Post-Baccalaureate Certificate in Manufacturing

About This Program

The Post-Baccalaureate Certificate in Manufacturing provides students with advanced manufacturing knowledge and skills required for professional careers in manufacturing engineering while meeting the requirements for a master's degree in mechanical engineering. The program is accomplished by augmenting core engineering classes with classes and research in specific disciplines relevant to manufacturing. The certificate program recognizes the broad base of engineering sciences that supports manufacturing processes as well as specialized concepts, theories, and enabling technologies used in modern manufacturing operations. Students completing this program will gain knowledge in key disciplines required in manufacturing engineering ranging from the unit process level up to the operational systems level.

Competencies

1. Upon completion, the students will be able to apply key scientific principles of common manufacturing processes in mechanical engineering applications and mathematically model key process parameters and capabilities
2. Upon completion, the students will be able to apply Design for Manufacturing principles to design mechanical products that satisfy performance, cost, and quality requirements
3. Upon completion, the students will be able to apply knowledge in key disciplines required in manufacturing engineering ranging from the unit process level up to the operational systems level

Admissions Criteria

To be considered for admission, applicants must have completed a bachelor's degree in an engineering discipline with a minimum GPA of 3.0 or be currently enrolled in an engineering master's program at UTA with a minimum GPA of 3.0.

If enrolled in a UTA graduate engineering degree program, complete an application to the certificate administrator.

If not enrolled in a UTA engineering graduate degree program, applicants must:

- Be admitted to UTA as a non-degree seeking student
- Provide an essay detailing the applicant's background and skills as pertaining to manufacturing, interest in a specific domain, and expected benefit from completing this program.
- Provide two recommendation letters explaining how the applicant will contribute to the certificate program and how the applicant will benefit by completing the program.

Curriculum

Foundations		**6**
ME 5326	MANUFACTURING PROCESSES AND SYSTEMS	
ME 5327	DESIGN FOR MANUFACTURING	
Specialization		
Select 6 hours with at least 3 hours from the following:		6
ME 5328	METAL ADDITIVE MANUFACTURING	
ME 5329	ADDITIVE MANUFACTURING	
ME 5337	INTRODUCTION TO ROBOTICS	
ME 5339	INTERMEDIATE MECHANICS OF MATERIALS	
ME 5341	CONTROL SYSTEM COMPONENTS	
ME 5350	COMPUTER AIDED DESIGN AND MANUFACTURING	
ME 5382	RESEARCH TRENDS IN RENEWABLE ENERGY TECHNOLOGIES	
ME 6337	ADVANCED ROBOTICS	
ME 5390	SPECIAL TOPICS IN MECHANICAL ENGINEERING (with prior approval of certificate director when topic is relevant)	
No more than 3 hours from the following:		
IE 5301	INTRODUCTION TO OPERATIONS RESEARCH	
IE 5302	INTRODUCTION TO INDUSTRIAL ENGINEERING	
IE 5303	QUALITY SYSTEMS	
IE 5310	PRODUCTION SYSTEMS DESIGN	
IE 5317	INTRODUCTION TO PROBABILITY AND STATISTICS	

IE 5319	ADVANCED STATISTICAL PROCESS CONTROL AND TIME SERIES ANALYSIS	
IE 5329	PRODUCTION AND INVENTORY CONTROL SYSTEMS	
IE 5330	AUTOMATION AND ADVANCED MANUFACTURING	
IE 5342	METRICS AND MEASUREMENT	
Total Hours		**12**

Program Completion

To earn the certificate, students must complete 12 hours of the required coursework with grades of B or better.

Advising Resources

Advising can be conducted in person or remotely via Teams. Please email your advisor to schedule an appointment. The advising form can be downloaded from the MAE Grad Advising Canvas page. First consult with your advisor if you are planning a Leave of Absence, Grade Forgiveness, or Change of Program.

Location:

306 Woolf Hall

Email:

MAEGradAdvising@uta.edu

Phone:

817-272-2500

Web:

Graduate Advising Webpage (https://www.uta.edu/academics/schools-colleges/engineering/academics/departments/mechanical-aerospace/students/gradadvising/)