microwave devices, EM education, RFID and sensor Integrated systems, reflector and printed antennas, antenna arrays.

Dobelman Distinguished Chair



Dr. Ravel Ammerman
Emeritus Professor

Electrical safety, power system analysis, engineering education.



Dr. Abd Arkadan
Teaching Professor

Energy conversion, electric machines and drives, design optimization using computational electromagnetics and artificial intelligence.



Dr. Stephanie Claussen
Teaching Associate
Professor

Optoelectronic device design and fabrication, optical material characterization, engineering pedagogy.



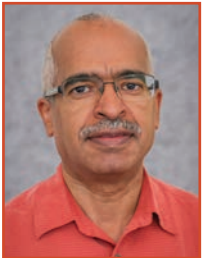
Dr. Christopher Coulston
Teaching Associate
Professor

Embedded systems, digital design, signal processing, algorithms, computer architecture, control theory, Printed Circuit Board layout.



Dr. Vibhuti Dave
Teaching Professor

VLSI Design, high-speed computer arithmetic, digital design, engineering education.



Dr. Mohammed Hadi
Research Professor

Finite-difference time-domain method, large-scale and multi-scale electromagnetic simulations, GPU computing.



Dr. Randy Haupt
Professor

Genetic algorithms in electromagnetics adaptive antennas.



Dr. Kathryn Johnson
Associate Professor

Wind energy systems, control systems, engineering education.



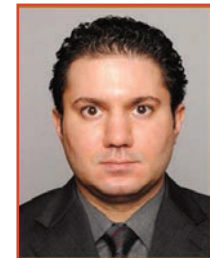
Dr. Salman Mohagheghi
Associate Professor

Power system control and dynamics, renewable and distributed energy systems, situational awareness, utility automation.



Dr. Kevin Moore
College Dean, Professor

Iterative learning control, autonomous systems and robotics, cooperative control and consensus in dynamic networks, industrial and mechatronic control systems.



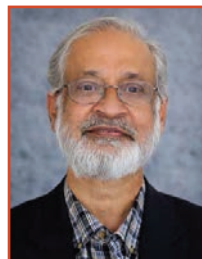
Dr. Payam Nayeri
Assistant Professor

RF design, communication circuits, microwave antenna engineering.



Dr. Jeff Schowalter
Teaching Professor

Biomedical instrumentation, engineering education, engineering design, analog electronics.



Dr. PK Sen
Professor

Energy sustainability and electricity, energy systems, electrical machines and renewable energy, safety, power engineering education.



Dr. Marcelo Simoes
Professor

Power electronics, energy conversion systems for renewable energy apps, and intelligent controls.
NSF CAREER winner.



Dr. Gongguo Tang
Assistant Professor

Compressive sensing, radar sensing, sensor array and network, computer vision, electromagnetics, bioinformatics, social network and media.



Dr. Tyrone Vincent
Professor

Control systems, system identification, materials processing controls.
NSF CAREER winner.



Dr. Michael Wakin
Ben L. Fryrear, Associate
Professor

Signal image processing, compressive sensing.
NSF CAREER winner.