• ELECTRICAL ENGINEERING

Undergraduate Degree Offered:
Bachelor of Science in Electrical Engineering (B.S.E.E.)
Graduate Degrees Offered:
Master of Science in Electrical Engineering (M.S.E.E.)
Master of Engineering (M.E.)
Master of Science in Engineering Science (M.S.E.S)
Doctor of Philosophy in Electrical Engineering (Ph.D.)

This department offers study in all areas fundamental to Electrical Engineering and the electrical sciences: circuit analysis and design, electronics, communications, electromagnetics, controls, solid state, system analysis, digital circuit design and microelectromechanical systems (MEMS). Basic concepts are augmented with well-equipped laboratories in circuits, electronics, digital systems, microwave techniques, wireless circuits & systems, and controls and communications. In addition, a general-purpose computer facility, a microprocessor and digital signal processing laboratory, and a microelectronics fabrication, design/test and metrology laboratory are available to undergraduate and graduate students.

Mission Statement
The mission of the Electrical Engineering Department at the University of South Florida is to provide internationally recognized educational programs; to conduct and disseminate internationally recognized research benefiting humanity; to provide service to society; and to emphasize the need for lifelong learning, ethical conduct and an understanding of the diverse social context in which engineering is practiced.

Objectives
The Department objectives are to produce graduates

1. with the knowledge and skills necessary to practice Electrical Engineering successfully.
2. who can pursue advanced topics through graduate or professional studies.

Students pursuing the Bachelor of Science in the Electrical Engineering program take designated coursework in network analysis, electronics, communications, electromagnet theory, control systems, microelectronics and microprocessors. This coursework is supplemented by electives in many specialized areas of electrical engineering.

Students completing this program normally pursue industrial careers in electronics, communications, power and controls, digital systems, microelectronics, and information systems. The electrical graduate may apply his/her knowledge to such diverse areas as wireless and satellite communications, remote guidance, MEMS, sensing technology, systems integration, automation, computer and information systems, electronic power generation and transmission, electrically propelled transportation, etc. The graduate may do this by performing needed engineering functions related to research and development (often requires an advanced degree), design, production, operation, sales, or management of these products/services.

Departmental Policies
In addition to the College’s graduation requirement, the department has the following policies:

1. Mandatory academic advising of students for each term.
2. Exit interviews as a graduation requirement.
3. Students must pass all required BSEE courses, except humanities and social sciences, with a grade of “C” or better.

Four-Year Curriculum in Electrical Engineering

Prerequisites (State Mandated Common Prerequisites) for Students Transferring from a Florida Community College: If a student wishes to transfer without an A.A. degree and has fewer than 60 semester hours of acceptable credit, the student must meet the university’s entering freshman requirements including ACT or SAT test scores, GPA, and course requirements.

Students should complete the following prerequisite courses listed below at the lower level prior to entering the University. If these courses are not taken at the community college, they must be completed before the degree is granted.

Students qualify for direct entry to the department if they have completed the following courses at a Community College or University in the Florida State University System (SUS) and meet all other admissions requirements of the University and College.

Some courses required for the major may also meet General Education Requirements thereby transferring maximum hours to the university.

Communications:
ENC 1101/1102 English I and II (6)

Humanities & Social Sciences:

Humanities Courses (6)
Social Science Courses (6)
Humanities or Social Sciences (3)

Mathematics:

USF
MAC 2281 CC
MAC 2282 MAC 2311* (4)
MAC 2283 MAC 2312* (4)
MAC 2283 MAC 2313* (4)
MAP 2302 MAP 2302 (3)

*or MAC 2281, MAC 2282, MAC 2283

Natural Sciences:

USF
CHM 2045 CC
CHM 2045L CHM 1045* (3)
CHM 2045L CHM 1045L* (1)
PHY 2048 PHY 2048 (3)
PHY 2048L PHY 2048L (1)
PHY 2049 PHY 2049 (3)
PHY 2049L PHY 2049L (1)

*or CHS 1440 Chemistry for Engineers

Please be aware of the immunization, foreign language, continuous enrollment policies of the university, and qualitative standards required.

Electrical Engineering Admissions Requirements
Transfer students must have completed the equivalent of the USF Engineering Calculus and Physics sequences and Chemistry I and Chemistry I lab with a minimum GPA in these courses of 2.25 including all attempts; must have an overall GPA of 2.0 or better.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The schedule that follows indicates how a diligent student who can devote full time to coursework can satisfy requirements in four academic years. Students without a solid foundation or those who cannot devote full time to academics should plan a slower pace. The following sequence is intended to facilitate registration planning and is subject to change based upon course availability. The sequence may also vary based upon individual considerations. Registration assistance will be provided by academic advisors.
<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester VIII</th>
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<tbody>
<tr>
<td>ENC 1101  Composition I</td>
<td>EEL 4914 EE Design Project</td>
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<tr>
<td>MAC 2281  Engineering Calculus I</td>
<td>Social Science Elective</td>
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<tr>
<td>Social Science Elective</td>
<td>Tech Elective</td>
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<tr>
<td>EGN 2080  Light and the Arts</td>
<td>Tech Elective</td>
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<td>(or other Fine Arts Elective)</td>
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<tr>
<td>EGN 2082  History of Electrotechnology</td>
<td>ALAMEA</td>
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<td>(or other Historical Perspectives elective)</td>
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<td><strong>Total</strong> 16</td>
<td><strong>Total</strong> 15</td>
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*Some electives with lab components will incur a lab fee.*

Gordon Rule (6A) is fully met through the mathematics courses above, ENC 1101, ENC 1102, ENC 3211 and by selecting one technical or general education elective that is an approved 6A communication course or by completing an AA degree at a Florida Community College. Exit Requirements in Major Works/Major Issues (MW/MI) and Literature and Writing (L&W) are fully met through ENC 3211 and EEL 4906.