

### B.S. Mathematics & Physics Major Curriculum

(Starting with the Fall 2020 Cohort), 128 Credits

<http://engineering.nyu.edu/academics/programs/mathematics-bs/curriculum>

**Name:**

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<b>Mathematics Requirements: 31 Credits</b>	<b>Credits</b>	<b>Grade</b>	<b>Notes/Substitute</b>
MA-UY 1024 Calculus I for Engineers <b>or</b> MA-UY 1324 Integrated Calculus I for Engineers	4		
MA-UY 1124 Calculus II for Engineers <b>or</b> MA-UY 1424 Integrated Calculus II for Engineers	4		
MA-UY 2034 Linear Algebra and Differential Equations	4		
MA-UY 2114 Calculus III: Multi-Dimensional Calculus	4		
MA-UY 2224 Data Analysis	4		
MA-UY 3113 Advanced Linear Algebra and Complex Variables	3		
MA-UY 4414 Applied Partial Differential Equations	4		
MA-UY 4424 Introductory Numerical Analysis	4		
<b>Physics Requirements: 32 Credits</b>			
PH-UY 1013 Mechanics	3		
PH-UY 2023 Electricity, Magnetism and Fluids	3		
PH-UY 2121 General Physics Laboratory I	1		
PH-UY 2033 Waves, Optics and Thermodynamics	3		
PH-UY 2131 General Physics Laboratory II	1		
PH-UY 2104 Analytical Mechanics	4		
PH-UY 2344 Introduction to Modern and Solid State Physics	4		
PH-UY 3002 Junior Physics Laboratory	2		
PH-UY 3234 Electricity and Magnetism	4		
PH-UY 4124 Thermodynamics and Statistical Physics	4		
PH-GY 6673 Quantum Mechanics I	3		
<b>Math &amp; Physics Electives: 8 Credits</b> (Select at least 8 credits from the lists of undergraduate math and physics elective courses. Graduate courses may be substituted with advisor's approval. All courses must have prior advisor approval.)			
<b>Other Required Courses: 19 Credits</b>			
PH-UY 1002 Physics: The Genesis of Technology	2		
EG-UY 1001 Engineering and Technology Forum	1		
CM-UY 1004 General Chemistry for Engineers <b>or</b> CM-UY 1014 General Chemistry I	4		
CS-UY 1114 Introduction to Programming & Problem Solving	4		
EXPOS-UA 1 Writing the Essay <b>or</b> EXPOS-UA 4	4		
EXPOS-UA 2 The Advanced College Essay <b>or</b> EXPOS-UA 9	4		
<b>STEM &amp; Free Electives, Independent Study and Projects: 22 Credits</b> (22 credits are allocated for STEM & free electives and independent study courses. 8 credits are reserved for a 6 credit physics project plus a 2 credit senior physics seminar course or a 4 credit math project/thesis and an extra 4 credit math elective. The remaining 14 credits are reserved for two 4 credit STEM electives and two 3 credit free electives. The program adviser must approve electives selected from other disciplines.)			
<b>Humanities and Social Sciences Electives: 16 Credits</b> (You are required to take 16 credits in the humanities and social sciences requiring EXPOS-UA 1 and EXPOS-UA 2 as prerequisites. To gain some breadth and depth of knowledge, it is required that you take courses in at least two disciplines and at least one course at an advanced level.)			