



# Applied Hydrogeology

Professor Jeane Pope

Office: 307 East College • Phone: (765) 721 0835 • email: [jpope@depauw.edu](mailto:jpope@depauw.edu)

**Goals:** In this course, you will:

- \* Quantitatively assess global water availability and use;
- \* Understand geologic controls on water occurrence and flow in the subsurface;
- \* Learn methods and techniques of investigation used by professionals to solve hydrogeologic problems; and
- \* Consider the sustainability of water resources in a global context.

**Text:** To save you money and out of concern for environmental resources, I have joined the Private Academic Library Network of Indiana's Affordable Learning program PALSave and pledged to only use educational materials that are **free**. Therefore, in place of traditional text- or lab books, I am pulling together a variety of materials for required and supplemental reading; these will be available on Moodle. This is a new initiative for me, and I value your thoughts about it.

**Description:**

The purpose of this course is to introduce you to the concepts, methods, and language of Hydrogeology. Although we will discuss water on and above the Earth's surface, the majority of the class will focus on subsurface processes. This includes aquifer characteristics, groundwater occurrence, and flow conditions. We will also discuss groundwater as a resource, investigate geologic controls on water quality, and study what happens when water is removed from the ground.

In light of the pandemic, I have made a number of structural changes to the way that this class will work. Most significantly, class (including lab and recitation sessions) will be conducted virtually most of the time (we may be able to hold class outside later in the semester). *I know that Zoom Fatigue is real!* We will therefore use class time for discussion and problem solving, and not lecture, in a teaching approach known as "the flipped classroom." Research on student cognition indicates that this is an effective way to learn, but it does require that you 1) stay up to date on assignments, and 2) ask questions in class about concepts or problems that you don't understand. The use of study groups can also be helpful, so I will initially be assigning you partners for accountability and to support your learning.

The material for this class is organized into five major sections to cover a variety of important hydrological concepts. The purpose of this structure is to prevent the material from becoming too overwhelming. Additionally, questions about assigned material or applied problems will be assigned (almost) every day to reinforce the material from class. Because these problems are for practice, you will get 100% credit for submitting your work on time. (I will evaluate late work, but you will not receive credit except under special circumstances.) After each section there will be a take-home quiz. At the end of the semester (**Wednesday, May 19**) there will be a cumulative take-home final where you will synthesize all that you have learned during the course.

This is a challenging course, but mastering this material will open up a number of professional and academic opportunities for you, and I am here to support you! Please seek me out for help.

**Grading:** Grades will be based on your performance according to the following:

<b>Unit quizzes</b>	<b>50% total</b>
<b>Lab &amp; recitation assignments</b>	<b>20% total</b>
<b>Homework questions/problems</b>	<b>15% total</b>
<b>Cumulative Final</b>	<b>15%</b>

Grades will be based on the standard grading scale. If you have questions about your grades or performance in the class, please feel free to talk to me at any time.

**University Policies:** This class will follow the policies and procedures described in the DePauw University Student Handbook; there is a link to the online version of this resource on our Moodle site. In particular, please note the following:

- ⇒ Excessive absences, even if they are excused, will seriously compromise your learning in this class. Therefore, **you may be dropped from the course if you miss six or more sessions.**
- ⇒ **\*\*Academic Integrity\*\*** Any activity which gives one student an unfair advantage over other students will be handled in accordance with established University procedures as described in the Student Handbook.
- ⇒ The DePauw University Student Handbook defines **plagiarism** as “using the words or idea of another writer without attribution, so that they seem as if they are your own. Plagiarism ranges from copying someone else’s work word for word, to rewriting someone else’s work with only minimal word changes (mosaic plagiarism), to summarizing work without acknowledging the source.”
- ⇒ It is the policy and practice of DePauw University to provide reasonable accommodations for students with properly documented disabilities. Written notification from Student Disability Services is required. If you are eligible to receive an accommodation and would like to request it for this course, please contact Student Disability Services. Allow one week advance notice to ensure enough time for reasonable accommodations to be made. Otherwise, it is not guaranteed that the accommodation can be provided in a timely manner. Accommodations are not retroactive. Students who have questions about Student Disability Services or who have, or think they may have, a disability (psychiatric, attentional, learning, vision, hearing, physical, medical, etc.) are invited to contact Student Disability Services for a confidential discussion in Union Building Suite 200 or by phone at 658-6267.

**Expectations:** In addition to the university policies, I want to share the following about this class:

*What I expect from you:*

- ⇒ Come to class ready to learn, actively engage in all class activities, and contribute to a collaborative classroom environment;
- ⇒ Contact me if something happens that will cause you to miss class; illness, university-sponsored activities, and family emergencies will all be considered excused absences *if* you contact me beforehand or within 24 hours after a missed class;
- ⇒ Ask questions - in class, in private conversations, or in emails; questions are one of the best ways to understand new concepts;

- ⇒ Let me know if you are struggling with anything that affects your ability to do your best work; this could be related specifically to concepts or assignments in this class or issues outside of it;
- ⇒ Take your work seriously, be curious, and develop resilience strategies for when challenging work is frustrating;
- ⇒ Be responsible and take care of your physical, mental, and emotional health.

What you can expect from me:

- ⇒ I love geology and environmental science and care deeply about the many, inter-related environmental crises threatening society and natural ecosystems; I am delighted by the opportunity to share my joy and passion with you;
- ⇒ I understand the importance and value of water and I can help you find resources that will support your interests even when they extend beyond the scope of our class;
- ⇒ I am genuinely and personally invested in your success - nothing makes me happier than seeing students develop new understandings of class material - and I really want to help you develop skills that will help you in your future;
- ⇒ I will be available for you - I have extended time available for student appointments M - H afternoons (see "Office Hours" link in Moodle);
- ⇒ I will reply to your email within a timely manner; this usually means that you'll hear from me within 24 hours of your sending it, though probably not on the weekends.

***I'm looking forward to a great semester!!!***