

Undergraduate Certificate in Unmanned Vehicle Systems

About This Program

The Certificate in Unmanned Vehicle Systems (UVS) 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. 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.

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.

Admissions Criteria

Admission to a professional engineering or science program.

Curriculum

Required

Introductory Course (3 hours) 3

Choose 1 of the following:

CSE 4378	INTRODUCTION TO UNMANNED VEHICLE SYSTEMS
EE 4378	INTRODUCTION TO UNMANNED VEHICLE SYSTEMS
IE 4378	INTRODUCTION TO UNMANNED VEHICLES SYSTEMS
MAE 4378	INTRODUCTION TO UNMANNED VEHICLE SYSTEMS

Projects Course (3 hours) 3

Choose 1 of the following:

Note: these require a 'B' or better in the Introductory Course

CSE 4379	UNMANNED VEHICLE SYSTEM DEVELOPMENT
EE 4379	UNMANNED VEHICLE SYSTEM DEVELOPMENT
IE 4379	UNMANNED VEHICLE SYSTEM DEVELOPMENT
MAE 4379	UNMANNED VEHICLE SYSTEM DEVELOPMENT

Electives (6 hours) 6

Select 2 courses from one (1) of the following groups:

CSE group

CSE 3442	EMBEDDED SYSTEMS I
CSE 4308	ARTIFICIAL INTELLIGENCE
CSE 4360	AUTONOMOUS ROBOT DESIGN AND PROGRAMMING

EE group

EE 4314	CONTROL SYSTEMS
EE 4315	INTRODUCTION TO ROBOTICS

IE group

IE 3351	FUNDAMENTALS OF SYSTEMS ENGINEERING
IE 4325	AUTOMATION AND ROBOTICS FOR SERVICE AND MANUFACTURING SYSTEMS

MAE group

MAE 3318	KINEMATICS AND DYNAMICS OF MACHINES
MAE 4345	INTRODUCTION TO ROBOTICS

Note: Any 3000/4000-level engineering or science course may be substituted with prior approval of academic advisor

Total Hours 12

Program Completion

'C' or better in the required and elective courses.

Advising Resources

Graduate students should consult the graduate advisor corresponding with the appropriate program.

COMPUTER SCIENCE AND ENGINEERING

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.

Location:

ERB 6th Floor: ERB 643, ERB 644, ERB 645, ERB 646, ERB 622A

Email:

cseugadvising@uta.edu

Phone:

817-272-3785

Web:

Find our contact information, walk-in advising schedule, and virtual appointment links here (<https://www.uta.edu/academics/schools-colleges/engineering/academics/departments/cse/students/undergraduate-advising/>)

ELECTRICAL ENGINEERING

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/>)

INDUSTRIAL, MANUFACTURING AND SYSTEMS ENGINEERING

Location:

325 Woolf Hall

Email:

IEUGAdvising@uta.edu

Phone:

817-272-3092

Web:

Undergraduate Advising Information (<https://www.uta.edu/academics/schools-colleges/engineering/academics/departments/industrial/students/undergrad-advising/>)

MECHANICAL AND AEROSPACE ENGINEERING

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.

Location:

204 Woolf Hall

Email:

maeundergrad@uta.edu

Phone:

817-272-2561

Web:

Additional Advising Information (<https://www.uta.edu/academics/schools-colleges/engineering/academics/departments/mechanical-aerospace/students/ugadvising/>)