

# NANO MATERIALS SCIENCE AND ENGINEERING, CERTIFICATE

The undergraduate Nano Materials Science and Engineering Certificate is a 12-hour program open to all majors and professionals. This certificate will provide students the necessary skills to apply Nano Materials Science effectively in a variety of areas. Multiple Departments participate in the transcribed Nano Materials Science and Engineering certificate. See catalog section UNDERGRADUATE TRANSCRIPTED CERTIFICATE PROGRAMS OFFERED (<https://catalog.tamuk.edu/undergraduate/undergraduate-degrees-majors-offered>) for participating departments.

In order to qualify for the certificate, students need to take *four courses, two required and two chosen from among electives*. Prerequisites for various courses have to be met. Contact the specific department course instructor for information and advising concerning prerequisites.

Code	Title	Semester Credit Hours
<b>Required Courses</b>		
CHEM 4313	Chemistry and Nanoscience	3
or CHEM 4363	Chem & Morphological Analysis	
MEEN 3344	Materials Science	3
<b>Elective Courses</b>		
Select at least 6 hours of the following:		6
CEEN 4314	Matrix Methods and Structural Analysis	
CHEM 4312	Coordination Chemistry & Catalysis	
CHEN 4311	Biochemical Engineering	
EVEN 4301	Water and Wastewater Treatment	
ITEN 2320	Industrial Materials	
EEEN 4310	Intro to VLSI Circuit Design	
MEEN 3145	Material Science Laboratory	
MEEN 4335	Special Problems	
CHEM 4181	Chemical Seminar	
CHEM 3385	Undergraduate Research (WI) <sup>1</sup>	
or CHEM 4385	Senior Research (WI)	
Any Topics/Special Problems courses within the College of Engineering <sup>2</sup>		
Total Semester Credit Hours		12

<sup>1</sup> Two hours of the variable-hour research course CHEM 3385 or CHEM 4385. Choose three hours of the variable-hour research courses, if taken without CHEM 4181.

<sup>2</sup> Numbered 4335 (V1:3) or 4336 (V1:3) focused on a research aspect of materials science.