

**SCIENCE-BS-SECONDARY EDUCATION**(WITH EDUCATION MAJOR)THIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

Year One			
<b>BIO 121</b> General Biology II w/lab Prerequisite: MTH 110 (may be taken concurrently)	4	<b>Foundation Writing</b> <sup>1</sup> (WRT 150 or WRT 130)	4
<b>MTH 122</b> <sup>2</sup> College Algebra (required) OR <b>MTH 124</b> (recommended, not required) Prerequisite: MTH 108+MTH 109, MTH 110, or fulfillment of MTH 110 through <a href="#">Math Placement</a>	3/5	<b>BIO 120</b> General Biology I w/lab Prerequisites: High school chemistry, CHM 109, or CHM 125/126 strongly recommended (CHM 109 or 125/126 may be taken concurrently)	4
<b>GEO 111</b> Exploring the Earth	4	<b>PHY 205</b> <sup>3</sup> Astronomy for Teachers	3
<b>EDF 115</b> Introduction to Education (SBS)	3	<b>GEO 112</b> Earth History Prerequisite: GEO 111 (preferred) or GEO 100/103/105	4
<i>Total</i>	<i>14/16</i>	<i>Total</i>	<i>15</i>
Spring/Summer			
<b>CHM 125</b> Principles of Chemistry I	3		<i>Total: 4</i>
<b>CHM 126</b> Principles of Chemistry I Lab	1		
Year Two			
<b>CHM 127</b> Principles of Chemistry II Prerequisites: CHM 125 & 126 and (MTH 122 or MTH 125 or MTH 201)	4	<b>PHY 202</b> <sup>3</sup> Physics for Teachers: Motion, Energy, Forces	4
<b>CHM 128</b> Principles of Chemistry II Lab Prerequisites: CHM 125 & 126 and (MTH 122 or MTH 125 or MTH 201)	1	<b>GEO 220</b> Earth Surface Materials & Systems w/lab Prerequisite: GEO 111, CHM 125/126, GEO 112	4
<b>PHY 201</b> <sup>3</sup> Inquiry: The Mechanical and Thermal World	4	<b>BIO 210</b> Evolutionary Biology Prerequisites: BIO 120 and BIO 121	3
<b>STA 215</b> Applied Statistics Prerequisite: MTH 110, MTH 109, or equivalent	3	<b>PSY 101</b> Introductory Psychology (SBS)	3
<b>GEO 203</b> <sup>3</sup> Weather and Climate for Pre-Service Teachers	3		
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>14</i>
Year Three			
<b>Gen Ed</b> (Art)	3	<b>EDR 225</b> Intro to Teaching Multilingual Learners (Global Persp)	3
<b>SCI 440</b> <sup>3</sup> Physics and Chemistry in Secondary Education Prerequisites: Junior Standing, CHM 127/128, PHY 202, PHY 203	3	<b>Gen Ed (Historical Analysis)</b>	
<b>SCI 336</b> <sup>3</sup> Ecology for Secondary Teachers (SWS) (CLAS Voyage, Experiential Learning)	3	<b>SCI 316</b> <sup>3</sup> Engineering Design (CLAS Voyage, Experiential Learning) Prerequisite: PHY 203	3
<b>PHY 203</b> <sup>3</sup> Physics for Teachers: Light, Sound, Electromagnetism Prerequisite: PHY 202	4	<b>PSY 331</b> Adolescent Development Prerequisite: PSY 101	3
<b>SCI 326</b> <sup>3</sup> Experimental Methods in Physical Science Prerequisites: PHY 203, CHM 127/128	3	<b>Gen Ed (P&amp;L)</b>	3
<i>Total</i>	<i>16</i>	<i>Total</i>	<i>15</i>
Year Four			
<b>GEO 214</b> Solid Earth Materials and Systems Prerequisites: GEO 111, CHM 125/126, GEO 112, and GEO 175)	4	<b>BIO 375</b> Genetics Prerequisite: BIO 120	3
<b>Gen Ed</b> (Issues)	3	<b>BIO 376</b> Genetics Laboratory Prerequisite: BIO 120, BIO 375 or BIO 355 (375 or 355 may be taken concurrently)	1
<b>EDF 315</b> Diverse Perspectives on Education (US Div.)	3	<b>EDF 260</b> <sup>4</sup> Educational Research & Assessment (SWS)	3
<b>CHM 221</b> Survey of Analytical Chemistry w/lab Prerequisite: CHM 127/128 or one full year of general CHM	4	<b>CHM 231</b> Introductory Organic Chemistry Prerequisite: CHM 127/128	4
		<b>SCI 450</b> <sup>3</sup> Earth & Life Science in Secondary EDU (CLAS Voyage, Capstone) Prerequisite: Junior standing, BIO 120 & 121, GEO 111&112	3
<i>Total</i>	<i>14</i>	<i>Total</i>	<i>14</i>

Year Five			
<b>Student Assisting Apprenticeship:</b> EDI 331 Methods & Strategies of Secondary Teaching EDI 332 Content Area Seminar EDT 477 Teaching w/Technology: Secondary EDR 321 <sup>4</sup> Content Area Literacy EDS 319 Universal Design for Learning: Secondary	4 2 3 3 3	<b>Student Teaching Internship:</b> EDI 431 Student Teaching: Secondary EDI 432 Student Teaching: Secondary Content EDF 495 The Context of Educational Issues Must be taken with or after EDI 431	7 or 8 2 3
**B- or better required in all Apprenticeship courses			
<i>Total</i>	15		12-13

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

\*This course is recommended to help complete program in timely basis but is not a necessary program requirement.

<sup>1</sup> Students who self-place into WRT120 should take this course in the fall semester and then take WRT 130 in the winter semester of the first year. Students who self-place into WRT 150 should take this course in either semester of the first year. A grade of C or higher is required to fulfill these requirements.

<sup>2</sup> Students who place into MTH 108 + 109 or MTH 110 will likely need to take more summer courses and adjust their schedule based on their placement.

<sup>3</sup> Many major courses are offered in alternate years. See your major or CLAS advisor to determine your sequence.

<sup>4</sup> Students must complete a total of two courses with an SWS attribute.

<sup>5</sup> Admission into the apprenticeship and internship semesters is a secondary application process. Plan to apply the semester before the semester you plan on starting teacher assisting.

General Education Categories fulfilled by the Integrated Science major:	
Life Science and Physical Science: BIO 120 and CHM 115 (both fulfill lab requirement)	
Mathematical Sciences: MTH 122, STA 215	
Social and Behavioral Sciences: PSY 101, EDF 115	US Diversity: EDF 315
Issues: EDT 476	Global Perspectives: EDR 225

### Courses offered in alternating Years

PHY 201 F27	PHY 202 W28
PHY 203 F26, F28	PHY 205 W27, W29
GEO 203 F27	SCI 316 W27, W29
SCI 336 S/S26 or F26, S/S28 or F28	SCI 326 W27,W29
SCI 440 W 27, F 28	SCI 450 W28

### Second Major in Education

#### Education Major Prerequisites (12 credits)

A 2.7 cumulative GPA in the Education Major Prerequisites is required with no grade lower than a C

— EDF 315 Diverse Perspectives on Education (3)	— PSY 331 Adolescent Development (3)
— EDF 260 Educational Research and Assessment (3)	Prerequisite: PSY 101
— EDF 115 Intro to Education (3)	— EDR 225 Intro to Teaching Multilingual Learners (3)
<b>Teacher Apprenticeship (15 credits)</b>	<b>Student Internship (13 credits)</b>
— EDI 331 Teacher Assisting-Secondary (4)	— EDI 431 Student Teaching, Secondary (8)
— EDR 321 Content Area Literacy (3)	— EDI 432 Student Teaching, Secondary Content (2)
— EDR 332 Content Area Seminar (2)	— EDF 495 The Context of Educational Issues (3)
— EDT 477 Teaching w/Technology (3)	Must be taken with or after EDI 431
Must be taken with or after EDI 331 but before EDI 431	
— EDS 319 Universal Design for Learning: Secondary (3)	

### Guide for Declaring Majors

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  
Click on the down arrow in the box next to "New Major 1/Program," from here scroll down and choose:  
"Science BS-Secondary"  
Click "Submit." The system will automatically declare your 2<sup>nd</sup> major in "Education" and give you the option to declare a minor.

### CLAS Voyage Courses

What is the CLAS Voyage? <https://www.gvsu.edu/clas/clas-voyage-1184.htm> or search "GVSU CLAS Voyage"

Experiential Learning	SCI 316, SCI 336
Capstone	SCI 450