

## CERTIFICATE IN ELECTRICAL ENGINEERING

The certificate will provide an opportunity for non-electrical/computer engineering students and graduates from other majors to develop a background of the fundamental courses in electrical and computer engineering. Depending on the graduate program, this certificate may be used to meet deficiency requirements for graduate programs in electrical and computer engineering for those who do not have a bachelor's degree in Electrical and Computer Engineering. The certificate in electrical engineering is open to all UWF students with the exception of computer and electrical engineering majors.

### Program Requirements

Students applying for the certificate must have completed the prerequisite courses listed below with a GPA of C (2.0/4.0) or higher from an accredited college or university.

### Prerequisites

MAC 2311	Calculus I	4 hrs
MAC 2312	Calculus II	4 hrs
MAC 2313	Calculus III	4 hrs
MAP 2302	Differential Equations	3 hrs
PHY 2048/L	Calculus based Physics 1 and lab	4 hrs
PHY 2049/L	Calculus based Physics II and lab	4 hrs
EGM 4313	Intermediate Engineering Analysis*	3 hrs

Note: For Tracks 1, 4, and 5, students will also need C or C++ (EEL 4834 or equivalent) as a prereq to the courses.

\* Although we encourage students to take EGM 4313, we will accept MAS 3105 as a suitable substitute for those who have already completed it and have a strong mathematical background.

### Major Courses for the Certificate

A minimum of 17 credits of articulation courses from two categories listed below:

<b>Category I</b>	<b>11 Credits</b>	
EEL 3111	Circuits 1	3 hrs
EEL 3117L	Circuits 1 Lab	1 hr
EEL 3112	Circuits 2	3 hrs
EEE 3308	Electronics 1	3 hrs
EEE 4308L	Electronics 1 lab	1 hr

### Category II Minimum of 6 credits. Choose 1 track:

#### Track 1: Digital Computers:

EEL 3701	Digital Logic and Computer Systems	3 hrs.
EEL 3701L	Digital Logic and Computer Systems lab	1 hr.
EEL 4744	Microprocessor Applications	3 hrs.
EEL 4744L	Microprocessor Applications lab	1 hr.

#### Track 2: Electronics:

EEE 4306	Electronic Circuits 2	3 hrs.
EEE 4306L	Electronics Circuits 2 Lab	1 hr.
EEE 3396	Solid-State Electronic Devices	3 hrs.

**Track 3: Power/Electromagnetics:**

EEL 3211	Basic Electrical Energy Engineering	3 hrs.
EEL 3472	Electromagnetic Fields and Applications I	3 hrs.

**Track 4: Communication Systems:**

EEL 3135	Signals and Systems	3 hrs.
EEL 4514	Communications Systems and Components	3 hrs.
EEL 4514L	Communications Systems and Components Lab	1 hr.

**Track 5: Control Systems:**

EEL 3135	Signals and Systems	3 hrs.
EEL 4657	Linear Control Systems	3 hrs.
EEL 4657L	Linear Control Systems	1 hr.

Students must earn a grade of C (2.0/4.0) or above in all EEL prefix and non-EEL courses that are part of the certificate or that are prerequisites for other EEL courses. Students can not take the EEL courses and its prerequisite during the same semester. Instructor can not make any exceptions. Please see the latest catalog or an engineering academic advisor for current prerequisite information.