Physics (2012-2013)

Secondary Teacher Certification: Starting in MTH 122

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 prerequisite has been fulfilled-

Fall Semester – Year One	**credits**	**Winter Semester – Year One**	**credits**
MTH 122: College Algebra *(Gen Ed)*	3	MTH 201: Calculus I	5
MTH 123: Trigonometry	3	BIO 120: General Biology I *(Gen Ed)*	4
CHM 115: Principles of Chemistry I *(Gen Ed)*	5	PSY 101: Introductory Psychology *(Gen Ed)*	3
WRT 150: Strategies in Writing	4	Gen Ed.	3
Total	**15**	***Total***	**16#**
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 *(Gen Ed)**	3	PHY 231: Principles of Physics II	5
PHY 230: Principles of Physics I	5	MTH 227: Linear Algebra I	3
CIS course (ask your PHY advisor)	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 *(Gen Ed)* ***Or***	3	MTH 304: Analysis of Differential Equations ***Or***	3
HSC 202: The Technological Revolution *(Gen Ed)*	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 *(SWS)*	2
PHY 330: Intermediate Mechanics and Dynamics	4	PHY 340: Electromagnetic Fields	4
MTH 300: Applied Analysis I	3	Ethics in Science Requirement[1]	3
Minor Elective	3	Gen Ed. or Theme	3
		Minor Elective	3
Total	**14**	***Total***	**15**
Fall Semester – Year Five	**credits**	**Winter Semester – Year Five**	**credits**
PHY 350: Intermediate Modern Physics	1	PHY 360: Statistical Thermodynamics	2
PHY 485: Senior Physics Project I	4	PHY 486: Senior Physics Project II	3
Science Elective[2]	3	PHY 105: Descriptive Astronomy[2]	4
Gen Ed. or Theme	3	Minor Elective	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

#The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

Notes:

* These courses are Education Major prerequisites. 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.

[1] Students must take BIO 328: Biomedical Ethics **OR**, BIO 338: Environmental Ethics.

[2] 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. Complete a total of two courses with an SWS attribute.

D. Thirty (30) total hours as lab assistant (setting up and tearing down equipment and/or serving as teaching assistant) are required of students seeking secondary certification. Contact the department for further details.

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 – 1/25/12