BA with a Major in Physics

Program Codes:
20FT0240BA

Degree Requirements

To earn a Bachelor of Arts in Liberal Arts and Sciences degree from UIC, students must complete university, college, and department degree requirements. The Department of Physics degree requirements are outlined below. Students should consult the *College of Liberal Arts and Sciences* section for additional degree requirements and college academic policies.

Code	Title	Hours
Summary of Requirements		
Required Prerequisite and Collateral Courses		24
Major Requirements		40
General Education and Electives to reach minimum Total Hours		56
Total Hours		**120**

General Education

See *General Education and Writing-in-the-Discipline* in the *College of Liberal Arts and Sciences* section for information on meeting these requirements. Students should consult the course lists below and their advisors to determine which courses may be counted toward the General Education and Writing-in-the-Discipline requirements.

Required Prerequisite and Collateral Courses

Code	Title	Hours
Required Courses		
MATH 180	Calculus I [a,b]	4
MATH 181	Calculus II [a]	4
MATH 210	Calculus III [a]	3
MATH 220	Introduction to Differential Equations	3
CHEM 122	General Chemistry I Lecture [c]	4
CHEM 123	General Chemistry Laboratory I [ac]	1
CHEM 124	General Chemistry II Lecture [c]	4
CHEM 125	General Chemistry Laboratory II [ac]	1
Total Hours		**24**

a *This course is approved for the Analyzing the Natural World General Education category.*

b *MATH 180 fulfills the LAS Quantitative Reasoning requirement.*

c *General Education credit is given for successful completion of both CHEM 122 and CHEM 123 or CHEM 124 and CHEM 125.*

Major Requirements

Code	Title	Hours
Required Courses		
PHYS 141	General Physics I (Mechanics) [a]	4
PHYS 142	General Physics II (Electricity and Magnetism) [a]	4
PHYS 215	Computational and Mathematical Methods for the Physical Sciences	4
PHYS 230	Fundamentals of Relativity	3
PHYS 240	Fundamentals of Modern Quantum Theory	3
PHYS 241	Experiments in Modern Physics	1
PHYS 245	Introduction to Vibrations, Waves, and Thermal Physics	4
PHYS 401	Electromagnetism I	4
PHYS 411	Quantum Mechanics I	4
PHYS 461	Thermal and Statistical Physics	4
PHYS 481	Modern Experimental Physics I [b,d]	4
PHYS 499	Survey of Physics Problems [c,d]	1
Total Hours		**40**

a This course is approved for *the Analyzing the Natural World General Education category*.

b *PHYS 481 fulfills the Writing-in-the-Discipline requirement.*

c *Students must achieve a grade of C or better in PHYS 499.*

d *Concurrent registration in PHYS 481 and PHYS 499 is required.*

Recommended Plan of Study

Course	Title	Hours
First Year		
Fall Semester		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts [a]	3
MATH 180	Calculus I [b]	4
PHYS 141	General Physics I (Mechanics) [c]	4
Foreign Language		4
	Hours	**15**
Spring Semester		
ENGL 161	Academic Writing II: Writing for Inquiry and Research [a]	3
MATH 181	Calculus II	4
PHYS 142	General Physics II (Electricity and Magnetism) [c]	4
Foreign Language		4
	Hours	**15**
Second Year		
Fall Semester		
MATH 210	Calculus III	3
PHYS 215	Computational and Mathematical Methods for the Physical Sciences	4
PHYS 230	Fundamentals of Relativity	3
Foreign Language		4
	Hours	**14**
Spring Semester		
MATH 220	Introduction to Differential Equations	3
PHYS 240	Fundamentals of Modern Quantum Theory	3
PHYS 241	Experiments in Modern Physics	1
PHYS 245	Introduction to Vibrations, Waves, and Thermal Physics	4

Foreign Language		4
	Hours	**15**
Third Year		
Fall Semester		
PHYS 411	Quantum Mechanics I	4
PHYS 461	Thermal and Statistical Physics	4
CHEM 122	General Chemistry I Lecture	4
CHEM 123	General Chemistry Laboratory I [c,f]	1
General Education Requirement course		3
	Hours	**16**
Spring Semester		
CHEM 124	General Chemistry II Lecture	4
CHEM 125	General Chemistry Laboratory II [c,f]	1
General Education Requirement course		3
Elective [d,e]		4
Elective [e]		3
	Hours	**15**
Fourth Year		
Fall Semester		
PHYS 401	Electromagnetism I	4
PHYS 481 & PHYS 499 or PHYS 461	Modern Experimental Physics I or Thermal and Statistical Physics	5
Elective [e]		3
General Education Requirement course		3
	Hours	**15**
Spring Semester		
Elective [d,e]		3
Elective [d,e]		3
Elective [d,e]		3
General Education Requirement course		3
General Education Requirement course		3
	Hours	**15**
	Total Hours	**120**

a *Satisfies University Writing Requirement.*

b *Satisfies the LAS Quantitative Reasoning requirement when a grade of C or better is earned.*

c *Is approved for General Education credit as a laboratory course in Analyzing the Natural World.*

d *Among other elective courses, the student is encouraged to consider PHYS 441, then PHYS 402 or PHYS 412.*

e *Elective hours as needed to reach minimum 120 total hours for graduation.*

Note: PHYS 141 and PHYS 142 are offered every semester (including summer session). All other physics courses are offered only in the semester indicated.

Note: Students must earn at least 40 advanced hours at a four-year college or university. These hours may include hours in the major.

Note: The UIC General Education Requirement is nine courses: Two laboratory courses from Analyzing the Natural World, one course from each of Understanding the Individual and Society, Understanding the Past, Understanding the Creative Arts, Exploring World Cultures, and Understanding U.S. Society. The two remaining General Education courses can be taken from any category. For example, taking CHEM 122, CHEM 123, CHEM 124, CHEM 125 and PHYS 141, PHYS 142 fulfills four of nine General Education courses and the Analyzing the Natural World category.