Electrical Engineering (MS)
Distance Graduate Degree Program
*Department of Electrical and Computer Engineering*

**Program Description**
Electrical engineers help drive, implement and evaluate new technologies. At Missouri S&T, we have been educating electrical engineers for almost 100 years. From technical proficiency in hardware and software, to the understanding of complex global projects, economic impact and ethics, students in this program become competent problem solvers at all levels of electrical engineering.

Areas of study include: Circuits, Electronics, Communications and Signal Processing, Computer Engineering, Control Systems, Electromagnetics and Physical Electronics, and Electrical Power and Machinery.

**Credit Hours to Complete:** This program requires 30 credit hours of coursework for both non-thesis and thesis, with six hours of research required for the thesis.

**Delivery Format:** Courses are delivered over the Internet, via live streaming video; collaborative learning software includes WebEx and Blackboard; classes are archived online for review and easy access.

**Course Management Software:** Blackboard.

**Admission Requirements**
Bachelor's degree in related field from ABET accredited university (or equivalent international), with GPA ≥ 3.2; GRE V+Q ≥ 1100; GRE Q ≥ 730; GRE WR score ≥ 4.5. International requirements: three letters of recommendation, TOEFL > 580 (or 237 computer based).

**Department Contact Information**
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Electric Machines and Drives
This graduate certificate program is designed to provide specialized graduate-level education for working professionals in the area of Electric Machines and Drives.

Curriculum:*  
The following two electric power systems courses must be taken.  
EE 305: Electric Drive Systems  
EE 402: Advanced Theory of Electric Machines  

A minimum of two of the following electric power systems courses must be taken.  
EE 304: Electric Power Quality  
EE 331: Digital Control  
EE 353: Power Electronics  
EE 371: Grounding and Shielding  
EE 401: Electric and Hybrid Vehicles  
EE 406: Power System Stability  
EE 431: Linear Control Systems  

Electric Power Systems Engineering
This graduate certificate program is designed to provide specialized graduate-level education for working professionals in the area of Electric Power Systems Engineering.

Curriculum:*  
The following two electric power systems courses must be taken.  
EE 304: Electric Power Quality  
EE 307: Power Systems Engineering  

A minimum of two of the following electric power systems courses must be taken.  
EE 302: Extra High Voltage Engineering  
EE 304: Electric Power Quality  
EE 352: Photovoltaic Power Systems  
EE 404: Economic Operation of Power Systems  
EE 405: Power System Protection  
EE 406: Power System Stability  

EE 407: Surge Phenomena in Power Systems  
EE 408: Computer Methods in Power System Analysis  
EE 431: Linear Control Systems  

*Curriculum is subject to change. Please contact the department for up-to-date information on courses. Other courses approved by the electric machines and drives faculty may be substituted for any of the above listed courses on a case-by-case basis. The Department’s Assistant Chair for Graduate Affairs must approve the substitution prior to enrolling in the course.

Admission Requirements
The graduate certificate program is open to all persons holding a bachelor's degree in any field of engineering from an ABET-accredited undergraduate program and having a minimum of 24 months of post BS professional work experience that would normally require an engineering degree or a degree in a closely related technical field such as physics or mathematics. The minimum overall GPA in the BS degree program should be at least 2.5.

Once admitted to the program, the student must take four designated courses as given above. In order to receive a Graduate Certificate, the student must have an average graduate grade point average of 3.0 or better in the certificate courses taken.

Students admitted to the certificate program will have non-degree graduate status; however, if they complete the four-course sequence with a grade of B or better in each of the courses taken, they will be admitted to the MS program in electrical engineering if they apply. The certificate courses taken by students admitted to the M.S. program will count towards their master’s degrees. Students who do not have all of the prerequisite courses necessary to take the courses in the certificate program will be allowed to take “bridge” courses at either the graduate or undergraduate level to prepare for the formal certificate courses.