

Doctor of Philosophy Plan of Study – Hydrology

CORE COURSES + PRIMARY FACULTY ADVANCED ELECTIVE COURSES

Complete 24 units (minimum) from Master's Core and Primary Faculty categories

Master's **C**ore Courses* not absolutely required but may be used to prepare for the Doctoral Qualifying Examination

Semester of Offering: **f** Fall, **s** Spring, **sum** Summer

- | | | | |
|--|---|---|---|
| <input type="checkbox"/> HWRS 517A f Water Quality C | <input type="checkbox"/> HWRS 518 f Subsurface Hydro C | <input type="checkbox"/> HWRS 519 s Surface Hydro C | <input type="checkbox"/> HWRS 528 f Wat Res Systems C |
| Primary Faculty Advanced Electives | | | |
| <input type="checkbox"/> HWRS 501 Tools for Data Hand.
<input type="checkbox"/> HWRS 503 f Subsurf Fluid Dyn
<input type="checkbox"/> HWRS 504 s Num Meth Subsurf
<input type="checkbox"/> HWRS 505 f Vadose Zone Hydr
<input type="checkbox"/> HWRS 516 f Hydr Transport Proc | <input type="checkbox"/> HWRS 524 s Hydroclimatology
<input type="checkbox"/> HWRS 531 f Hydrogeology
<input type="checkbox"/> HWRS 532 s Envir Hydrogeo Lab
<input type="checkbox"/> HWRS 535 s Adv Subsurface Hyd
<input type="checkbox"/> HWRS 543A f Risk Assessment | <input type="checkbox"/> HWRS 549 f Statistical Hydro
<input type="checkbox"/> HWRS 573 f Hydr WR Mgmt
<input type="checkbox"/> HWRS 580 s Isotope Tracers Hyd
<input type="checkbox"/> HWRS 582 s Groundwater Mod | <input type="checkbox"/> HWRS 596G f Water-Rock-Micro
<input type="checkbox"/> HWRS 630 f Adv Catchment Hyd
<input type="checkbox"/> HWRS 642s Anlys Hydr Systems
<input type="checkbox"/> HWRS 645 s Stoch Meth Subsurf
<input type="checkbox"/> HWRS 655 f Stoch Meth Surface |

FIELD METHODS/FIELD SYNTHESIS

Complete 3 units total in the same calendar year

- | | |
|--|--|
| <input type="checkbox"/> HWRS 513A s Field Methods (2)
<input type="checkbox"/> HWRS 513B s Field Synthesis (1) | <input type="checkbox"/> Prior experience or education may be used to satisfy this requirement, but you must file a petition for approval; however, no academic credit can be awarded. See the Doctor of Philosophy HWRS Program Guide for details.
<input type="checkbox"/> HWRS (Primary Course) _____ Substitution units (3) in lieu of field course sequence |
|--|--|

OTHER ADVANCED ELECTIVE COURSES

Complete 12 units from Primary, Other, and Transfer categories

See **Doctor of Philosophy HWRS Program Guide** for details. All course work, including Transfer, must be approved by the DGS-Hydrology.

- | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|

DOCTORAL MINOR

Select a complementary area of study (see Program Guide) to complete the Minor Plan of Study. Contact the Minor department for specific exam and course requirements (typically 12 units but ranges from 9 to 15 units).

DISSERTATION: HWRS 920

- | |
|--|
| <input type="checkbox"/> HWRS 920 Dissertation: Include exactly 18 units total in Plan of Study
<input type="checkbox"/> You may need to <u>delete</u> excess 920 units from Plan of Study |
|--|

PROFESSIONAL DEVELOPMENT

- | | |
|---|---|
| <input type="checkbox"/> HWRS 595A <i>Current Topics in Hydrology & Atmospheric Sciences</i> , the Weekly Colloquium - All Graduate Students (MS & PHD) must enroll for <u>at least one semester</u> (1-unit maximum per semester) do not include in Plan of Study
<input type="checkbox"/> Near end of academic residency, make <u>two</u> (2) presentations of dissertation research at approved regional, national, or international conferences
<input type="checkbox"/> Of two (2) required presentations, minimum 1 oral presentation | <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). |
|---|---|

ACADEMIC PROGRESS BENCHMARKS

YEAR 1 End: Take Doctoral Qualifying Examination – Major, Minor (if any)

YEAR 2 End: Submit Doctoral Plan of Study by the end of 4th semester to allow time for adjustment or revision (e.g. take additional course units if necessary)

YEAR 2.5 to 3: Initiate Doctoral Comprehensive Examination Process – 1) Major Written, 2) Minor Written (if any), and 3) Combined Oral in Major and Minor

YEAR 4 to End: Take Doctoral Final Oral Examination-Dissertation Defense

Refer to the [HYD Doctoral Degree Handbook](#) for detailed information about the degree program requirements.

DOCTORAL GRADPATH FORMS

Once matriculated into a degree program, **Continuous Enrollment** is required (fall/spring). **Summer enrollment** is not required *unless* you need to complete program requirements. All requirements should be completed within **10 years** (from first course work) to ensure currency of knowledge.

GradPath FAQ, <https://grad.arizona.edu/gsas/gradpath/gradpath-user-guides>

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.

Doctoral Plan of Study

- List all course work for Major and Minor plus exactly 18 dissertation units
- Submit by end of Year 2/fourth semester in residence

Comprehensive Exam Committee Appointment

- File after ALL course work has been completed
- List all members of Major and Minor committees

Announcement of Doctoral Comprehensive Exam

- After completion of written exams, submit this form to announce the oral exam (closed exam, not open to the public)
- Complete a minimum of 3 months before Final Oral Exam

Results of Comprehensive Exam

- Faculty dissertation director submits e-form after oral exam
- Comp Exam 5-YEAR CLOCK starts: Complete all degree requirements within the next 5 years or begin Comprehensive Exam process again

Prospectus/Proposal Confirmation

First, submit a draft copy of the dissertation abstract (does not have to be the final product) to the Program Coordinator for your file

Doctoral Dissertation Committee Appointment

List all members of Major and Minor, if any, who will participate in final oral exam (dissertation defense). Request Special Member, if any, with Program Coordinator

Commencement Verification

Confirm name to be listed in commencement program, address to send diploma and other logistical contact information after graduation. Deadlines apply to ensure accuracy.

Announcement of Final Oral Defense

- Submit at least 10 business days in advance
- List date, time and location of dissertation defense
- List all committee members who will participate.
- Graduate College will announce the exam in the UA Master Calendar because the initial presentation is open to the public.

Results of Final Oral Defense

- Faculty dissertation director will submit e-form after the exam
- Results will be reported as Pass Without Revision, Pass With Revision, or Fail (one re-take is allowed)

After making all required revisions (if any) to the dissertation manuscript, you must submit your dissertation to the Graduate College for the ProQuest/UMI digital archive. The Student Academic Services liaison will assist you with this process.

Transfer Credit

- A maximum of 12 graduate units of course work taken while in a degree program (approved by DGS-H) may be transferred from another university for use in the major Plan of Study
- No more than 12 graduate units taken in a non-degree status may be used

Graduate College Petition (used for a variety of reasons)

- Petition for a leave of absence (temporarily suspends Continuous Enrollment requirement but the CLOCKS do not stop)
- Petition for extension of time to complete a course
- Petition for extension of time to complete the degree program