

**PHYSICS-GENERAL- BS**THIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

Year One			
<sup>1</sup> MTH 201 Calculus I (GE Math) Prerequisites: MTH 122 and MTH 123; or MTH 124; or assignment through Grand Valley math placement.	4	MTH 202 Calculus II Prerequisite: MTH 201	4
CHM 115 Principles of Chemistry I Prerequisites: High school chemistry, MTH 110 or 122 or 125 or 201	4 (6)	PHY 230 Principles of Physics I (GE Physical Science) Prerequisite: MTH 201. Corequisite: MTH 202	5 (7)
Gen Ed (GE Art) or <sup>2</sup> WRT 120 (self-placement)	3	<sup>2</sup> WRT 130 or WRT 150 Strategies in Writing (GE Writing)	3-4
Gen Ed (GE Philosophy & Literature)	3	Gen Ed (GE Life Science)	3
<sup>3</sup> Elective	1		
<i>Numbers noted within (parentheses) are contact hours</i>	<i>Total</i>	<i>Total</i>	<i>15-16*</i>
	15		
Year 2			
MTH 203 Calculus III Prerequisite: MTH 202	4	PHY 302 Introduction to Modern Physics (WINTER ONLY) Prerequisite: PHY 231	4 (6)
MTH 204 Linear Algebra I (required if taking MTH 304 – see note) Prerequisite: MTH 122 and MTH 123; or MTH 124; or assignment through Grand Valley math placement.	3	<sup>5</sup> MTH 302 Linear Algebra & Differential Equations Prerequisite: MTH 203	4
PHY 231 Principles of Physics II Prerequisites: MTH 202 and PHY 230	5 (7)	<sup>5</sup> OR MTH 304 Analysis of Differential Equations Prerequisites: MTH 203 and MTH 204	3
<sup>4</sup> Gen Ed with SWS (GE Historical Analysis)	3	<sup>6</sup> CIS 261 Structured Programming in C Prerequisite: MTH 201 (may be taken concurrently)	3
		OR CIS 162 Computer Science I Prerequisite: MTH 110	4
		Gen Ed (GE Social/Behavioral)	3
		<sup>3</sup> Elective (if needed)	1-2
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>14-15</i>
Year Three			
<sup>4</sup> PHY 309 SWS Experimental Methods in Physics (FALL ONLY) Prerequisites: PHY 302 and one SWS course	4 (6)	<sup>4</sup> PHY 311 SWS Advanced Laboratory II (WINTER ONLY) Prerequisites: PHY 309 and one SWS course	2 (6)
PHY 330 Intermediate Mechanics (FALL ONLY) Prerequisites: PHY 230 or permission of instructor, and MTH 302 or 304	4	PHY 340 Electromagnetic Fields (WINTER ONLY) Prerequisites: PHY 231, MTH 302 or MTH 304	4
<sup>7</sup> MTH 401 Mathematics for the Physical Sciences (FALL ONLY) Prerequisites: MTH 302 or 304, PHY 231, or permission of instructor	4	Gen Ed (GE US Diversity)	3
<sup>OR</sup> <sup>7</sup> MTH 300 Vector Analysis (WINTER ONLY) Prerequisite: MTH 203	3	<sup>3</sup> Elective	3
Gen Ed (GE Social/Behavioral)	3	<sup>3</sup> Elective	3
<sup>3</sup> Elective (if needed)	1		
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
Year Four			
PHY 350 Introduction to Quantum Mechanics (FALL ONLY) Prerequisites: PHY 302, MTH 302 or 304 (MTH 300 recommended)	4	PHY 360 Statistical Thermodynamics (WINTER ONLY) Prerequisite: PHY 231	4
PHY 485 Senior Physics Project (Capstone) (FALL ONLY) Prerequisite: Senior physics students in good academic standing	1	PHY 486 Senior Physics Project (Capstone) (WINTER ONLY) Prerequisites: PHY 485	2 (9)
<sup>8</sup> Science Elective	3	<sup>8</sup> Science Elective Course	3
Issue	3	Issue	3
Gen Ed (if any remaining) or <sup>3</sup> Elective	4	Gen Ed (GE Global Perspectives)	3
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>

\* The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.  
See reverse for footnotes

<sup>1</sup> Students must take MTH 110, MTH 122, and MTH 123 or waive these courses through Grand Valley math placement in order to take MTH 201. These courses do not count towards the completion of the Physics major.

It is imperative to meet with your faculty advisor and an advisor in the CLAS Academic Advising Center regularly.

The CLAS Academic Advising Center is located in C-1-120 MAK, 616-331-8585.

Online at: <http://www.gvsu.edu/clasadvising>

<sup>2</sup>Students who self-place into WRT 120 should take this course in the fall semester and then take WRT 130 in the winter semester of their first year. Students will not need to take WRT 150 if they have earned credit for the course through AP/Dual Enrollment. A grade of C or better is required in WRT 130 or 150 in order to satisfy the WRT requirement at GVSU.

<sup>3</sup>Students must have a **minimum of 120 credits** to graduate with **58 of the 120 credits** being from a senior level institution and the **final 30 of the 120 credits** completed at GVSU. Elective refers to any course that will help meet these requirements.<sup>4</sup> Students must complete a total of two courses with an SWS attribute

<sup>5</sup> Physics majors intending to go to graduate school should take MTH 204 and MTH 304 rather than the MTH 302 option. Please see faculty advisor for assistance in choosing appropriate course.

<sup>6</sup> See faculty advisor for additional options for computer science courses.

<sup>7</sup> MTH 401 is recommended instead of MTH 300 for students planning to pursue graduate school, please see faculty advisor for assistance in choosing appropriate course.

<sup>8</sup>Students must complete 6 hours of science electives with a minimum grade of C (2.0) in each. Must be chosen from the following: PHY 105 (requirement for secondary education majors); any 300 or 400 level physics elective (excluding PHY 303, 306, and 307); CHM 351, 352, 356, or 358. *Students who plan to apply to graduate school in physics should take PHY 430, 440, and 450, which are offered alternate years; please confer with your physics faculty advisor for a specific degree plan dependent on when you complete PHY 230.*

#### Declaring the Physics-General Major:

1. Log into myBanner from the GVSU homepage
2. Once logged in select "Student", "Student Records", and then, "Change Major"
3. Click on the "Change Major 1/Program" box
4. Click on the down arrow in the box next to "New Major 1/Program," from here scroll down and choose "Physics-BS"
5. Click "Submit" and then "Change to New Program"

#### General Education Overlap

General Education Categories fulfilled by the Physics Major:	
Mathematical Sciences: MTH 201	Physical Science with Lab: CHM 115

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**<http://www.gvsu.edu/clasadvising> (Also find us on Facebook and Instagram)**

#### Preprofessional Students

(Prechiropractic, Predental, Premedical, Preoptometry, Prepharmacy, Prepodiatry, & Preveterinary)

**Keep in mind that you may major in anything so long as you complete the prerequisites for your professional program.**

To find more information on Preprofessional programs, visit [www.gvsu.edu/clasadvising/preprofessional](http://www.gvsu.edu/clasadvising/preprofessional)

To schedule an appointment with a Physics and/or Preprofessional Advisor in the CLAS Academic Advising Center, visit [www.gvsu.edu/clasadvising](http://www.gvsu.edu/clasadvising) and click on "Schedule Appointment"