

# CLIMATE STUDIES (BS)

## Exploration and Discovery

This program is highly interdisciplinary and designed to address the increasing interest in dealing with the problem of climate change. Students will gain a foundation in climate science, technical and communication skills, and have high flexibility in following one or more interdisciplinary focus areas (in art, business, communication, public policy, geographic information systems and mapping, or go deeper into a variety of science possibilities). The problem of climate change goes well beyond basic science and in order to appropriately solve current and future problems caused by its effects, a highly interdisciplinary approach and experts with many different types of skills are needed. A wide variety of these areas of expertise exist at Plymouth State and this program uses them to prepare professionals that can address one or more of the many needs related to studying, educating people about, planning for, regulating, adapting to, and dealing with climate change and its many effects, by building on the students' own interests and skills.

## Degree Requirements

Course	Title	Credits
<b>Major Requirements</b>		
CLM 1000	Introductory Climate Studies Seminar	1
MT 2000	Fundamentals of Meteorology and Climatology (GACO)	3
ESP 2110	Introduction to Environmental Science and Policy II	4
ESP 3201	Energy and Society	4
ESP 3326	Climate, Risk, and Adaptation (GACO)	3
CM 3095	Technical Communication (TECO,WRCO)	4
CLM 4000	Climate Studies Capstone Project	2
ESP 4441	Climate Change	3
<b>Math and Technical Skills</b>		
MA 2300	Statistics I (QRCO)	3
MA 2130	Precalculus (QRCO)	4
or MA 2550	Calculus I (QRCO)	
Take one of the following:		3-4
GE 2050	GIS I: Introduction to Geographic Information Systems (QRCO,TECO)	
CS 2010	Computing Fundamentals (TECO)	
CS 2370	Introduction to Programming	
<b>Interdisciplinary Focus Areas</b>		
Take three lower-level (1000/2000) courses and take five upper-level (3000/4000) courses <sup>1,2</sup>		
<b>Communication Focus</b>		
CM 2000	Studies in Communication and Media (TECO)	
CM 2006	Intercultural Communication	
CM 2007	Strategic Communication	
CM 2405	Public Speaking	
CM 2775	Media and Cultural Studies (TECO)	
CM 2915	Communication and Leadership	
CM 2995	Professional Social Media	
CM 3485	Global Perspectives in the Media (GACO)	
CM 3675	Journalism in the Digital Age (TECO,WRCO)	

SU 3333	Environmental Humanities (WRCO)
HI 4200	
Foreign Language 1000/2000 <sup>3</sup>	
Foreign Language 3000/4000 <sup>3</sup>	
<b>Science Focus</b>	
BI 1110	Biological Science I (TECO)
BI 1120	Biological Science II
CH 2335	General Chemistry I (QRCO)
CH 2340	General Chemistry II
ESP 2100	Introduction to Environmental Science and Policy I
MT 2250	Introduction to Weather Analysis and Forecasting
PH 2110	College Physics I
PH 2120	College Physics II
PH 2510	University Physics I
PH 2520	University Physics II
BI 3240	Conservation (DICO,GACO)
BI 3260	Freshwater Ecology
BI 4750	Plant Diversity & Evolution
ESP 3310	Hydrology
ESP 3335	Environmental Geology (TECO)
ESP 3550	Environment and Health (WECO)
ESP 4310	Advanced Conservation Ecology
MT 3725	Instruments and Observations in Meteorology
MT 4155	Air Quality
<b>Geographic Information System and Mapping Focus</b>	
GE 3050	GIS II: Advanced Geographic Information Systems
GE 4010	Remote Sensing and Digital Image Processing
GE 4050	Geospatial Technology Applications
GE 4060	GIS Programming
<b>Public Policy and Planning Focus</b>	
PO 1035	World Politics (GACO)
EPL 2105	Community Planning
ESP 2305	Foundations of Environmental Policy (WRCO)
PO 1025	American Government
PO 2025	Public Administration (DICO)
PO 2050	Comparative Politics and Government
EPL 3100	Environmental Planning
EPL 3150	Introduction to Permaculture
PO 3255	Model United Nations (GACO,INCO)
EPL 3270	Sustainability in Residences
ESP 4325	Decision Making in Environmental Management
GE 3080	Economic Geography
PO 3060	Political Analysis and Policy (WRCO)
SO 3605	Sustainability in Practice (WECO)
<b>Art Focus</b>	
AR 1045	Art Foundations 2D: Composition and Content
AR 1065	Art Foundations 3D: Design and Meaning
AR 1075	Art Foundations Drawing: Line and Language
PT 2600	Photography I
AR 3015	Painting: Observation
AR 3125	Painting: Process Exploration
AR 3295	Printmaking: Cut, Carve, Etch

AR 3325	Printmaking: Silkscreen and Alternative Processes	
AR 3575	Art and Sustainability	
Business Focus		
ENT 2040	Foundations of Innovation and Entrepreneurship	
BU 2240	Business Statistics (QRCO)	
BU 2440	Business, Ethics, and Society	
BUS 1100	Introduction to Marketing and Sales	
ENT 3030	Social Entrepreneurship	
BU 3220	Business and the Environment	
ESP 3340	Introduction to Ecological Economics	
<b>General Education Requirements</b>		
EN 1400	Composition	4
IS 1115	Tackling a Wicked Problem	4
CTDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#CTDI">https://coursecatalog.plymouth.edu/general-education/#CTDI</a> )	Creative Thought Direction	3-4
PPDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#PPDI">https://coursecatalog.plymouth.edu/general-education/#PPDI</a> )	Past and Present Direction	3-4
SIDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#SIDI">https://coursecatalog.plymouth.edu/general-education/#SIDI</a> )	Scientific Inquiry Direction	3-4
SSDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#SSDI">https://coursecatalog.plymouth.edu/general-education/#SSDI</a> )	Self and Society Direction	3-4
Directions (choose from CTDI, PPDI, SIDI, SSDI) ( <a href="https://coursecatalog.plymouth.edu/general-education/">https://coursecatalog.plymouth.edu/general-education/</a> ) <sup>4</sup>		4-8
DICO ( <a href="https://coursecatalog.plymouth.edu/general-education/#DICO">https://coursecatalog.plymouth.edu/general-education/#DICO</a> )	Diversity Connection	3-4
WECO ( <a href="https://coursecatalog.plymouth.edu/general-education/#WECO">https://coursecatalog.plymouth.edu/general-education/#WECO</a> )	Wellness Connection	3-4
INCP ( <a href="https://coursecatalog.plymouth.edu/general-education/#INCP">https://coursecatalog.plymouth.edu/general-education/#INCP</a> )	Integrated Capstone	4
<b>Electives</b>		<b>25-14</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> Students can go deep into one or two interdisciplinary focus areas or sample from various disciplines as long as they take at least three low level courses and five upper level courses. Students must keep in mind when planning their courses, that many of them have prerequisites (included in the required or optional courses). Students can take more than the minimum number of courses to follow their interests using

their free electives and/or consider appropriate minors or certificates or a second major that might also use some of these courses.

- <sup>2</sup> Besides fulfilling the Interdisciplinary Focus requirement, the courses below can be used to aid in completing one or more minors or certificates. Possible minors of interest: Anthropology/ Sociology, Applied Ethics, Art, Biology, Business Administration, Chemistry, Computing, Digital Media Design and Development, Economics, Expository Writing, Geography, Graphic Design, Marketing, Mathematics, Media Studies, Peace & Social Justice, Political Science, Professional Communication, and Sustainability. Possible certificates of interest: Geographic Information Systems (GIS), Transformative Innovation & Design entrepreneurship (TIDE).
- <sup>3</sup> Students with previous experience in a language must take a placement exam to determine the appropriate level course in which they should register. Otherwise students can start with the Spanish (SP 1011) or French (FR 1011) Language and Culture Studies I course. We recommend that those interested in taking a foreign language as a communication focus area choose to take more courses in the same language with the ultimate goal of effective communication in such language.
- <sup>4</sup> Directions should total 20 credits (unless the major has a waiver for a specific Direction).

## Recommended Course Sequence

Check all course descriptions for prerequisites before planning course schedule. Course sequence is suggested but not required.

To complete the bachelor's degree in 4 years, you must successfully complete a minimum of 15 credits each semester or have a plan to make up credits over the course of the 4 years. For example, if you take 14 credits one semester, you need to take 16 credits in another semester. Credits completed must count toward your program requirements (major, option, minor, certificate, general education or free electives)

Course	Title	Credits
<b>Year One</b>		
CLM 1000	Introductory Climate Studies Seminar	1
MT 2000	Fundamentals of Meteorology and Climatology (GACO)	3
ESP 2110	Introduction to Environmental Science and Policy II	4
MA 2300	Statistics I (QRCO)	3
IS 1115	Tackling a Wicked Problem	4
EN 1400	Composition	4
CTDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#CTDI">https://coursecatalog.plymouth.edu/general-education/#CTDI</a> )	Creative Thought Direction	3-4
PPDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#PPDI">https://coursecatalog.plymouth.edu/general-education/#PPDI</a> )	Past and Present Direction	3-4
SSDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#SSDI">https://coursecatalog.plymouth.edu/general-education/#SSDI</a> )	Self and Society Direction	3-4
<b>Credits</b>		<b>28-31</b>
<b>Year Two</b>		
ESP 3201	Energy and Society	4

ESP 3326	Climate, Risk, and Adaptation (GACO)	3
MA 2130 or MA 2550	Precalculus (QRCO) or Calculus I (QRCO)	4
Take one of the following:		3-4
GE 2050	GIS I: Introduction to Geographic Information Systems (QRCO,TECO)	
CS 2010	Computing Fundamentals (TECO)	
CS 2370	Introduction to Programming	
Interdisciplinary Focus - Lower Level (3 courses)		9-12
SIDI ( <a href="https://coursecatalog.plymouth.edu/general-education/#SIDI">https://coursecatalog.plymouth.edu/general-education/#SIDI</a> )	Scientific Inquiry Direction	3-4
Elective		3-4

**Credits 29-35**

#### Years Three and Four

CM 3095	Technical Communication (TECO,WRCO)	4
ESP 4441	Climate Change	3
Interdisciplinary Focus Upper Level (5 courses)		15-20
CLM 4000	Climate Studies Capstone Project	2
Directions (choose from CTDI, PPDl, SIDI, SSDI) ( <a href="https://coursecatalog.plymouth.edu/general-education/">https://coursecatalog.plymouth.edu/general-education/</a> )		4-8
WECO ( <a href="https://coursecatalog.plymouth.edu/general-education/#WECO">https://coursecatalog.plymouth.edu/general-education/#WECO</a> )	Wellness Connection	3-4
DICO ( <a href="https://coursecatalog.plymouth.edu/general-education/#DICO">https://coursecatalog.plymouth.edu/general-education/#DICO</a> )	Diversity Connection	3-4
INCP ( <a href="https://coursecatalog.plymouth.edu/general-education/#INCP">https://coursecatalog.plymouth.edu/general-education/#INCP</a> )	Integrated Capstone	4
Electives		11-21

**Credits 49-70**

**Total Credits 120**

## Learning Outcomes

During the completion of their B.S. Climate Studies degree, our students will be introduced to, practice, develop, and should be able to demonstrate competency at the completion of their program in the following four areas:

#### SLO 1 – Climate-system Knowledge

- Knowledge and applications of climate science
- Earth's systems and the role of climate within these systems
- Historical, current and predicted future status of Earth's climate
- Methods of climate research, research design, data collection, and data handling

#### SLO 2 – Climate Impacts Knowledge

- Effects, hazards, consequences within and between science and social disciplines and societal sectors

#### SLO 3 – Effective Climate Communication

- Technical oral and written communication of climate information
- Public oral and written communication of climate information

#### SLO 4 – Climate Evidence and Source Evaluation

- Use and assessment of climate-related information
- Promotion and practice of science-based decision-making

#### SLO 5 – Interdisciplinary Integration of Climate with Other Disciplines

- Application of climate and interdisciplinary knowledge and skills to an appropriate capstone project

## Career Pathways

The career possibilities are many, and include the fields of climate communication/public education, emergency management, conservation, public policy, science journalism, formal education, planning, and a variety of different types of private industry and government jobs working in the various aspects of the climate problem.

There are likely future career possibilities that we cannot foresee at the moment, and because of that, graduating students with a strong foundation of knowledge and skills, who can adapt and learn new tools and follow new paths, is of great importance.