Doctor of Philosophy Plan of Study – Atmospheric Sciences (Effective AY2019-2020)

UNDERGRADUATE PREREQUISITE COURSES		
☐ College Physics 1 Intro Mechanics ☐ College Physics 2 Electrricity and Magnetism OR Optics and Heat (a 2-course sequence)	☐ Calculus 1 ☐ Calculus 2 ☐ Vector Calculus	☐ Statistics/Probability Theory ☐ Fluid Mechanics/Hydraulics

MASTER'S CORE COURSES **Minimum 12 units** (mandatory for all students)			
☐ ATMO 541A Dyn Meteorology I	☐ ATMO 557A Phys Meteorology I	☐ HWRS 519 Fund Surface Hydr	☐ HWRS 524 Hydroclimatology

REQUIRED ELECTIVE COURSES

Complete 6 units from EACH of the 3 areas listed below. If course not available in a particular semester, discuss an alternative course w/advisor!

Numerical Weather & Climate Prediction (6 units)	**Systems Science & Methods** (6 units)	**Data Sciences** (6 units)
☐ ATMO 558 Mesoscale Meteorological Modeling ☐ ATMO 579 Boundary Layer Meteorology ☐ ATMO 551B Dynamic Meteorology 2	☐ HWRS 528 Fund: Systems Approach Hydrologic Modeling ☐ ATMO 545 Intro to Data Assimilation ☐ ATMO 555 Intro Remote Sens Atmo & Hydr	☐ ARL 590 Remote Sensing Study Planet Earth ☐ ATMO 529 Objective Analy9sis Atmo Sciences ☐ HWRS 513A-B Field Hydr Meth + Anlys (2, 1) ☐ CE 528 Numerical Methods Hydraulics

SEMINAR

1 unit (enroll one semester during residency, preferably first year)

☐ **HWRS 595A** Current Topics in Hydrology & Atmospheric Sciences – Thursdays at 4 pm. Grade is S, P, or K and does not count toward cumulative GPA.

PROGRAMMING COMPETENCE & PROFESSIONAL DEVELOPMENT

☐ All students must demonstrate competence in statistics and computer programming (e.g. FORTRAN, MatLab, GrADS, NCL), numerical atmospheric models and specialized instrumentation. Participation in laboratory or field work may be a component. Competence may be demonstrated by successful completion of approved courses in these subjects (undergraduate or graduate level).	☐ All students must present the results of their research in a formal seminar or presentation at a scientific meeting in the form of an oral or poster presentation. Typically, students present at the HAS annual student research conference, El Día del Agua y la Atmósfera (Spring Semester) or at AGU (December) or AMS (January) meetings.

DISSERTATION

☐ ATMO or HWRS 920 Dissertation: 18 units (exactly) on Plan of Study	

Need details? → **schedule.arizona.edu or catalog.arizona.edu or has.arizona.edu/graduate-information (see PHD HYDROMET)**

TYPICAL DOCTORAL PROGRAM

Semester	Course	Units
Fall: Year 1	ATMO 541A	3
	ATMO 551B	3
	HWRS 528	3
	HWRS 595A Seminar	1
Spring: Year 1	HWRS 519	3
	HWRS 524	3
	ATMO 541B*	3
Fall: Year 2	ATMO 529	3
Qualifying Exam	REM 590	3
	ATMO 545	3
Spring: Year 2	ATMO or HWRS 910	3
	ATMO 579	3
	Total Units	**34**
*Required for working at the National Weather Service (NWS)		

ACADEMIC PROGRESS BENCHMARKS

Year 1: x
Year2.5-3: x
Year 4: x

Refer to the Doctor of Philosophy-Hydrometeorology Handbook for details about ***Enrollment Requirements***, ***Faculty Committee***, ***Research Topic,*** *etc.*

ARIZONA RESIDENCY

Minimum residence/enrollment requirements: 12 units must be completed at the University of Arizona; the remaining required units must be satisfied by University credit, graduate-level courses, including on-campus courses, courses not offered on the main campus, and approved thesis credit in absentia.

DOCTORAL EXAMINATIONS

Qualifying Exams
Comprehensive Exams
Final Oral Exam (Dissertation Defense)

DOCTOR OF PHILOSOPHY GRAD PATH FORMS

Once matriculated into a degree program, **Continuous Enrollment** is required (fall/spring, fall/spring)—see Graduate Catalog for policies. **Summer enrollment** is not required *unless* you complete requirements in the summer. All requirements should be completed within **6 years** (from first course work) to ensure currency of knowledge.

REQUIRED FORMS
*Login to **Student UAccess** to complete any form*

Responsible Conduct of Research Statement
- All students complete this form. Additionally, an RCR Workshop is required for any student funded by an NSF or NIH grant.

Transfer Credit
- A maximum of 6 graduate units *equivalent to required courses* (approved by DGS) may be transferred from another university for the Plan of Study

Doctoral Plan of Study
- Submit plan of study after second semester in residence (end of 1st year)
- Minimum 33 units as described on page 1 which includes 3 (minimum) thesis units
- You are expected to complete all course work and writing for the master's thesis within a 2-year period.

Master's Committee Appointment
- Contact the HYDROMET graduate coordinator for instructions prior to completing this form

Master's Completion Confirmation
- Department will submit this form after you have completed and successfully defended the thesis

Petition (use for a variety of reasons)
- Petition to take a leave of absence (temporarily suspends continuous enrollment) or extend time to complete a course