Academic Planning Worksheet for B.S. in Atmospheric and Climate Science: 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 ATMOS sequence. Students interested in majoring in Atmospheric and Climate Science 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 prerequisite for upper-division ATMOS 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 and Climate Science (ATMOS) (23 credits total)
These courses must be completed **in the order** listed below, beginning with ATMOS 301 in Autumn Quarter.

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

METEOROLOGY OPTION COURSEWORK (33-40 CREDITS TOTAL)

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

Advanced Math (Required; 10-16 credits total)
These courses (or their equivalent) should be completed as soon as possible, as they are prerequisites for upper-division ATMOS 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 (4cr, AWSpS)

Or

MATH 207 Introduction to Differential Equations (4cr, AWSpS)
MATH 208 Matrix Algebra with Applications (4cr, AWSpS)
MATH 209 Linear Analysis (4cr, AWSpS)
MATH 224 Advanced Multivariable Calculus (4cr, 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 and Climate Science Courses (Required; 20 credits total)
These courses must be completed in the order listed below – all courses have prerequisites.

ATMOS 358 Fundamentals of Atmospheric Chemistry (3cr, Spr)
ATMOS 441 Atmospheric Motions I (3cr, Aut)
ATMOS 442 Atmospheric Motions II (5cr, Win)
ATMOS 451 Instruments and Observations (4cr, Win)
ATMOS 452 Weather Forecasting and Advanced Synoptic Meteorology (5cr, Spr)

Computing (Required; 3-4 credits total)
ATMOS 310 Programming for Atmospheric Data Analysis (3cr, Aut) **or**
CSE 160 Data Programming (4cr, AWSpS)

Recommended Additional Coursework (Optional)
ATMOS 380 Weather and Climate Prediction (3cr, Win)
ATMOS 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**
☐ *ATMOS 310 (3) Programming for Atmospheric Data Analysis* **or** ☐ *CSE 160 (4) Data Programming*	☐ ATMOS 340 (3) Introduction to Thermodynamics and Cloud Processes	☐ ATMOS 321 (3) The Science of Climate
☐ ATMOS 301 (5) Introduction to Atmospheric Sciences	☐ ATMOS 370 (5) Atmospheric Structure and Analysis	☐ ATMOS 341 (3) Atmospheric Radiative Transfer
☐ MATH 224 (4) Advanced Multivariable Calculus	☐ ATMOS 220 (1) Exploring the Atmospheric And Climate Science	☐ ATMOS 358 (3) Fundamentals of Atmospheric Chemistry
	☐ *AMATH 351 (3) Introduction to Differential Equations and Applications,* **or** ☐ *MATH 207 (4) Introduction to Differential Equations*	☐ *AMATH 353 (3) Partial Differential Equations and Waves*, **or** ☐ *MATH 208 (4) Matrix Algebra with Applications*
Year 2 (Senior Year)		
Autumn Quarter	**Winter Quarter**	**Spring Quarter**
☐ ATMOS 431 (3) Boundary-Layer Meteorology	☐ ATMOS 442 (5) Atmospheric Motions II	☐ ATMOS 452 (5) Weather Forecasting and Advanced Synoptic Meteorology
☐ ATMOS 441 (3) Atmospheric Motions I	☐ ATMOS 451 (4) Instruments and Observations	
☐ *Q SCI 381 (4) Introduction to Probability and Statistics,* **or** ☐ *STAT 390 (4) Statistical Methods in Engineering and Science*		
☐ *MATH 209 (4) Linear Analysis (add this course only if chosen the MATH2XX sequence)*		

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/