Academic Planning Worksheet for B.S. in Atmospheric Sciences: Climate Option

Prerequisites: Math & Physics (30 credits total)
Besides English composition, these courses (or their equivalent) must be completed prior to registering for the first course in the Core ATM S sequence. Students interested in majoring in Atmospheric Sciences should start taking these courses as soon as possible.

MATH 124 Calculus with Analytic Geometry I (5cr, AWSpS)
MATH 125 Calculus with Analytic Geometry II (5cr, AWSpS)
MATH 126 Calculus with Analytic Geometry III (5cr, AWSpS)
PHYS 121 Mechanics (5cr, AWSpS)
PHYS 122 Electromagnetism (5cr, AWSpS)
PHYS 123 Waves, Light, and Heat (5cr, AWSpS)

Statistics Requirement (4-5 credits total)
One of these courses should be completed as soon as possible as it is a pre-requisite for upper-division ATM S coursework. Both courses have prerequisites. STAT 390 is recommended for the Data Science Option.

Q SCI 381 Introduction to Probability and Statistics (5cr; AWSpS) or
STAT 390 Statistical Methods in Engineering and Science (4cr, AWSpS)

Core – Atmospheric Sciences (ATM S) (23 credits total)
These courses must be completed in the order listed below, beginning with ATM S 301 in Autumn Quarter.

ATM S 220 Exploring the Atmospheric Sciences (1cr)
ATM S 301 Introduction to Atmospheric Sciences (5cr, Aut)
ATM S 340 Introduction to Thermodynamics and Cloud Processes (3cr, Win)
ATM S 370 Atmospheric Structure and Analysis (5cr, Win)
ATM S 321 The Science of Climate (3cr, Spr)
ATM S 341 Atmospheric Radiative Transfer (3cr, Spr)
ATM S 431 Boundary-Layer Meteorology (3cr, Aut)

CLIMATE OPTION COURSEWORK (31-40 CREDITS TOTAL)

Courses listed below are required to complete a BS in Atmospheric Sciences in the Climate Option and are in addition to Atmos Sci core coursework and UW College of Environment general education requirements.

Required Course List (22-25 credits total)

ATM S 358 Fundamentals of Atmospheric Chemistry (3cr, Spr)
ATM S 380 Weather and Climate Prediction (3cr, Win)
ATM S 350 Ecological Climatology (3cr, Aut)
ATM S 487 Fundamentals of Climate Change (3cr, Aut)

ATM S 310 Programming for Atmospheric Data Analysis (3cr, Aut) or
CSE 160 Data Programming (4cr, AWSpS)

ESS 431 Principles of Glaciology* (4cr) or
ESS 433 Environmental Change in the Glacial Ages* (5cr, Spr)
*Please take one of these courses as soon as they are available since not every course is offered in every academic year.

OCEAN 423 Ocean Circulation and Climate* (3cr, Spr) or
OCEAN 450 Climatic Extremes* (4cr, Win)
*Please take one of these courses as soon as they are available since not every course is offered in every academic year.

Climate Electives (choose three)

AMATH 351 Differential Equations (3cr, AWSpS)
AMATH 352 Applied Linear Algebra (3cr, AWSpS)
AMATH 353 Partial Differential Equations (3cr, SpS)
ATM S 441 and 442 Atmospheric Motions I/II (counts as two) (8cr, AW)
ATM S 451 Instruments and Observations (4cr, Win)
ATM S 452 Weather Forecasting and Advanced Synoptic Meteorology (5cr, Spr)
ATM S 588 The Global Carbon Cycle and Climate (5cr)
ENVIR 384 Global Environmental Politics (5cr)
ENVIR 416 Ethics and Climate Change (5cr)
ENVIR 418 Communications and the Environment (5cr)
MATH 208 Matrix Algebra with Applications (3cr, AWSpS)
MATH 224 Advanced Multivariable Calculus (3cr, AWSpS)
OCEAN 200 Introduction to Oceanography (3cr, Spr)
OCEAN 210 Integrative Oceans (4cr, Aut & Spr)
# Two-Year Plan for Transfer Students (Climate Option)

## Year 1 (Junior Year)

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
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<tbody>
<tr>
<td>☐ ATM S 301 (5) Introduction to Atmospheric Sciences</td>
<td>☐ ATM S 340 (3) Introduction to Thermodynamics and Cloud Processes</td>
<td>☐ ATM S 321 (3) The Science of Climate</td>
</tr>
<tr>
<td>☐ Q SCI 381 (5) Introduction to Probability and Statistics, or ☐ STAT 390 (4) Statistical Methods in Engineering and Science</td>
<td>☐ ATM S 370 (5) Atmospheric Structure and Analysis</td>
<td>☐ ATM S 341 (3) Atmospheric Radiative Transfer</td>
</tr>
<tr>
<td>☐ ATM S 310 (3) Programming for Atmospheric Data Analysis, or ☐ CSE 160 (4) Data Programming</td>
<td>☐ ATM S 380 (3) Weather and Climate Prediction</td>
<td>☐ ATM S 358 (3) Fundamentals of Atmospheric Chemistry</td>
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<td>☐ ATM S 220 (1) Exploring the Atmospheric Sciences</td>
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</tbody>
</table>

## Year 2 (Senior Year)

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ ATM S 350 (3) Ecological Climatology</td>
<td>☐ Elective 1</td>
<td>☐ ESS 431 Principles of Glaciology, or ☐ ESS 433 (4-5) Environmental Change in the Glacial Ages</td>
</tr>
<tr>
<td>☐ ATM S 487 (3) Fundamentals of Climate Change</td>
<td>☐ Elective 2</td>
<td>☐ Elective 3</td>
</tr>
<tr>
<td>☐ ATM S 431 (3) Boundary-Layer Meteorology</td>
<td>☐ OCEAN 450 (3-4) Climatic Extremes (if not planning to take OCEAN 423)</td>
<td>☐ OCEAN 423 Ocean Circulation and Climate (if not taken OCEAN 450)</td>
</tr>
</tbody>
</table>

Please refer to the following link for detailed course information and check the prerequisites for some of the upper-level courses:

[https://atmos.uw.edu/students/undergraduate-program/academic-program/climate-track/](https://atmos.uw.edu/students/undergraduate-program/academic-program/climate-track/)