(For students admitted in 2012-13 under the 4-year degree)

BSc in Physics

In addition to the requirements of their major programs, students are required to complete the University and School requirements for graduation. For details please refer to the respective sections on this website.

Major Requirements

Students MUST take the following courses prior to enrollment into the major

Major Pre-requisite course(s)

			Credit(s)
PHYS		Note: PHYS 1111 OR PHYS 1112 OR PHYS 1151 OR PHYS 1152 OR PHYS 1312	2-3
PHYS	1111	General Physics I	3
PHYS	1112	General Physics I with Calculus	3
PHYS	1151	Accelerated General Physics I	2
PHYS	1152	Accelerated General Physics I with Calculus	2
PHYS	1312	Honors General Physics I	3
PHYS		Note: PHYS 1114 OR PHYS 1154 OR PHYS 1314	2-3
PHYS	1114	General Physics II	3
PHYS	1154	Accelerated General Physics II	2
PHYS	1314	Honors General Physics II	3

Required Course(s)

PHYS	1113	Laboratory for General Physics I	1
PHYS	1115	Laboratory for General Physics II	1
PHYS	2022	Modern Physics	3
PHYS	2023	Modern Physics Laboratory	1
PHYS	2080	Physics Seminar	1
PHYS/MATH		Note: PHYS 2124 OR MATH 2352 (Students taking the Physics and Mathematics Option may take either MATH 2352 or PHYS 2124. Other students can only take PHYS 2124 to fulfill the requirement.)	3-4
PHYS	2124	Mathematical Methods in Physics I	3
MATH	2352	Differential Equations	4
PHYS	3032	Classical Mechanics	3
PHYS		Note: PHYS 3033 OR PHYS 3053 (Students taking the Honors Physics Option can only take PHYS 3053 fo fulfill the requirement.)	3-4
PHYS	3033	Electricity and Magnetism I	3
PHYS	3053	Honors Electricity and Magnetism I	4

PHYS		Note: PHYS 3036 OR PHYS 3037 (Students taking the Honors Physics Option can only take PHYS 3037 to fulfill the requirement.)	3-4
PHYS	3036	Quantum Mechanics I	3
PHYS	3037	Honors Quantum Mechanics I	4
PHYS/MATH		Note: PHYS 3142 OR MATH 3312 (Students taking the Physics and Mathematics Option may take either MATH 3312 or PHYS 3142. Other students can only take PHYS 3142 to fulfill the requirement.)	3
PHYS	3142**	Computational Methods in Physics	3
MATH	3312	Numerical Analysis	3
PHYS	3152**	Methods of Experimental Physics I	3
PHYS	3153**	Methods of Experimental Physics II	3
PHYS	4050	Thermodynamics and Statistical Physics	3
PHYS	4080	Physics Seminar and Tutorial III	1
PHYS		Note: PHYS 4191 OR PHYS 4291 (Students taking the Honors Physics Option can only take PHYS 4291 to fulfill the requirement.)	4
PHYS	4191**	Senior Project	4
PHYS	4291**	Senior Research	4
MATH		Note: [(MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]	4-6
MATH	1013	Calculus I	3
MATH	1014	Calculus II	3
MATH	1020	Accelerated Calculus	4
MATH	1023	Honors Calculus I	3
MATH	1024	Honors Calculus II	3
MATH	2023	Multivariable Calculus	4
MATH	2121	Linear Algebra	4
COMP		Note: COMP 1021 OR COMP 1022P OR COMP 1022Q	3
COMP	1021	Introduction to Computer Science	3
COMP	1022P	Introduction to Computing with Java	3
COMP	1022Q	Introduction to Computing with Excel VBA	3

Student may opt to graduate with or without an option. Students who take an option MUST complete all requirements specified in addition to the major requirements.

Option(s)

Applied Physics Option

Required Course(s)

PHYS	3038	Optics	3
PHYS	3040	Introduction to Materials Science	3

Elective Course(s)

PHYS		Physics Electives	6
PHYS		Any PHYS courses at 3000-level or above	
PHYS	2021	Black Holes and the Early Universe	3
PHYS	2090	Directed Studies in Physics I	1

Honors Physics Option

Students in the Honors Physics Option should also take PHYS 3037, PHYS 3053, and PHYS 4291 as specified in the major requirements.

Required Course(s)

PHYS/MATH		PHYS 3031 OR (MATH 4023 AND MATH 4052)	3-6
PHYS	3031	Mathematical Methods in Physics II	3
MATH	4023	Complex Analysis	3
MATH	4052	Partial Differential Equations	3
PHYS	3034	Electricity and Magnetism II	3
PHYS	4051	Quantum Mechanics II	3

Elective Course(s)

PHYS		Physics Electives	3
PHYS		Any PHYS courses at 3000-level or above	
PHYS	2021	Black Holes and the Early Universe	3
PHYS	2090	Directed Studies in Physics I	1

Physics and Mathematics Option

Required Course(s)

PHYS		PHYS 3034 OR PHYS 4051	3
PHYS	3034	Electricity and Magnetism II	3
PHYS	4051	Quantum Mechanics II	3
MATH	2033	Mathematical Analysis	4
MATH		MATH 3033 OR MATH 3121 OR MATH 4223	3-4
MATH	3033	Real Analysis	4
MATH	3121	Algebra I	3
MATH	4223	Differential Geometry	3

MATH	4023	Complex Analysis	3
MATH	4052	Partial Differential Equations	3

***Remarks on course(s):*

- PHYS 3142: This is a new course subject to approval.
- PHYS 3152: This is a new course subject to approval.
- PHYS 3153: This is a new course subject to approval.
- PHYS 4191: This is a new course subject to approval.
- PHYS 4291: This is a new course subject to approval.