

# MATERIALS CHEMISTRY CERTIFICATE

For the Certificate in Materials Chemistry 15-16 hours of CHEM/CHEE courses are required.

Code	Title	Hours
CHEM 4810	Materials Science I	4
CHEM 4820	Materials Science II	4
Select two from the following:		7-8
CHEM 4800	Advanced Materials Chemistry	
CHEM 4830	Nanomaterials Science	
CHEM 4850	X-Ray Crystallography	
CHEE 4800	Polymer Science And Engineering	
<b>Total Hours</b>		<b>15-16</b>

## First Year

First Term	Hours	
CHEM 4810	Materials Science I	4
Choose One of the Following	3-4	
CHEM 4850	X-Ray Crystallography	
CHEE 4800	Polymer Science And Engineering	
<b>Hours</b>		<b>7-8</b>

## Second Term

CHEM 4820	Materials Science II	4
Choose One of the Following	4	
CHEM 4800	Advanced Materials Chemistry	
CHEM 4830	Nanomaterials Science	
<b>Hours</b>		<b>8</b>
<b>Total Hours</b>		<b>15-16</b>

- PLO 1. Understand the foundations of materials chemistry, including materials synthesis, materials processing, general structure/function relationships, and nanoscience.
- PLO 2. Communicate technical information clearly and accurately in written, oral and visual formats.
- PLO 3. Locate and use information in the primary literature and research databases.
- PLO 4. Critically read, assess, and evaluate scientific publications, presentations and data.
- PLO 5. Apply the concepts and practices of chemistry to areas outside the laboratory, including societal and policy issues.