



ABE 170A1 – Spring 2017

Basis Concepts in Water-Related Applications

Gen Ed: Tier 1 Natural Sciences - Online

Description of Course

This course develops an understanding of natural science concepts and ideas explaining how they can be used to understand and analyze processes and objects in the everyday world. Water is a central theme. Students examine how it is obtained, stored, distributed, used, polluted, and cleaned. They learn to estimate its quality, quantity, energy, and movement. It is a broad introductory course.

Instructor Contact and Course Communication Information

Dr. Stephen Poe, Professor, Agricultural and Biosystems Engineering

Email: spoe@ag.arizona.edu *Office:* Rm. 528 Shantz, 520-621-5879 - Preferred contact method is email.

Office Hours: M&W 11am to Noon or by appointment – any changes will be listed in D2L announcements. Office hours are conducted via Skype: Stephen.Poe, and in-person during office hours. Every attempt will be made to respond to student emails within one business day. When appropriate student questions and instructor responses are posted in the D2L news feed or in the FAQ section of D2L (anonymously).

Kaitlin Poe-Orsburn M.S., Teaching Assistant & Grader

Email: kpoe@email.arizona.edu Preferred contact method is email.

Course Format and Teaching Methods

Students must be able to access and post assignments in D2L. Students will be expected to create video presentations and post discussions to D2L or YouTube for evaluation. Optional hands-on engagement activities are available to enhance learning.

Course Objectives and Expected Learning Outcomes

Course Objectives:

Use information effectively by making choices involving both scholarly and non-scholarly material for presentations.

Communicate effectively through written works, discussion posts, and video presentations.

Critical and evaluative thinking; this will include practicing peer evaluation.

After taking ABE 170A1, students will be able to:

1. Understand the nature and application of physical and/or biological science.
2. Apply ideas and processes beyond the classroom.
3. Recognize and identify the complexity of many scientific issues.
4. Understand experiments, generate and analyze data, and use abstract reasoning to interpret them.
5. Students will complete assignments associated with scientific topics (water-related) that contain elements of writing (and re-writing), reading, and developing multimedia presentations. **Proper APA citation and references in all class communications are required.**
6. Appreciate the relative scale of objects, rates of change, linear and nonlinear growth.
7. Present data in tables, graphs, and charts as well as perform appropriate mathematical calculations and data analysis.
8. Read and understand scientific literature from both scholarly and popular sources such as magazines and newspapers.
9. Be interdisciplinary and cut across departments and disciplines, integrating them so that the commonality of the scientific approach can be exemplified. To insure this interdisciplinary perspective, this course will integrate two or more of the following applications:
 - a. Engineering/Technological Sciences: The interplay between science and technology and applied science and everyday life.
 - b. Environmental Sciences: The interaction and interconnections between physical, chemical, and biological processes as they affect, and are affected by, human beings living in their environment.
10. Emphasize critical and evaluative thinking; this will include practicing peer evaluation.

Absence and Class Participation Policy

Attendance is not required – this is an online class. Assignments are due as listed in the syllabus (typically prior to 5:00 pm). **If you have an accident, emergency, or temporary memory-loss that prevents you from turning an assignment (excluding discussions) in on-time, you should email Dr. Poe to request the 24 hour extension for partial (max 50%) credit.**

Please try to work ahead in order to avoid unexpected events. The dropbox closes automatically and it doesn't care if you have been trying to upload on a slow computer for an hour. If you are even a second late it will not accept papers (for example, if the deadline is 5pm and you submit at 5pm, it will be graded as late or not accepted) **If you have an emergency that prevents you from working on class the entire week of an assignment, you should contact student health services to coordinate medical care and statements concerning absences.** Late discussion posts are not acceptable as they are time sensitive.

The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable: <http://policy.arizona.edu/human-resources/religious-accommodation-policy>

Absences preapproved by the UA Dean of Students (or dean's designee) will be honored: <http://policy.arizona.edu/employmenthuman-resources/attendance>

Makeup Policy for Students Who Register Late

Students may add the class late, but must follow all original assignment deadlines (missed assignments are not excused).

Required Texts or Readings (No text books required – all reading in D2L)

Required or Special Materials

Special tools or supplies needed: Computer and internet access, and the ability to record video with a phone, tablet, camera or computer.

No Required Extracurricular Activities (engagements activities - optional)

Assignments and Examinations: Schedule/Due Dates

There are 14 weekly modules that each contain smaller assignments (including reading, writing, videos, and activities).
There is one 5 page term-paper that will be submitted, corrected and then re-submitted.
There is one term-paper video that covers concepts discussed in your final term-paper.
There are no quizzes or exams.

Writing Requirement

There is one 5 page (not including title page, abstract or references) term-paper that is graded and returned for revision.
There are approximately 14 discussion posts that are approximately ½ page that are evaluated by peers.
There is one cover page for a job application.
Additional writing and communication take place weekly in module assignments.
All Tier One and Tier Two General Education Courses are writing intensive: <http://gened.arizona.edu/content/writing-component>

Final Examination/Project

There is no final exam. The final project consists of the revised term-paper and a term-paper video presentation.

Confidentiality of Student Records

<https://deanofstudents.arizona.edu/student-assistance/confidentiality-privacy>

Grading Scale and Policies

Assignments	500 points
Paper and video	250 points
Outline and paragraph	(30 points)
Term Paper	(60 points)
Revised Term Paper	(80 points)
Video	(80 points)
<u>Discussions</u>	<u>250 points</u>
Total	1000 points

This class will have a total of approximately 1000 points. Points may fluctuate slightly to accommodate specific assignments, since not all assignments or posts will have exactly the same point value. Some assignments may be graded for completion only, so make sure you always have something turned in. Assignments are usually graded within two weeks, but the term paper can take longer. Engagement points are possible if appropriate opportunities become available (always posted in D2L news).

Grades will be distributed on approximately the following:

> 90 %	A
> 80 %	B
> 70 %	C
> 60 %	D

Engagement Activities: Completion of engagement activities and the required report can help your grade. You are limited to 100 points of engagement activity credit. A typical activity and report are worth 10 points (examples can be found in D2L/Content/Examples).

University policy regarding grades and grading systems is available at: <http://catalog.arizona.edu/policy/grades-and-grading-system>

General Education courses must follow the “40% rule,” which means that students will complete at least 40% of the grade-points by the end of the 8th week of classes (or equivalent for longer or shorter terms).

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at: <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

Dispute of Grade Policy: If you believe that we have made a mistake when grading your paper or assignment, please let us know as soon as possible (or within a week). If you don’t agree with the grade that you received on an assignment, you may ask for a re-grade. Re-grades differ from mistakes, in that you believe that your paper was not graded fairly compared to the assignment criteria. When a regrade is performed the entire paper or assignment is regraded and your grade may go down as well as up.

Classroom and Threatening Behavior Policy

Sure it’s an online class, but to foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand – treat each other with respect.

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See <http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

Accessibility and Accommodations

My goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit <http://drc.arizona.edu>.

If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Code of Academic Integrity

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. *However, graded work/exercises must be the product of independent effort unless otherwise instructed.* Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog:

<http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>

The University Libraries have some excellent tips for avoiding plagiarism:

<http://www.library.arizona.edu/help/tutorials/plagiarism/index.html>

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

UA Nondiscrimination and Anti-harassment Policy

The University is committed to creating and maintaining an environment free of discrimination:

<http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

This course supports elective gender pronoun use and self-identification; rosters indicating such choices will be updated throughout the semester, upon student request. As the course includes group work and discussions, it is vitally important for us to create an educational environment of inclusion and mutual respect.

Additional Resources for Students

UA Academic policies and procedures are available at: <http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at: <http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

Office of Diversity (<http://diversity.arizona.edu/>):

<http://www.health.arizona.edu/counseling-and-psych-services>

<http://www.health.arizona.edu/oasis-sexual-assault-and-trauma-services>

Honors Credit

Honors contract information is available at: <http://www.honors.arizona.edu/honors-contracts>

To receive honors credit, you must sign up for the honors section of the course and complete the following:

1. Meet with the instructor to discuss the honors contract.
2. Complete a minimum of 50 points worth of engagement activities. These points can serve as extra credit.
3. Participate in the peer-evaluation of one student term paper,
4. Turn in a one-page outline (minimum) of your participation in engagement activities and perform a peer-evaluation of five additional student engagement submissions. All work will follow published class standards.

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.

Tentative Scheduled Topics/Activities

Week	Subject	All homework assignments are due on Tuesday before 5pm
Introduction Module: opens 1-11	You must complete the introduction module in D2L before you can access additional modules.	
*Meet the Professor:	Engagement Bonus: Meet in person or Skype: Stephen.Poe	Times listed in news page D2L
Module 1: opens 1-16 Due 1-24	Introduction to water	Assignment 1
Module 2: opens 1-23 Due 1-31	How we use water	Assignment 2 & Discussion Post #1
Module 3: opens 1-30 Due 2-7	Drinking water	Assignment 3 & Response to Post #1
Module 4: opens 2-6 Due 2-14	Water and energy	Assignment 4 & Discussion Post #2 PAPER OUTLINE
Module 5: opens 2-13 Due 2-21	Irrigation	Assignment 5 & Response to Post #2
Module 6: opens 2-20 Due 2-28	Water conservation	Assignment 6 & Discussion Post #3
Module 7: opens 2-27 Due 3-7	Wastewater	Assignment 7 & Response to Post #3
Module 8: opens 3-6 Due 3-21	Water law - <i>This unit starts before spring break, but is due with the term paper the Tuesday after break.</i>	Assignment 8 & Discussion Post #4 TERM PAPER
	Spring Break Recess 3-13 to 3-17	
Module 9: opens 3-20 Due 3-28	Water in the media	Assignment 9 & Response to Post #4
Module 10: opens 3-27 Due 4-4	Water physics	Assignment 10 & Discussion Post #5
Module 11: opens 4-3 Due 4-11	Water in the weather	Assignment 11 & Response to Post #5
Module 12: opens 4-10 Due 4-18	Working with water	Assignment 12 & Discussion Post #6
Module 13: opens 4-17 Due 4-25	Water chemistry	Assignment 13 & Response to Post #6 REVISED TERM PAPER
Module 14: opens 4-24 Due 5-2	The future of water	Assignment 14 & Discussion Post #7 FINAL VIDEO
<i>Most modules contain multiple assignments. Some assignments require multiple days to complete.</i>		
*Meet the Professor – Exit interview week of May 1st. Meet in person (Shantz 528) or video (SKYPE) – times TBA on D2L news feed.		