

Physics (2010-2011)

Secondary Teacher Certification

This is a **general curriculum** guide and is not applicable to every student and is not a replacement for meeting with your advisor.

-Assumes MTH 110 requirement has been fulfilled-

Fall Semester – Year One		credits	Winter Semester- Year One		credits
MTH 122: College Algebra (<i>Gen Ed</i>)		3	MTH 201: Calculus I		5
MTH 123: Trigonometry		3	BIO 120: General Biology I (<i>Gen Ed</i>)		4
CHM 115: Principles of Chemistry I (<i>Gen Ed</i>)		5	PSY 101: Introductory Psychology (<i>Gen Ed</i>)		3
WRT 150: Strategies in Writing		4	Gen Ed.		3
Total		15	Total		16
Spring Semester – Year One		credits	Summer Semester – Year One		credits
Gen Ed.		3	Minor Elective		3
Fall Semester – Year Two		credits	Winter Semester – Year Two		credits
MTH 202: Calculus II		4	MTH 203: Calculus III		4
ED 315: Diverse Perspectives on Education (<i>Gen Ed</i>)*		3	PHY 231: Principles of Physics II		5
PHY 230: Principles of Physics I		5	MTH 227: Linear Algebra I		3
CIS 261: Structured Programming in C		3	Minor Elective		3
Total		15	Total		15
Fall Semester – Year Three		credits	Winter Semester – Year Three		credits
MTH 401: Math for Physical Sciences ***		3	PHY 302: Introduction to Modern Physics		4
HSC 201: The Scientific Revolution (<i>Gen Ed</i>) Or		3	MTH 304: Analysis of Differential Equations Or		3
HSC 202: The Technological Revolution (<i>Gen Ed</i>)		3	MTH 302 Linear Algebra & Diff. Equations		4
PSY 301: Child Development*		3	ED 337: Introduction to Learning and Assessment		3
Gen Ed. or Theme		3	Gen Ed. or Theme		3
Minor Elective		3	Minor Elective		3
Total		15	Total		16-17
Fall Semester – Year Four		credits	Winter Semester – Year Four		credits
PHY 309: Experimental Methods in Physics		4	PHY 311: Advanced Laboratory II		2
PHY 330: Intermediate Mechanics and Dynamics		4	PHY 340: Electromagnetic Fields		4
WRT 305: Writing in the Disciplines ¹		3	Ethics in Science Requirement ²		3
Minor Elective		3	Gen Ed. or Theme		3
Total		14	Total		15
Fall Semester – Year Five		credits	Winter Semester – Year Five		credits
PHY 485: Senior Physics Project I		1	PHY 486: Senior Physics Project II		2
PHY 360: Statistical Thermodynamics		4	PHY 105: Descriptive Astronomy ³		3
Science Elective ³		3	PHY 350: Intermediate Modern Physics		4
Gen Ed. or Theme		3	Gen Ed.		3
Minor Elective		3	Minor Elective		3
Total		14	Total		15
Fall Semester – Year Six		credits	Winter Semester – Year Six		credits
ED 331: Methods and Strategies for Secondary Teaching		5	ED 431: Student Teaching, Secondary		10
ED 310: Organizing and Managing Classroom Environments		3	ED 485: The Context of Educational Issues		3
ED 321: Content Area Literacy		3			
ED 370: Technology in Education**		3			
ED 379: Universal Design for Learning: Secondary**		3			
Total		17	Total		13

Due to the heavy prerequisite structure and class availability (most upper level courses are only offered fall or winter) it is difficult to finish this degree in 5 years if you are starting in with a math deficit

Notes:

* These courses are prerequisites to the College of Education. Student must have a minimum GPA of 2.7 in these classes, and both their major and minor. Classes must be completed prior to applying to the College of Education. A student selecting secondary education must also have a teachable minor. **Consult with your advisor!**

** ED 370 and/or ED 379 may be taken during or after Assisting but must be taken before Student Teaching.

***This course replaces MTH 300 in the major. In Fall 2010, it will be offered for the first time as MTH 480. After that, the course number will change to MTH 401.

¹ Students who pass out of WRT 305 have room to take a Gen Ed., Theme, or elective course or elective in this semester.

² Students must take BIO 328: Biomedical Ethics **OR**, BIO 338: Environmental Ethics.

³ 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

Special Notes:

A. This is a **general** curriculum guide and will not work for everyone, especially those students who have AP or CLEP credit.

B. Courses that have (*Gen Ed*) written after them are classes that are required in the major and also fulfill a section of the general education program.

C. Remember to fulfill your 2 SWS requirements; 1 can be taken in the gen ed. program and 1 in your major.

D. Some classes are in multiple sections within the gen ed. If you take a course that can be counted in two categories, you can open up 1-2 more spots for physics electives.

E. You must have **120 credits** to graduate from Grand Valley State University.

F. 30 hours as a tutor and 30 hours in the lab are required of students seeking teacher certification. Contact the department for further information.

It is imperative to meet with your faculty advisor or an advisor in the CLAS Academic Advising Center early in your career.

The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585.

Online at: <http://www.gvsu.edu/clasadvising> Prepared by CLAS Academic Advising Center – 4/23/2010