MATHEMATICS (PHYSICS) - BACHELOR OF SCIENCE

The concentration in Physics draws on courses from mathematics and physics to provide a deeper understanding of the mathematical principles underlying principles of physics.

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 300/3000 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		
English Composition - Level 1		
ENGL 1110G	Composition I	4
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
Choose one from the following:		3
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional and Technical Communication	
or ENGL 2210H	Professional and Technical Communication	
ENGL 2215G	Advanced Technical and Professional Communication	
Oral Communication		
Choose one from the following:		3
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
HNRS 2175G	Introduction to Communication Honors	
Area II: Mathematics		
MATH 1511G	Calculus and Analytic Geometry I (Departmental/College Requirement) [1]	4
or MATH 1511H	Calculus and Analytic Geometry I Honors	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*10-11*
Area III: Laboratory Science Course (4 credits) [2]		
Area IV: Social/Behavioral Sciences Course (3 credits) [2]		
Either an Area III/IV: Laboratory Sciences Course or Social/Behavioral Science Course (4 credits or 3 credits) [2]		
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II (Departmental/College Requirement)	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Viewing a Wider World [3]		**6**
Departmental/College Requirements		
MATH 1531	Introduction to Higher Mathematics	3
MATH 2415	Introduction to Linear Algebra	3
MATH 2530G	Calculus III	3
MATH 3110	Introduction to Modern Algebra	3
or MATH 3120	Introduction to Analysis	
MATH 3160	Introduction to Ordinary Differential Equations	3
STAT 3110	Statistics for Engineers and Scientists	3
or STAT 4210	Probability: Theory and Applications	
Departmental Electives		
Select at least 9 additional upper-division credits of approved courses prefixed MATH or STAT (at least 3 must be 400-level), excluding the following:		9
MATH 3997	Directed Readings	
MATH 4991	Undergraduate Research	
MATH 4997	Directed Reading	
Non-Departmental Requirements (in addition to Gen.Ed/VWW) [4]		**21**
Select a minimum of 21 credit hours from among the following:		
PHYS 2110	Mechanics (Must also take PHYS 2011L)	
PHYS 2110L	Experimental Mechanics	
PHYS 2120	Heat, Light, and Sound (Must also take PHYS 2120L)	
PHYS 2120L	Heat, Light, and Sound Laboratory	
PHYS 2140	Electricity and Magnetism (Must also take PHYS 2140L)	
PHYS 2140L	Electricity & Magnetism Laboratory	
PHYS 315	Modern Physics	
PHYS 395	Intermediate Mathematical Methods of Physics	
PHYS 451	Intermediate Mechanics I	
PHYS 454	Intermediate Modern Physics I	
PHYS 455	Intermediate Modern Physics II	
PHYS 461	Intermediate Electricity and Magnetism I	
PHYS 462	Intermediate Electricity and Magnetism II	
PHYS 476	Computational Physics	
PHYS 495	Mathematical Methods of Physics I	
Second Language Requirement: (not required)		
Electives, to bring the total credits to 120 [5]		**32**
15 credits must be upper division.		
Total Credits		**120-121**

1. 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.
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.
4. A grade of C- or better must be earned.
5. Elective credit may vary based on 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 advisor.

Second Language Requirement

For the Bachelor of Science in Mathematics with a Concentration in Physics there is no second language requirement.