

B.S. in Earth Science: Climate Science Concentration

Program Description

The climate science concentration of the Bachelor of Science in Earth Science degree builds skills and knowledge related to collecting, analyzing and interpreting climate data and understanding long-term trends. Through this program, students explore atmospheric processes, climate change issues and factors that influence climate systems.

Delivery Mode

Traditional (on campus)

Curriculum

Course	Credits
General Education Courses	41
<i>Building a Sense of Community</i> UNI 100 First-Year Seminar	1
<i>Composition</i> ENG 101 English Composition I	3
<i>Public Speaking</i> CDC 101 Public Speaking	3
<i>Mathematics and Quantitative Literacy</i> MAT 281 Calculus I	3
<i>Health and Wellness</i> Any Health and Wellness Course	3
<i>Technological Literacy</i> CIS 120 Application Programming I	3
<i>Humanities</i> Any Humanities Course	3
<i>Fine Arts</i> Any Fine Arts Course	3
<i>Natural Sciences</i> PHY 101 College Physics I	4
<i>Social Sciences</i> GEO 222 Geography of North America	3
<i>General Education Options</i> <ul style="list-style-type: none"> • EAS 469 Global Climate Change • MAT 215 Statistics • MAT 282 Calculus II • PHS 137 Environmental Chemistry 	12

Department of Mathematics and Physical Sciences

Course	Credits
Required Major Courses	39
EAS 104 Introduction to Meteorology	4
EAS 142 Introduction to Climate Science	3
GLG 150 Introduction to Geology	4
EAS 163 Intro to Oceans and Climate	3
EAS 245 Weather Analysis and Forecasting I	4
EAS 300 Natural Hazards	3
EAS 369 Climate Dynamics	3
EAS 414 Synoptic Climatology	3
EAS 419 Applied Climatology	3
EAS 431 Digital Media for Weather and Climate Apps	3
EAS 452 Atmos Thermodynamics and Radiation	3
EAS 465 Seminar in Atmos. Science	3
Related Electives	7
GIS 311 Geographic Information Systems	3
PHY 202 College Physics II	4
Recommended Electives	12
Select at least 12 credits from the following: <ul style="list-style-type: none"> • BIO 248 General Ecology (3 credits) • GLG 200 Historical Geology (3 credits) • GLG 303 Hydrology (3 credits) • EAS 323 Atmos Instrument and Measurement (3 credits) • EAS 342 Dynamic Meteorology I (3 credits) • EAS 346 Tropical Meteorology and Climate (3 credits) • EAS 442 Dynamic Meteorology II (3 credits) • EAS 453 Cloud Physics (3 credits) • ENS 101 Introduction to Environ Science (3 credits) • ENS 399 Conservation Biology (3 credits) 	12

Department of Mathematics and Physical Sciences

Course	Credits
<ul style="list-style-type: none">• ENS 440 Environ Pollution Control (3 credits)• GIS 350 Remote Sensing of Environment (3 credits)• GIS 413 Environmental Applications GIS (3 credits)• MAT 360 Non-Parametric Statistics (3 credits)	
Free Electives	21 or 22
Total	120

Additional requirements, not counted toward the General Education requirements, include:

- **Special Experience Course (1 course required):** EAS 431 Digital Media for Weather and Climate Apps
- **Writing-Intensive Component Courses (2 courses required):** EAS 323 AND EAS 465
- **Laboratory Course (1 course required):** EAS 104 Intro to Meteorology

Program Notes: 42 credits of advanced coursework at the 300 or 400 level are required.

Program Webpage

<https://www.calu.edu/academics/undergraduate/bachelors/climate-science/index.aspx>