WHY MS-MatE

Interdisciplinary Curriculum (taking courses from MatE, MOT, ECE, BME, CE, ME, etc.)

Across departmental boundaries administration, by Dept. ECE for College of Engineering

State-of-the-art technical knowledge and skill training

Fellowship and Internship opportunities

Pathways to Interdisciplinary Doctoral Research and leadership job opportunities in Materials Engineering

WHO SHOULD APPLY

Students with undergraduate degrees in any engineering field (CE, EE, ME, BME, etc.), materials science, physics, chemistry, biology are ideal candidates for this MS MatE program.

APPLY MS-MatE

Submit online Application at https://apply.embark.com/grad/utsa/

Application Deadline Dates
Fall - by July 1 (*April 1)
Spring- by November 1 (*September 1)
Summer - by May 1 / June 1 (*March 1)

(*International Applicants – check extended deadline online)

Information Online
http://graduateschool.utsa.edu/future-students/academic-programs/advanced-materials-engineering-m.s-mate/

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INTERDISCIPLINARY MASTER OF SCIENCE IN ADVANCED MATERIALS ENGINEERING

The College of Engineering, University of Texas at San Antonio (UTSA), has established an interdisciplinary graduate degree program, Master of Science (MS) in Advanced Materials Engineering (MatE). The new graduate degree program is administered across departmental boundaries and hosted by The Department of Electrical and Computer Engineering, College of Engineering.

GOAL OF THE MS-MatE

The essential goal of this program is to train and equip graduate-level students with the state-of-the-art technical knowledge and skill sets necessary for independent critical thinking, problem solving, and decision making, in the area of MatE. These knowledge and skill sets are critical requirements to address the technological challenges facing tomorrow’s workforce.

EDUCATIONAL OBJECTIVES

Objective 1: To train graduate students to solving multidisciplinary problems in materials engineering. The MS in MatE program provides students with carefully selected multidisciplinary courses, graduate thesis/project opportunities, faculty mentorship and resources that extend beyond the College of Engineering’s traditional departmental boundaries.

Objective 2: To develop the students’ skills in leadership and application of the technical knowledge. In addition to explicit training in specific technical tracks, the MS students in the MatE program will take interdisciplinary courses from both within and outside of the College of Engineering at UTSA in order to cultivate their leadership, problem-solving, and entrepreneurship skills.

THREE INTERLINKED AREAS OF KNOWLEDGE

(a) Structure-function relationships in materials, which determine behavior at a fundamental level. This area will include the understanding of materials at the macro-, micro-, nano-, molecular- and atomic-level.

(b) Synthesis, characterization and measurement of properties of materials, including metals, polymers, ceramics, composites, multifunctional and metamaterials. This area will include special emphasis on the synthesis and characterization of new materials with novel properties to address current and future technological challenges.

(c) Design and applications of materials that impact different facets of our economy, including energy, communication, transportation, construction, health, national security, and the environment.

TWO CONCENTRATIONS

Concentration I – Multifunctional Electronic, Dielectric, Photonic and Magnetic Materials

Concentration II – Multifunctional Biomedical Materials

Interwoven in the concentrations will be numerical/computational methods that simulate/model materials of novel properties/responses for tailored applications.

TWO DEGREE OPTIONS

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