

# Master of Science Program in Chemistry

## Research Focus

- Asymmetric Synthesis
- Natural Product and Synthesis
- Bioorganic and Bioinorganic Synthesis and Applications
- Organic Light Emitting Diode Characterization and Applications
- Nanomagnetic Particles and Applications
- Analytical Devices
- Advanced Material Synthesis and Applications
- Selenium Enrichment and Applications
- Biomaterial and Applications
- Flow-based Analysis and Applications

## Structure of the Program

### 1. Credit Requirements \*

Requirements	Option 1.2
Coursework	24
- Core Courses	9
- Electives	15
Required Non-credit Courses	4
Thesis	12
<b>Total</b>	<b>36</b>

\* Minimum credits required

## 2. Core Courses

Requirements	Option 1.2	
	Course No.	Cr.
Sample Preparations and Separation Techniques for Chemical Analysis	256557	3
Spectroscopic Method for Chemical Analysis	256552	3
Advanced Techniques for Structural Analysis	256561	3
<b>Total</b>	<b>3</b>	<b>9</b>

## 3. Electives

Requirements	Option 1.2	
	Course No.	Cr.
<b>Organic Chemistry Module</b>		
Physical Organic Chemistry	256522	3
Natural Products and Synthesis	256524	3
Photochemistry of Organic Compounds	256526	3
Organometallic Chemistry	256527	3
Applications of Transition Metals in Organic Synthesis	256528	3
Bioorganic Chemistry	256529	3
Current Topics in Organic Chemistry	256571	3
Advanced Free Radical Chemistry in Organic Compounds	256572	3
Nucleoside Chemistry	256573	3
Organic Chemistry of Polymers	277551	3
<b>Inorganic Chemistry Module</b>		
Coordination Chemistry	256533	3
Solid State Inorganic Chemistry	256534	3
Advanced Bioinorganic Chemistry	256535	3
Identification of Inorganic Compounds	256536	3
Current Topics in Inorganic Chemistry	256538	3
Molecular Imaging	256539	3
<b>Physical Chemistry Module</b>		
Advanced Physical Chemistry 1	256542	3
Quantum Chemistry and Molecular Structure	256543	3
Chemical Thermodynamics	256544	3
Chemical Kinetics	256545	3

Requirements	Option 1.2	
	Course No.	Cr.
Colloid and Surface Chemistry	256547	3
Current Topics in Physical Chemistry	256548	3
UV-Vis Absorption and Photoluminescence Spectroscopy	256549	3
Nanochemistry	256562	3
<b>Analytical Chemistry Module</b>		
Electroanalytical Chemistry	256554	3
Current Topics in Analytical Chemistry	256555	3
Instrumentation for Spectroscopy Techniques	256556	3
Advanced Chromatography	256558	3
Selected Topics in Analytical Chemistry	256581	3
Analytical Techniques in Biological and Environmental Samples	256582	3
Atmospheric Chemistry	256583	3
Chemical Toxicology	256584	3
Waste and Wastewater Management in Chemical Industry	277543	3
<b>Total</b>	<b>≥5</b>	<b>≥15</b>

#### 4. Required Non-credit Courses

Requirements	Option 1.2	
	Course No.	Cr.
Research Methodology in Science and Technology	256511	3
Seminar	256594	1
<b>Total</b>	<b>2</b>	<b>4</b>

#### 5. Thesis Credit Requirements

Requirements	Option 1.2	
	Course No.	Cr.
Thesis 1, Option 1.2	256591	3
Thesis 2, Option 1.2	256592	3
Thesis 3, Option 1.2	256593	6
<b>Total</b>	<b>3</b>	<b>12</b>