

# MASTER OF SCIENCE IN APPLIED PHYSICS

The Master of Science in Applied Physics is a rigorous graduate degree program designed specifically for the undergraduate engineering major. The traditional bachelor of science degrees in engineering only require about one year of university physics, which is not enough to grasp the revolutionary physics of the 20th century. This becomes a serious deficiency for those engineering students seeking careers in the nanotechnology industry or those pursuing advanced degrees in fields where a fundamental knowledge of physics is required. The fields of quantum optics and laser technology, semiconductor electronics, GPS and space science, nuclear energy, nanotechnology, materials science, and some areas of biotechnology all demand applied physics. Illinois Institute of Technology's Master of Science in Applied Physics is designed to provide the undergraduate engineering major with this fundamental knowledge of modern physics that they need for a successful career.

For students in the IIT-Paris double degree program, the program can be completed in one calendar year by taking classes in the fall, spring, and summer semesters. For students enrolled in undergraduate engineering on the university's Mies Campus, there is the option of earning a bachelor's in engineering and the Master of Science in Applied Physics in just five years.

A comprehensive examination is required for the degree.

## Curriculum

Code	Title	Credit Hours
<b>Required Courses</b>		
		<b>(20)</b>
PHYS 405	Fundamentals of Quantum Theory I	3
PHYS 406	Fundamentals of Quantum Theory II	3
PHYS 501	Methods of Theoretical Physics I	3
PHYS 505	Electromagnetic Theory	3
PHYS 508	Analytical Dynamics	3
PHYS 515	Statistical Mechanics	3
Select one of the following colloquia options:		2
Option 1		
PHYS 585	Physics Colloquium	1
PHYS 585	Physics Colloquium	1
Option 2		
PHYS 685	Physics Colloquium	0
PHYS 685	Physics Colloquium	0
PHYS 597	Reading and Special Problems	2
<b>Engineering or Physics Electives</b>		<b>(12)</b>
Select four courses in consultation with an academic adviser.		12
<b>Total Credit Hours</b>		<b>32</b>