

## Academic Planning Worksheet for B.S. in Atmospheric Sciences: Meteorology 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)

### METEOROLOGY OPTION COURSEWORK (32-36 CREDITS TOTAL)

Courses listed below are required to complete a BS in Atmospheric Sciences in the Meteorology Option and are in addition to [Atmospheric Sciences core coursework](#) and [UW College of Environment general education requirements](#).

### Advanced Math (Required; 9-12 credits total)

These courses (or their equivalent) should be completed as soon as possible as they are prerequisites for upper-division ATM S coursework. All of these courses have their own prerequisites.

**NOTE:** Students only need to complete **one** of the sequences listed below.

[AMATH 351 Introduction to Differential Equations and Applications](#) (3cr, AWSpS)

[AMATH 353 Partial Differential Equations and Waves](#) (3cr, SpS)

[MATH 224 Advanced Multivariable Calculus](#) (3cr, AWSpS)

*Or*

[MATH 207 Introduction to Differential Equations](#) (3cr, AWSpS)

[MATH 208 Matrix Algebra with Applications](#) (3cr, AWSpS)

[MATH 209 Linear Analysis](#) (3cr, AWSpS)

[MATH 224 Advanced Multivariable Calculus](#) (3cr, AWSpS)

*\*For transfer students – some WA-state community colleges offer equivalents to the courses listed above. Consult your institutional adviser or the [UW Equivalency Guide](#) for more information.*

### Atmospheric Sciences Courses (Required; 20 credits total)

These courses must be completed in the order listed below – all courses have prerequisites.

[ATM S 358 Fundamentals of Atmospheric Chemistry](#) (3cr, Spr)

[ATM S 441 Atmospheric Motions I](#) (3cr, Aut)

[ATM S 442 Atmospheric Motions II](#) (5cr, Win)

[ATM S 451 Instruments and Observations](#) (4cr, Win)

[ATM S 452 Weather Forecasting and Advanced Synoptic Meteorology](#) (5cr, Spr)

### Computing (Required; 3-4 credits total)

[ATM S 310 Programming for Atmospheric Data Analysis](#) (3cr, Aut) or

[CSE 160 Data Programming](#) (4cr, AWSpS)

### Recommended Additional Coursework (Optional)

[ATM S 380 Weather and Climate Prediction](#) (3cr, Win)

[ATM S 490 Current Weather Analysis](#) (1cr, repeatable up to six times)

## Two-Year Plan for Transfer Students (Meteorology Option)

| Year 1 (Junior Year)  |  |   |
|---|--|---|
| Autumn Quarter  | Winter Quarter   | Spring Quarter  |
| <input type="checkbox"/> ATM S 310 (3) <i>Programming for Atmospheric Data Analysis</i><br>or <input type="checkbox"/> CSE 160 (4) <i>Data Programming</i>                                  | <input type="checkbox"/> ATM S 340 (3) <i>Introduction to Thermodynamics and Cloud Processes</i>   | <input type="checkbox"/> ATM S 321 (3) <i>The Science of Climate</i>  |
| <input type="checkbox"/> ATM S 301 (5) <i>Introduction to Atmospheric Sciences</i>  | <input type="checkbox"/> ATM S 370 (5) <i>Atmospheric Structure and Analysis</i>   | <input type="checkbox"/> ATM S 341 (3) <i>Atmospheric Radiative Transfer</i>  |
| <input type="checkbox"/> MATH 224 (3) <i>Advanced Multivariable Calculus</i>  | <input type="checkbox"/> ATM S 220 (1) <i>Exploring the Atmospheric Sciences</i>   | <input type="checkbox"/> ATM S 358 (3) <i>Fundamentals of Atmospheric Chemistry</i>   |
|   | <input type="checkbox"/> AMATH 351 (3) <i>Introduction to Differential Equations and Applications,</i><br>or <input type="checkbox"/> MATH 207 (3) <i>Introduction to Differential Equations</i> | <input type="checkbox"/> AMATH 353 (3) <i>Partial Differential Equations and Waves,</i><br>or <input type="checkbox"/> MATH 208 (3) <i>Matrix Algebra with Applications</i> |
|   |  |   |
| Year 2 (Senior Year)  |  |   |
| Autumn Quarter  | Winter Quarter   | Spring Quarter  |
| <input type="checkbox"/> ATM S 431 (3) <i>Boundary-Layer Meteorology</i>  | <input type="checkbox"/> ATM S 442 (5) <i>Atmospheric Motions II</i>   | <input type="checkbox"/> ATM S 452 (5) <i>Weather Forecasting and Advanced Synoptic Meteorology</i>   |
| <input type="checkbox"/> ATM S 441 (3) <i>Atmospheric Motions I</i>   | <input type="checkbox"/> ATM S 451 (4) <i>Instruments and Observations</i>   |   |
| <input type="checkbox"/> Q SCI 381 (4) <i>Introduction To Probability And Statistics,</i><br>or <input type="checkbox"/> STAT 390 (4) <i>Statistical Methods in Engineering and Science</i> |  |   |
| <input type="checkbox"/> MATH 209 (3) <i>Linear Analysis (add this course only if chosen the MATH2XX sequence)</i>  |  |   |
|   |  |   |

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/meteorology-track/>