

## Doctor of Philosophy Plan of Study – Hydrometeorology (Effective AY2019-2020)

<b>UNDERGRADUATE PREREQUISITE COURSES</b>			
<input type="checkbox"/> College Physics 1 Intro Mechanics <input type="checkbox"/> College Physics 2 Electricity and Magnetism OR Optics and Heat (a 2-course sequence)	<input type="checkbox"/> Calculus 1 <input type="checkbox"/> Calculus 2 <input type="checkbox"/> Vector Calculus	<input type="checkbox"/> Statistics/Probability Theory <input type="checkbox"/> Fluid Mechanics/Hydraulics	
<b>MASTER'S CORE COURSES</b>			
<b>Minimum 12 units</b> (mandatory for all students)			
<input type="checkbox"/> ATMO 541A Dyn Meteorology I	<input type="checkbox"/> ATMO 557A Phys Meteorology I	<input type="checkbox"/> HWRS 519 Fund Surface Hydr	<input type="checkbox"/> HWRS 524 Hydroclimatology
<b>REQUIRED ELECTIVE COURSES</b>			
<b>Complete 6 units from EACH of the 3 areas listed below.</b> 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)	
<input type="checkbox"/> ATMO 558 Mesoscale Meteorological Modeling <input type="checkbox"/> ATMO 579 Boundary Layer Meteorology <input type="checkbox"/> ATMO 551B Dynamic Meteorology 2	<input type="checkbox"/> HWRS 528 Fund: Systems Approach Hydrologic Modeling <input type="checkbox"/> ATMO 545 Intro to Data Assimilation <input type="checkbox"/> ATMO 555 Intro Remote Sens Atmo & Hydr	<input type="checkbox"/> ARL 590 Remote Sensing Study Planet Earth <input type="checkbox"/> ATMO 529 Objective Analysis Atmo Sciences <input type="checkbox"/> HWRS 513A-B Field Hydr Meth + Anlys (2, 1) <input type="checkbox"/> CE 528 Numerical Methods Hydraulics	
<b>SEMINAR</b>			
<b>1 unit</b> (enroll one semester during residency, preferably first year)			
<input type="checkbox"/> <b>HWRS 595A</b> Current Topics in Hydrology & Atmospheric Sciences – Thursdays at 4 pm. Grade is S, P, or K and does not count toward cumulative GPA.			
<b>PROGRAMMING COMPETENCE &amp; PROFESSIONAL DEVELOPMENT</b>			
<input type="checkbox"/> 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).		<input type="checkbox"/> 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.	
<b>DISSERTATION</b>			
<input type="checkbox"/> ATMO or HWRS 920 Dissertation: 18 units (exactly) on Plan of Study			

**Need details? → [schedule.arizona.edu](http://schedule.arizona.edu) or [catalog.arizona.edu](http://catalog.arizona.edu) or [has.arizona.edu/graduate-information](http://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 <i>Qualifying Exam</i>	ATMO 529	3
	REM 590	3
	ATMO 545	3
Spring: Year 2	ATMO or HWRS 910	3
	ATMO 579	3
<b>Total Units</b>		<b>34</b>
*Required for working at the National Weather Service (NWS)		

## ACADEMIC PROGRESS BENCHMARKS

Year 1: x

Year 2.5-3: 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 1<sup>st</sup> 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