

Master of Science Plan of Study – Hydrometeorology

UNDERGRADUATE PREREQUISITE COURSES (Required for Admission)			
<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"/> College Chemistry 1 Inorganic <input type="checkbox"/> College Chemistry 2 Inorganic	<input type="checkbox"/> Calculus 1 <input type="checkbox"/> Calculus 2 <input type="checkbox"/> Vector Calculus <input type="checkbox"/> Intro Differential Equations	<input type="checkbox"/> Statistics for Phys. Sci / Engr or Probability Theory <input type="checkbox"/> Fluid Mechanics/Hydraulics/Aerodynamics	
MASTER'S CORE COURSES			
Minimum 12 units (mandatory for all students)			
<input type="checkbox"/> ATMO 541A Dyn Meteorology I	<input type="checkbox"/> ATMO 551A Phys Meteorology I	<input type="checkbox"/> HWRS 519 Fund Surface Hydr	<input type="checkbox"/> 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)	
<input type="checkbox"/> ATMO 558 Mesoscale Meteorological Modeling <input type="checkbox"/> ATMO 574A Weather Analysis & Forecasting I <input type="checkbox"/> ATMO 574B Weather Analysis & Forecasting II <input type="checkbox"/> ATMO 579 Boundary Layer Meteorology <input type="checkbox"/> ATMO 541B Dynamic Meteorology II <input type="checkbox"/> ATMO 580 Tropical Meteorology	<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 *ATMO 555 can be substituted for ARL 590	
SEMINAR			
1 unit (enroll one semester during residency, preferably first year)			
<input type="checkbox"/> 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			
<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.	
RESEARCH OR THESIS*			
Minimum 3			
<input type="checkbox"/> ATMO or HWRS 900 Research (3 units minimum)		<input type="checkbox"/> ATMO or HWRS 910 Thesis (3 units minimum)	

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

Courses Approved by Advisor on Individual Basis

HWRS 505 Vadose Zone Hydrology (3 units)

HWRS 543A Risk Assessment for Environmental Systems (3 units)

HWRS 630 Advance Catchment Hydrology (3 units)

ATMO 595B Global Climate Change (3 units)

ATMO 595C General Circulation Observations and Modeling (3 units)

ATMO 580 Tropical Meteorology (3 units)

BE 585 Remote Sensing Data and Method (3 units)

ACADEMIC PROGRESS BENCHMARKS

Year 1: Begin course work and select a Major Advisor to chair your committee & members of committee; submit request for Transfer Course Work form (if applicable), and submit Master's Plan of Study

Year 2: Complete course work; take Qualifying Exam if continuing in PHD; finish research, submit for publication, and take MS final oral exam/defend thesis

Refer to the Master of Science Degree Handbook for details about *Enrollment Requirements, Faculty Committee, Research Topic, Thesis, Scholarly Paper for Publication, and Special Notes*.

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 QUALIFYING EXAM

An MS student who plans to continue in the doctoral program must have received an average grade of 2 As and 2 Bs in the four core courses; if not, the adviser must petition the faculty for a waiver to continue. *Continuing students* must submit the Request for Change of Degree Program to the Graduate College. See the Graduate Coordinator for assistance. When the form is presented to the Department Head for signature, the student's research and course performance will be evaluated by the faculty for a final recommendation.

MASTER OF SCIENCE 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.

GradPath FAQ, <https://grad.arizona.edu/gsas/gradpath/faq?audience=35>

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.

Master's Plan of Study

Submit plan of study after second semester in residence (end of 1st year)
All courses taken, future courses (major and minor), transfer courses, and research/thesis units must be included in the form.

Master's Committee Appointment

Master's committee must consist of three members; at least two must be current tenured, tenure-track, or approved tenure-equivalent UA faculty members. If the third member is not a current tenure-track UA faculty member, he or she must be approved by the Graduate College as a special member. A member who is not a current tenure-track faculty member will not be eligible to serve as sole chair of the committee but can serve as co-chair if approved to do so by the Graduate College.

Master's Completion Confirmation

When the student's Advisor and committee members approve the student has completed all degree requirements, the Advisor must contact the Graduate Coordinator to process.

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

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