PHYSICS - BACHELOR OF ARTS

The curriculum for the Bachelor of Arts degree is designed for students who would like to have a firm foundation in physics combined with study in another area and greater flexibility in choosing elective courses. The program requires a minor in a second field of study chosen by the student in consultation with an advisor. A second major may be used to satisfy the program requirement for a minor.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		*10*
English Composition - Level 1 [1]		
English Composition - Level 2 [1]		
Oral Communication [1]		
Area II: Mathematics		
MATH 1511G	Calculus and Analytic Geometry I [2]	4
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*10-11*
Area III: Laboratory Sciences Course (4 credits) [1,3]		
Area IV: Social/Behavioral Sciences Course (3 credits) [1]		
Either an Area III/IV: Laboratory Sciences Course or Social/Behavioral Sciences Course (4 or 3 credits) [1,3]		
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Viewing A Wider World [4]		**6**
Departmental Requirements [5]		
PHYS 1111	Introductory Computational Physics	3
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics	4
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory	4
PHYS 2120 & 2120L	Heat, Light, and Sound and Heat, Light, and Sound Laboratory	4
PHYS 315	Modern Physics	3
PHYS 325	Intermediate Experimental Physics	3
PHYS 395	Intermediate Mathematical Methods of Physics	3
PHYS 451	Intermediate Mechanics I	3
PHYS 454	Intermediate Modern Physics I	3
PHYS 455	Intermediate Modern Physics II	3
PHYS 461	Intermediate Electricity and Magnetism I	3
PHYS 462	Intermediate Electricity and Magnetism II	3
PHYS 480	Thermodynamics	3
Non-Departmental Requirements (in addition to Gen.Ed/VWW) [5]		
MATH 2530G	Calculus III	3
MATH 3160	Introduction to Ordinary Differential Equations	3
Select 18 credits from a Minor in a second field from another department		18
Second Language Requirement: (required - see below)		**0-8**
Electives, to bring the total credits to 120 [5,6]		**5-14**
Total Credits		**120**

1. See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.
2. MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G first.
3. See alternatives for meeting General Education requirements.
4. See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses
5. May not be taken S/U and must earn a grade of C- or better.
6. Elective credit may vary based on General Education course selection, second language requirements, prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their Physics Advisor.

Second Language Requirement

For the Bachelor of Arts in Physics there is a one year second language requirement, the options to complete this requirement are listed below. The number of credits that a student needs to take may vary depending on what level they come in with. Please speak with an advisor for more information as to which courses you will need to take to fulfill the second language requirement for this degree.

Option 1:

Prefix	Title	Credits
Complete one of the following sequences:		
FREN 1110 & FREN 1120	French I and French II	8
GRMN 1110 & GRMN 1120	German I and German II	8
JAPN 1110 & JAPN 1120	Japanese I and Japanese II	8
SPAN 1110 & SPAN 1120	Spanish I and Spanish II	8
For Heritage Speakers:		
SPAN 1220	Spanish for Heritage Learners II	3
or SPAN 2210	Spanish for Heritage Learners III	
PORT 1110	Portuguese I	3
or PORT 1120	Portuguese II	

Option 2:

Prefix	Title	Credits
Complete the following sequence for American Sign Language (with a C- or better):		
SIGN 1110	American Sign Language I	3
SIGN 1120	American Sign Language II	3

Option 3:

Prefix	Title	Credits
Challenge the 1120 level for the following courses:		
FREN 1120	French II	4
or GRMN 1120	German II	
or JAPN 1120	Japanese II	
or SPAN 1120	Spanish II	
OR		
Challenge the 1110/1120/1220/2210 level for the following courses:		
PORT 1110	Portuguese I	3
or PORT 1120	Portuguese II	
or SPAN 1220	Spanish for Heritage Learners II	
or SPAN 2210	Spanish for Heritage Learners III	

Option 4:

Pass a three-credit, upper-division course (numbered 300 or above) taught in a second language by the department of Languages and Linguistics.

Option 5:

Obtain college certification of completion of two years of a second language at the high school level with a grade of C- or higher in the second-year level.

Option 6:

By obtaining certification of a working knowledge of a Native American language from the American Indian program director.

Option 7:

By obtaining, from the head of the Department of Languages and Linguistics, certification of a working knowledge of a second language if such language is not taught at NMSU.

Option 8:

In the case of a foreign student who is required to take the TOEFL exam admission, the dean will automatically waive the second language requirement.

Suggested Minors for the Bachelor of Arts Physics Major

Astronomy Minor— A Bachelor of Arts in Physics with a minor in Astronomy provides an excellent preparation for students who wish to pursue graduate studies in Astrophysics or Astronomy.

Pre-Medicine Studies Minor— Students wishing to attend a medical or dental post-graduate school are strongly encouraged to obtain a minor in a life science field such as biochemistry, biology, human biology or microbiology.

Prelaw Minor— Students wishing to attend a post-graduate law school should obtain a minor in a law-related field, such as government, accounting, finance, or international business.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change. Full-time students are usually required to take at least 15 credits per semester.

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I [1]	4
MATH 1511G	Calculus and Analytic Geometry I [1]	4
PHYS 1111	Introductory Computational Physics [1]	3
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics [1]	4
PHYS 2111	Supplemental Instruction to PHYS 2110	1
	Credits	**16**
Semester 2		
ENGL 2210G	Professional and Technical Communication Honors [1]	3
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II [1] or Calculus and Analytic Geometry II Honors	4
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory [1]	4
PHYS 2141	Supplemental Instruction to PHYS 2140 [1]	1
Area V: Humanities Course [2]		3
	Credits	**15**
Second Year		
Semester 1		
MATH 2530G	Calculus III [1]	3
PHYS 2120 & 2120L	Heat, Light, and Sound and Heat, Light, and Sound Laboratory [1]	4
PHYS 2121	Supplemental Instruction to PHYS 2120	1
Area VI: Creative and Fine Arts Course [2]		3
Minor (or Elective) Course		3
	Credits	**14**
Semester 2		
MATH 3160	Introduction to Ordinary Differential Equations [1]	3
PHYS 315	Modern Physics [1]	3
PHYS 316	Supplemental Instructions to PHYS 315	1
PHYS 325	Intermediate Experimental Physics [1]	3
COMM 1115G	Introduction to Communication	3
Minor (or Elective) Course		3
	Credits	**16**
Third Year		
Semester 1		
PHYS 395	Intermediate Mathematical Methods of Physics [1]	3
PHYS 451	Intermediate Mechanics I [1]	3
PHYS 461	Intermediate Electricity and Magnetism I [1]	3
VWW: Viewing a Wider World Course [3]		3
First Course in Second Language Series		3-4
	Credits	**15-16**
Semester 2		
PHYS 462	Intermediate Electricity and Magnetism II [1]	3
PHYS 480	Thermodynamics [1]	3
VWW: Viewing a Wider World Course [3]		3
Area IV: Social and Behavioral Science Course [2]		3
Next Course in Second Language Series [1]		3-4
	Credits	**15-16**

Fourth Year		
Semester 1		
PHYS 454	Intermediate Modern Physics I [1]	3
Minor (or Elective) Course		3
Minor (or Elective) Course		3
Minor (or Elective) Course		3
Elective Course		3
	Credits	**15**
Semester 2		
PHYS 455	Intermediate Modern Physics II [1]	3
Minor (or Elective) Course		3
Minor (or Elective) Course		3
Elective Course		3
Elective Course		2-0
	Credits	**14-12**
	Total Credits	**120**

1 These courses may have prerequisites and/or co-requisites, and it is the students responsibility for checking and fulfilling all those requirements.

2 See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.

3 See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.