

# Master of Science Program in Applied Physics

## Research Focus

- Electronic-physics
- Energy Technology
- Sustainable Technology
- Nuclear Physics and High Energy Physics
- Material Physics

## Structure of the Program

### 1. Credit Requirements \*

Requirements	Option 1.2
Coursework	24
- Core Courses	18
- Electives	6
Required Non-credit Courses	5
Thesis	12
<b>Total</b>	<b>36</b>

\* Minimum credits required

### 2. Core Courses

Requirements	Option 1.2	
	Course No.	Cr.
Advanced Mathematical Physics 1	271511	3
Classical Mechanics	271512	3
Electromagnetic Theory	271513	3
Quantum Physics	271514	3
Advanced Mathematical Physics 2	271515	3
Computational Physics	271521	3
<b>Total</b>	<b>6</b>	<b>18</b>

### 3. Electives

Requirements	Option 1.2	
	Course No.	Cr.
<b>Physics and Astronomy Group</b>		
Statistical Physics	271516	3
Radiation Physics for Applications	271531	3
Nuclear Reactor Theory	271532	3
High Energy Physics	271533	3
Nuclear Physics Theory	271534	3
Radiation Detection and Measurements	271535	3
Astronomical Instrumentation and Techniques	271541	3
CCD Theory and Application	271542	3
Astrophysics	271544	3
Geophysics and Earth Science	271545	3
<b>Energy Group</b>		
Heat Transfer	271551	3
Solar Energy System Design and Application	271552	3
Energy System Analysis and Design	271553	3
Renewable Energy	271554	3
Photovoltaic System	271555	3
Thermal Fluid Mechanics	271556	3
Biomass Application	271557	3
Heating Cooling Technmology	271558	3
Economic and Project Analysis for Energy Field	271559	3
<b>Electronics Group</b>		
Computer Programming for Applied Physics	271561	3
Discrete-time Signal Processing	271562	3
Semiconductor Physics and Devices	271563	3
Data Acquisition and Control System	271564	3
Operational Amplifier Circuit Application	271565	3
Microcontroller and Application	271566	3
Electromagnetic Radiation Field and Wave	271567	3
Advanced Electric Circuit Analysis	271568	3

Requirements	Option 1.2	
	Course No.	Cr.
<b>Material Group</b>		
Electroceramics	271571	3
Advanced X-ray	271572	3
Theory of Solids for Application	271573	3
Superconductor Physics	271574	3
Physical Metallurgy	271575	3
Material Characterization	271576	3
Applied Optical Interferometry	271581	3
Fiber Optics	271582	3
Special Problem	271593	3
<b>Total</b>	<b>≥2</b>	<b>≥6</b>

#### 4. Required Non-credit Courses

Requirements	Option 1.2	
	Course No.	Cr.
Research Methodology in Science and Technology	271591	3
Seminar 1	271691	1
Seminar 2	271692	1
<b>Total</b>	<b>3</b>	<b>5</b>

#### 5. Thesis Credit Requirements

Requirements	Option 1.2	
	Course No.	Cr.
Thesis 1, Option 1.2	271597	3
Thesis 2, Option 1.2	271598	3
Thesis 3, Option 1.2	271599	6
<b>Total</b>	<b>3</b>	<b>12</b>