

Certificate in Unmanned Vehicle Systems (Electrical Engineering)

About This Program

The Certificate in Unmanned Vehicle Systems (UVS) for Electrical Engineering majors will educate undergraduate students in the knowledge and skills required for design, development and operation of UVS including Unmanned Aircraft Systems (UAS), Unmanned Ground Systems (UGS), and Unmanned Maritime Systems (UMS). The certificate program will emphasize the common aspects of UVS such as sensors, actuators, communications, and more importantly, decision-making capabilities (autonomy). This program aims at the dual goal of providing the UVS industry with a knowledgeable, locally available workforce and developing career opportunities for its participants. To this end, the Certificate in UVS will be awarded concurrently with an undergraduate degree.

Competencies

1. Upon completion, the students will be able to apply "systems thinking" to design an autonomous vehicle to satisfy specific mission requirements.
2. Upon completion, the students will be able to integrate sensors, actuators, and software on a mobility platform.
3. Upon completion, the students will be able to select appropriate sensing, and control algorithms and deploy them on a mobility platform.

Admissions Criteria

The certificate is open to all degree-seeking students who meet prerequisite requirements.

Curriculum

UVS Foundations

EE 4378	INTRODUCTION TO UNMANNED VEHICLE SYSTEMS	3
EE 4379	UNMANNED VEHICLE SYSTEM DEVELOPMENT	3

EE Specialization

EE 4314	CONTROL SYSTEMS	3
Select two from the following:		6
EE 3302	FUNDAMENTALS OF POWER SYSTEMS	
EE 3444	ELECTRONICS II	
EE 4315	INTRODUCTION TO ROBOTICS	
EE 4318	DIGITAL SIGNAL PROCESSING	
EE 4330	FUNDAMENTALS OF TELECOMMUNICATIONS SYSTEMS	
EE 4357	INTRODUCTION TO MACHINE LEARNING	

Total Hours	15
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Course substitutions may be permitted if approved in advance by the certificate coordinator.

Program Completion

A combined GPA of 3.0 or better must be earned on all courses used to satisfy the certificate requirements.

Advising Resources

First time in college students meet with engineering advisors in the UAEC (UAECengineering@uta.edu). Transfer students are advised prior to New Maverick Orientation by the department. Students, please read all student emails carefully and consult the department advising webpage for additional contact information and answers to common questions.

ELECTRICAL ENGINEERING

Location:

NH 501

Email:

ee_ug_advising@uta.edu

Phone:

817-272-2671

Web:

Schedule Advising (<https://outlook.office365.com/owa/calendar/EEAdvising@bookings.uta.edu/bookings/>)

RESOURCE AND ENERGY ENGINEERING

Location:

NH 513

Email:

ree_ug_advising@uta.edu

Phone:

817-272-6514

Web:

Schedule Advising (<https://outlook.office365.com/book/EEAdvising@bookings.uta.edu/>)