

# CLIMATE SCIENCE - BS

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

Year One			
<b>GEO 107</b> Climate Change: A Hot Science (GE Physical Science) Recommended for major but students can also choose: GEO 100, GEO 103, GEO 105, GEO 109, or GEO 111.	3	<b>CHM 127+128</b> Principles of Chemistry II w/lab Prerequisites: CHM 125+126 and (MTH 122 or MTH 124 or MTH 125 or MTH 201)	5 (6)
<b>CHM 125+126</b> Principles of Chemistry I w/lab (GE Physical Science) Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)	4 (6)	<b>MTH 201</b> Calculus I (GE Math) Prerequisites: MTH 122 & 123; or MTH 124; or proficiency through math placement.	4
<b>MTH 124</b> Precalculus: Functions and Models (GE Math) Prerequisite: MTH 110 proficiency through math placement	5	<b>GEO 112</b> Earth History Prerequisites: A course in physical or general geology, GEO 107 (preferred).	4
<sup>1</sup> <b>WRT 120 or WRT 150</b> Strategies in Writing (GE Writing) (self-placement)	3-4	<sup>1</sup> <b>WRT 130</b> <b>OR GEO 175</b> Research Tools for Geosciences Prerequisites: GEO 112 (can be taken concurrently), and a course in physical or general geology, GEO 107 (preferred).	3 1
<i>Numbers noted within (parentheses) are contact hours</i>	<i>Total</i>	<i>Total</i>	<i>15-16*</i>
Year Two			
<b>GEO 220</b> Solid Earth Materials and Systems Prerequisites: A course in physical or general geology, GEO 107 (preferred). CHM 125+126. GEO 112 and GEO 175 recommended. (CLAS Voyage: Experiential Learning)	4	<b>GEO 203</b> Weather and Climate <b>PHY 215</b> Energy in Modern Life Prerequisite: MTH 110	3 4
<b>MTH 202</b> Calculus II Prerequisite: MTH 201	4	<b>STA 216</b> Intermediate Applied Statistics Prerequisite: STA 215 or STA 312	3
<b>PHY 110</b> Physics of Climate Change Prerequisite: MTH 110 and Physical sci gen ed w/ lab	3	General Education Optional Elective	3 2
<b>STA 215</b> Intro to Applied Statistics (GE Math) Prerequisite: MTH 110 <b>OR STA 312</b> Probability and Statistics Prerequisites: MTH 201 <sup>2</sup> Optional Elective or <b>GEO 175</b>	3/4     1		
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
Year Three			
<b>GEO 330</b> Data Analysis for Earth Scientists Prerequisite: MTH 122. GEO 112, GEO 175, and STA 215 recommended.	3	<b>GEO 445</b> Introduction to Geochemistry ( <i>Winter odd years only</i> ) Prerequisite: GEO 220; MTH 122 and CHM 127+128 can be taken concurrently; MTH 201 recommended.	3
<b>PHY 230</b> Principles of Physics I Prerequisite: MTH 201 <b>OR PHY 220</b> General Physics I Prerequisites: MTH 122 & 123 or equivalent.	5	<b>PHY 231</b> Principles of Physics II Prerequisite: PHY 230 and MTH 202 <b>OR PHY 221</b> General Physics II Prerequisites: PHY 220	5
Quantitative Elective (see below)	3	Interdisciplinary Elective (see below)	3
General Education + U.S. Diversity	3	General Education + Global Perspectives	3
Optional Elective	1	Optional Elective	1
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>11</i>
Year Four			
<b>GEO 430</b> Oceanography ( <i>Fall even years only</i> ) Prerequisite: GEO 112	3 3	<b>GEO 420</b> Glacial and Quaternary Geology ( <i>Winter odd years only</i> ) Prerequisite: GEO 112	4 1
<b>GEO 417</b> Physical Climatology Prerequisite: MTH 201, GEO 112, and junior standing	1	<b>GEO 485</b> Seminar (CLAS Voyage: Capstone II) SWS <u>Winter Only</u> Prerequisite: GEO 214 & 220, at least Junior standing. Permit required: must secure a mentor and define a research question before enrolling	3
<b>GEO 484</b> Reading Seminar (CLAS Voyage: Capstone I) Prerequisite: GEO 214, GEO 220, junior standing	3	General Education	3
Issues Gen Ed + SWS <sup>3</sup>	3	General Education	3
General Education	2	Issues Gen Ed or remaining General Education class	3
Optional Elective			
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15-16</i>

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

<sup>1</sup>A grade of C or better is required in WRT 130 or 150 in order to satisfy the WRT requirement at GVSU.

<sup>2</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>3</sup>Students must complete a total of two courses with an SWS attribute.

**Declaring the Climate Science Major:**

1. In myBanner, select “Student” > “Student Records” > “Change Major” > “Change Major 1/Program”
2. Choose “Climate Science-BS” from the drop-down box.
3. Click “Submit” and then “Change to New Program”

General Education Categories fulfilled by the Climate Science major:	
Physical Science:	GEO 107 (or GEO 100, 103, 105, 109, 111), CHM 125+126, PHY 220 or 230
Mathematical Sciences:	MTH 124, MTH 201, STA 215
Issues:	BIO 338 (elective)

CLAS Voyage Courses	
What is the CLAS Voyage? <a href="https://www.gvsu.edu/clas/clas-voyage-1184.htm">https://www.gvsu.edu/clas/clas-voyage-1184.htm</a> or search “GVSU CLAS Voyage”	
Experiential Learning:	GEO 220
Capstone:	GEO 484 and GEO 485

Choose 1 class from each elective category	
<p><b>Quantitative Elective:</b> Choose 1</p> <p><b>CIS 161</b> Computing for Data Science Applications I Prerequisite: MTH 122 &amp; 123, or MTH 124, or MTH 201</p> <p><b>CIS 164</b> Computing for Data Science Applications II Prerequisite: CIS 161 with a C or better</p> <p><b>STA 321</b> Applied Regression Analysis Prerequisite: STA 216</p> <p><b>STA 418</b> Statistical Computing and Graphing with R Prerequisite: STA 215 or 220 or 312; and STA 216 or CIS 162</p> <p><b>STA 426</b> Multivariate Data Analysis Prerequisite: STA 216</p>	<p><b>Interdisciplinary Elective:</b> Choose 1</p> <p><b>ENS 201</b> Introduction to Environmental and Sustainability Studies</p> <p><b>ENS 302</b> Environmental Justice</p> <p><b>BIO 338</b> Environmental Ethics (GE Issues) Prerequisite: Junior standing and fulfillment of general education Foundations - Writing</p> <p><b>GEO 312</b> Sedimentations-Stratigraphy (4 credits) Prerequisite: GEO 112</p> <p><b>GEO 320</b> Geomorphology Prerequisite: GEO 112</p> <p><b>GEO 470</b> Geophysics (4 credits) Prerequisite: MTH 201; Recommended: PHY 220 or 230</p>

**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 and C-1-140 MAK, 616-331-8585. To schedule an appointment with an advisor in the CLAS Academic Advising Center, visit [www.gvsu.edu/clasadvising](http://www.gvsu.edu/clasadvising) and click on “Schedule Appointment.”