

# Certificate in Automotive Engineering

## About This Program

The University of Texas at Arlington is pleased to offer a Certificate in Automotive Engineering through the Arnold E. Petsche Center for Automotive Engineering. This certificate confirms the student's commitment to automotive engineering and the learning experience gained from being a contributing member of a student design competition team. The Certificate in Automotive Engineering will be awarded concurrently with an undergraduate degree. The completed certificate program of study will be forwarded to the Office of Admissions, Records and Registration for verification and notation on the student's transcript. A formal certificate will be prepared for the student by the university.

## Competencies

1. Upon completion, a student will be able to describe the various systems on an automobile.
2. Upon completion, a student will be able to work in a team environment for a common goal.
3. Upon completion, a student will be able to design, analyze, and fabricate parts.

## Admissions Criteria

The certificate is open to all degree-seeking students.

## Curriculum

### Foundations

Select 6 hours from the following: 6

|          |                                                        |
|----------|--------------------------------------------------------|
| EE 2341  | DIGITAL CIRCUITS AND SYSTEMS                           |
| EE 3346  | CIRCUIT ANALYSIS II (This course is new for fall 2021) |
| MAE 3315 | AEROSPACE STRUCTURAL STATICS                           |
| MAE 3319 | DYNAMIC SYSTEMS MODELING AND SIMULATION                |
| MAE 4314 | MECHANICAL VIBRATIONS                                  |
| MAE 4342 | MECHANICAL DESIGN II                                   |

### Specialization

Select 9 hours from the following: 9

|          |                                          |
|----------|------------------------------------------|
| MAE 4357 | AUTOMOTIVE ENGINEERING                   |
| MAE 4358 | RACECAR ENGINEERING                      |
| MAE 4307 | FINITE ELEMENT METHODS                   |
| MAE 4312 | CONTROL SYSTEMS COMPONENTS               |
| MAE 4315 | INTRODUCTION TO COMPOSITES               |
| MAE 4329 | ADDITIVE MANUFACTURING                   |
| MAE 4331 | DESIGN FOR MANUFACTURING                 |
| MAE 4378 | INTRODUCTION TO UNMANNED VEHICLE SYSTEMS |

### Non-credit Practicum

Select one from following: <sup>1</sup>

|          |                                     |
|----------|-------------------------------------|
| MAE 2010 | AUTOMOTIVE ENGINEERING PRACTICUM I  |
| MAE 4010 | AUTOMOTIVE ENGINEERING PRACTICUM II |

**Total Hours** 15

<sup>1</sup> Students must gain approval to enroll from the faculty of the Arnold E. Petsche Center for Automotive Engineering.

## Program Completion

In addition to required coursework, the certificate requires one semester of practical training experience that is documented by enrollment in either MAE 2010 or MAE 4010. These are automotive engineering practicum courses that have no academic credit and do not require a tuition fee. Students must gain approval to enroll in these courses from the faculty of the Arnold E. Petsche Center for Automotive Engineering.

The certificate requires that the student be a member of an automotive design competition team, such as Formula SAE, as determined by the director of the Arnold E. Petsche Center for Automotive Engineering.

All courses must be passed with a grade of C or better to apply to the Undergraduate Certificate in Automotive Engineering.

## 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.

### Location:

204 Woolf Hall

### Email:

maeundergrad@uta.edu

### Phone:

817-272-2561

### Web:

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