HWRS 565B Communications in Hydrogeology II
Spring 2026

Catalog Description

This course continues development of foundational skills in professional communication centered on hydrogeology. Students will develop written reports, figures, and oral presentations with an added emphasis on targeting non-technical audiences in addition to technical audiences. They will learn how to propose and plan a scientific study incorporating all elements necessary. Students will also practice and perfect their career readiness skills and job application packages related to their desired career paths in hydrogeology.

Course Prerequisites or Co-requisites

HWRS 565a Communications in Hydrogeology I

Must be enrolled in the MS Hydrogeology program.

Required co-registration in HWRS 599 Section 001 (Recitation), HWRS 561b - Physical Hydrogeology II, HWRS 562b Chemical Hydrogeology II, HWRS 563b Hydrogeologic Measurement Methods II, and HWRS 564b Hydrogeologic Tools & Methods II.

Required Textbooks/Materials

No materials for purchase will be required. Expected readings and related materials will be provided via D2L.

Course Objectives

Students will…

1. Incorporate the essential elements of effective writing and presentations depending on purpose and audience (including figures and visuals).
2. Provide actionable, constructive feedback on written reports and oral presentations.
3. Respond to feedback in a professional manner.
4. Develop a scientific proposal with an identified objective, supportive reasoning, and all other necessary elements (including timelines and milestones).
5. Develop effective oral presentations on technical projects to peer, expert, and general audiences.
6. Learn about the elements necessary for a job application and refine interviewing skills.

Expected Learning Outcomes

Students will be able to…

1. synthesize skills in writing, presenting, and designing visuals to effectively communicate to multiple specific target audiences.
2. construct a scientific study by explaining and incorporating essential components into a proposal.
3. represent their skills, expertise, and abilities through elements of an application package (CVs, resumés, cover letters, personal statements) and professional interviews.

Course Format and Teaching Methods

Content delivery in this course is comprised of lectures, guided in-class discussions, self-reflection and free-writing exercises, and small-group collaborations. Assignments offer out-of-class time to build on skills and content covered during lecture periods. Any required reading should be completed before attending class to maximize the effectiveness of that material.

Planned Field Trips

While this class has no field trips, there may be field trips in the other courses in the MS Hydrogeology program. The timing of all field trips are coordinated with students' schedules and the instructors of the other courses in the MS Hydrogeology program. This allows us to accommodate the field experience and not have it impact your participation in this course.

Schedule of Topics & Activities

The course will be organized around month-long projects that provide learning context for all five co-convened classes. The scheduled activities are outlined below:

Week	Monday date	Weekly topics	Weekly assignment	Assignment due date
0	1/12/2026	**Reorientation**	Self reflection 1	1/16/2026
1	1/19/2026	**Preparing for the Internship Fair**	Prepare your CV and cover letter for a mock job announcement. Participate in a mock interview.	1/23/2026
2	1/26/2026	**Expectations for public communication.** How can you write something that is scientifically correct, but generally understandable? What if you are writing for multiple audiences? This includes both how you prepare to write and how you craft your writing.	Translate a professional memo that you prepared in the Fall to provide to a citizen's action group.	1/30/2026
3	2/2/2026	**What is ethical advocacy?** How do you define and honor your professional responsibilities as a scientist? How can you advocate for a client's interests while also fulfilling your professional, ethical responsibilities?	Prepare a report based on an ambiguous modeling report to address the concerns of a specific stakeholder group, assigned by the instructor.	2/6/2026
4	2/9/2026	**What to leave in, what to leave out?** How do you develop figures that communicate potentially complex scientific concepts (not just data)? How can you use an introduction to provide enough information to set the context of your work without waxing too poetic? When should you put data (or other material) in an Appendix, no matter how hard it was to create?	Produce a conceptual figure to explain the key elements of the water cycle for your home basin. Write an outline for the introduction of your program-wide report.	2/13/2026
5	2/16/2026	**Q&A – the most important part of a presentation!** How do you make sure that you are answering the question that was asked? Hints for seeding and preparing for questions. The power of saying, "I don't know, but I'll follow up" and then actually following up.	Answer questions posed when presenting your program-wide report. You will present in class and we will record your presentations and Q&A and review them on video.	N/A
6	2/23/2026	**The long and short of it**: What is a long-form report? How are they different than short-form reports? How can you present a long form report effectively as an oral presentation?	Read a long model report and develop no more than four slides to present its key	2/27/2026

			findings. Provide a constructive critique of the report format.	
7	3/2/2026	**Quantitative figures**: What is a quantitative figure? What should it include and what should be left out? How do figures combine with text in results, discussions, and conclusion sections of a report?	Revise a figure in a previous report in a way that it communicates results more quantitatively. Identify whether the figure would belong in a results, discussions, or conclusion section and provide a paragraph of text related to the figure.	3/6/2026
8	3/9/2026	**Spring Break – no class**		
9	3/16/2026	**That tracks**: How to use digital editing tools including when and how to comment or correct text. Exploring the pros and cons of Track Changes and versioning.	Provide editing for a section of a report on the current version of the text for the current program-wide project by a group other than your own. Provide a one-page explanation of the choices that you made related to the use of digital editing tools. This will be in the form of a professional, 'hired' review.	3/20/2026
10	3/23/2026	**That doesn't track**: How to revise technical writing including a response to the reviewer.	*No formal assignment to provide time for students to complete Project 5. But, your project will include copies of your reviews and your responses to reviewers.* Self-reflection 2.	3/27/2026
11	3/30/2026	**But is it science?** What is a scientific study? How do you write a short, compelling proposal? How do you write in response to a call for proposals?	Brainstorm at least 3 project ideas. Choose one on the bases of: compelling idea,	4/3/2026

			achievable, fit to the call. Then write an abstract (elevator pitch) for the project.	
12	4/6/2026	**What's in it for me?** How can you transform a scientific proposal into a logical sequence of deliverables?	Draft the deliverables list for your proposed project.	4/10/2026
13	4/13/2026	**It's all about time:** What are some tips and tools to develop a realistic timeline for a project that modifies deliverables to milestones.	Draft the milestones that you will meet on the road to completing your project on time.	4/17/2026
14	4/20/2026	**What do you propose?** Reflecting on all that you have learned about figures, abstracts, introductions, discussions, conclusions, and structuring a proposal and putting it in use.	*You will turn in your project proposal and present your elevator pitch.*	4/24/2026
15	4/27/2026	**Wash, rinse, repeat:** Review and revise your proposals.	Self-reflection 3	5/1/2026
16	5/4/2026	**Job searches**: revising your curriculum vitae and cover letters	N/A	N/A

Course Assessments and Grading Breakdown

You will be assessed on the basis of weekly assignments. You will also be assessed based on how you apply the understanding gained in this class to the projects. Finally, you will receive completion credit for completing weekly self-assessments.

Assignments are assigned no later than each Monday and due the subsequent Friday by 10 pm, and D2L announcements will accompany posted assignments. Each assignment offers out-of-class time to apply recent concepts and strategies to support development of your communication skills. Time spent per assignment will vary depending on your comfort level with those skills, but it is expected that students will spend no more than 3 hours per week. If you find that you are spending more than 4 hours on a given assignment outside of class time, contact the instructor to discuss your approach and identify strategies for future efforts.

Class participation it is expected that all students in the program will participate fully in all aspects of the course. This includes showing up in class, being present and engaged in discussion, answering and asking questions during class, and contributing to the culture of learning of the program. If a student is not meeting expectations, they will be notified by the instructor, given guidance on how to increase their participation, and given a chance to improve. Thereafter, if student continues to fall below meeting the expectations for participation, their class participation points will be reduced.

Self-reflection there will be three in-depth self-reflections that focuses specifically on the communications elements of the program. You will be asked how you feel about your development as a communicator and where you want to continue with this element of your professional development.

The points distribution of your grade will be as follows.

Course Assignments	(11)	: 110 (~59%)
Self-Reflection	(3)	: 45 (~24%)
Participation		: 32 (~17%)

University policy regarding grades and grading systems is available at this link.

Final Examination or Project

There is no final examination in this course. However, students will be completing 3 projects this semester that cut across all courses in the MS Hydrogeology program which will require students to utilize and synthesize the skills they learned in all 5 courses to address a hydrogeologic question/problem. Presentation of the third and last Term Project of the semester will take place on May 6, 2026, the last scheduled day of classes. These presentations will be organized as a mini-conference and professional hydrogeologists will be invited to attend in person or online.

Grading Scale

Your final grade will be informed via D2L. Letter grades are determined using the following scale:

A: >= 90.0%

B: >= 80 - 89%

C: >= 70 – 79 %

D: >= 60 to 69 %

E: below 59 %

University policy regarding grades and grading systems is available at https://catalog.arizona.edu/policy/courses-credit/grading/grading-system.

Latework Policy

This class and the entire program depend strongly on student participation and you are only able to participate fully if you have done the homework on time. Therefore, no late assignments will be accepted for credit. We do understand that life happens, so we will automatically drop your **two** lowest course assignment grades for this course when calculating your final grade.

Incomplete (I) or Withdrawal (W):

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at this link associated with the registrar.

University of Arizona Course Policies

All University of Arizona course and syllabi policies, as well as other helpful information and resources, can be found at this link.

If you are in need of basic needs care, here is another helpful link, in addition to what you can find at the policy link above.

Subject to Change Statement

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.