<p align="center">**ChEE 295E**</p>

Careers in Environmental Engineering Colloquium

<p align="center">**Fall 20XX**
University of Arizona</p>

Instructor: Byron Hempel   Office Hours: By appointment
                 byronhempel@email.arizona.edu   Harshbarger 105D

Class time: Day / Time TBD   Location TBD

Credits: 1

Course Description and Objective:

Welcome to Environmental Engineering! The main objective of this colloquium-style course is to familiarize students with possible careers and career opportunities in the environmental engineering (EEN) field. Students will interact with invited speakers and explore various roles of EEN in solving real environmental engineering problems. We will explore the topics of engineering ethics, solid waste management, air pollution, water pollution and treatment, wastewater treatment and water reuse. We will also have a project on energy use and production.

Teaching Philosophy
I truly believe in your success as a student and adapting my instruction to ensure your success. Below you will find several different instructional methods to help me accomplish my goal:
1. Everyone has the right and ability to be successful in this course. I provide many chances for low-stakes points for this course. As a future engineer, I want to provide a level of rigor (appropriate for this course!) that will promote you to be the best engineer you can be.
2. I vary my teaching methods to ensure that our courses are accessible to all students. Feel free to give me any feedback onto what works or does not work for you.
3. I believe in transparency and open communication, meaning I wish to be as clear as possible in class and give you insight into my teaching decisions. I want my classroom to be one where you can feel free to express your own ideas and thoughts to contribute to the wider discussions.
4. Foremost, I believe in student-centered active learning. Literature through education-based teaching practices support nearly every aspect and decision in this course. If you have any questions or comments about the theory and practice of different methods, once again, I would love your feedback. Just as I want you all to have a growth mindset, I too want to continuously improve this course to be the best it can be.

Textbook:

None. Required and optional readings and videos will be provided through D2L. The reading will be either for pre-lecture quizzes or as supplementary material. The documents and videos help gain a background content knowledge to help with classroom activities.

Technology:

When we meet in class without a guest lecturer or are attending a field trip, I am requesting that at least one member of the team have a laptop with internet access. If none of the team members owns a laptop, the library offers three day laptop rental programs. For more information, as well as looking at other rentals the library offers, follow the link [here](http://new.library.arizona.edu/tech/borrow): http://new.library.arizona.edu/tech/borrow. We will be using Google Slides in class to synthesize material as groups. Everyone has a google account associated with their student email. If you have issues accessing the Google Slides, we can troubleshoot access issues.

Weekly Classroom Structure and Flow / Group Work:

This class convenes in a collaborative learning space. As such, the room layout is different from the traditional lecture auditorium style seating. We will be in teams of 3 or 4, which will rotate three times throughout the semester. This is designed to help promote a classroom community.

The general flow of the class will be to have a pre-class assignment (<15 minutes) due 12:00 PM on Wednesday (to allow me to look at the results before class), followed by class time on Wednesday from 3:00-3:50 PM, followed by a group homework (~30 minutes max to complete) due by 11:59 PM Sunday night.

Pre-lecture quizzes and homework assignments will be skipped when we go on field trips, and a writing survey will be given in its place.

Guest lecture weeks will consist of no pre-lecture quiz, but will have an individual quiz due on Friday night, and a group reflection due on Sunday night.

As your upper division classes and future careers/internships will show, engineering is about collaboration and being able to work in a group. I want you all to develop the maturity to work equally on a project and delegate tasks accordingly. If there is an issue, I will step in if requested or necessary, but will strongly suggest you all to work out conflicts in your groups. I believe that you can all work together to support each other on your path towards graduation.

Schedule:

Class	Date	Topic	Prelecture	Homework Assigned
1*	xxx	Intro to Environmental Engineering / Engineering Ethics	Online Bio	Resume or e-portfolio first draft, discussion questions; fill out Agua Nueva waivers
2	xxx	Glynis Coulter Presentation (Raytheon)	Agua Nueva Waivers Due	Quiz and report over speaker
3	xxx	Agua Nueva Field Trip	None	Resumes final draft
4	xxx	Ty Morton Presentation (HDR)	None	Quiz and report over speaker

5	xxx	Dr. Karanikola, Hickenbottom, Achilli Presentation (Academia)	None	Quiz and report over speaker
6*	xxx	Water and Wastewater Treatment	Water pollution and WWTP video quiz	Water and Wastewater treatment homework
7	xxx	Field Trip – TARP	None	Survey of trip
8	xxx	Erin Lansey (HDR)	None	Quiz and report over speaker
9	xxx	Troy and Patrick Presentation (WestLand)	None	Quiz and report over speaker
10	xxx	Ray and Kevin Presentation (Kimley-Horn)	None	Quiz and report over speaker
11*	xxx	Tom Presentation (city of Tucson)	None	Quiz and report over speaker
12	xxx	Senior Student Presentations	None	Quiz and report over speaker
13	xxx	Mike and Derek (Terracon)	None	Quiz and report of speaker
14	xxx	Solid Waste Management and Air Pollution	Start Research Project; Landfill and air pollution quiz	Begin Personal Essay; Solids Waste and Air pollution Homework
15	xxx	Research Project Presentations	Peer review of personal essay	Review of Presenters
16	xxx	Research Project Presentations	None	Review of Presenters; submit final Essay

*Group changes

Course Grading Policies:

Grade Item	Percent of Grade
Attendance	20
Pre-lecture Quizzes	4
Quizzes and Reports of Guest Speakers	27
Resume	8
Group Homework Assignments	12
Personal Essay	9
Research Project	20
Total	100

Late Policy

See classroom flow for when assignments and quizzes are due. For assignments requiring feedback, I will return suggestions by Wednesday night at the latest. Timeliness is an important

factor when working in industry. Assignments will follow an exponential decay function for the grade if submitted late ($Grade_f = Grade_i * 0.5^t$; t = days late). They will not be accepted if more than 3 days late.

<u>Attendance – 20%</u>

This class uses an active learning environment and attendance is critical for you all to be able to learn the material and collaborate with group members. Class participation is therefore a requirement. Please note that the campus health center does not verify illnesses so other means must be used. I will work with you all to meet this requirement with email prior to class absenteeism. Also, because much of the course involves guest speakers and field trips, student will need to be present to benefit from these presentations / experiences.

If you cannot make class for an excused absence, I will create a make-up assignment for you. I understand that the field trips in particular may conflict with afternoon / evening obligations, and we can come a fair agreement. As a one credit hour elective, I do take your education seriously, but also know that life can add additional challenges to schedules and events.

<u>Pre-lecture Quizzes – 4%</u>

To help the class prepare for the in-class assignments, we will need everyone to be on roughly the same page coming into class. For me to help get everyone to the same background information, I am assigning pre-lecture quizzes to make the classroom more efficient. You have three attempts, so if you do not succeed at first, keep trying!

<u>Quizzes and reports over guest speakers – 27% (3% each)</u>

Quizzes will be due on the Friday after the speaker presents. Group reflections (see rubric in D2L) will be due the Sunday after the speaker presents. The quiz is worth 1% and the report 2% of the 3% for each speaker.

<u>Resume – 8%</u>

The first draft of the resume will constitute 1.6% of the 8%; the final draft will be worth 6.4%. The final draft is planned to be completed by the time the career fair begins.

<u>Group homework assignments – 12%</u>

Four different homework assignments, 3% each, summarize and wrap up each topic in the course or field trip. They are due the Sunday after their respective class.

<u>Personal Essay – 9%</u>

As this course is designed to help expose you to real-world practice and various job opportunities, this essay assignment will be used to help you find a direction towards your career goals. Peer review and first draft will be worth 3% of the 9%, the final draft will be 6% of the 9%.

<u>Research Project – 20%</u>

Engineering is all about presenting data and projects as a group. Presentations will be on the last two days of class. There will be an oral and written portion of each project, 9% each.

Grading Rubric:
This course will be graded on a straight scale as follows:

Total percentage of points earned	Final Grade
90 - 100 %	A
80 - 89 %	B
70 - 79 %	C
60 - 69 %	D
< 60%	E

Feeling stuck or like you could be studying more effectively?
You're not alone! May students don't fully know their ideal study behaviors until later in their college careers. If you'd like to find additional resources concerning research-proven best study practices, check out the supplemental section in our D2L page. You will find many different resources there to help you get started on your path to your ideal student self!

Course Lectures and Attendance Policies:
This class uses an active learning environment and attendance is critical for you all to be able to engage with the material. Class participation is a requirement. Groups will be assigned on the first day of class and will be reassigned on the 6th and 11th class during the semester.

Scholastic Dishonesty Policy: Integrity is expected of every student in all academic work. Scholastic dishonesty will not be tolerated. Please refer to the UA Code of Academic Integrity for information about procedures and about what constitutes scholastic dishonesty (http://deanofstudents.arizona.edu/academicintegrity).

Plagiarism: Although this course is not writing intensive, plagiarism is strongly discouraged. The plagiarism policies within the Student Code of Academic Integrity will be strictly followed: http://doc.web.arizona.edu/uapolicies.

Threatening Behavior: The general policies against threatening behavior by students will be followed: http://policy.web.arizona.edu/~policy/threaten.shtml.

SALT Center and Disability Resource Center: Students who are able to use the services of the Strategic Alternatives Technology Center or may have other educational needs may see the professor at any time to discuss accommodations for their needs. However, this should be done at least 1 week prior to the first exam to allow for preparations that may be needed. Students who are registered with the Disability Resource Center must submit appropriate documentation to the instructor if they are requesting reasonable accommodations: http://drc.arizona.edu/teach/syllabus-statement.html.

Accessibility and Accommodations: It is the University's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. You are also welcome to contact Disability Resources (520-621-3268) to establish reasonable accommodations. Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Useful Websites/Resources:

The Career Resource Library helps with career exploration, resumes, interviewing, graduate school and networking.

The THINK TANK provides math and science tutoring, writing support, weekly course reviews for select courses, one-on-one tutoring, academic skills tutoring, supplemental instruction, and other academic support services to online students. They provide both FREE and fee-based services – hours and availability can be found on their website. Online Services with THINK TANK

The Writing Skills Improvement Program (WSIP) helps students at the University of Arizona improve their writing skills and achieve academic success. Writing coaches work one-on-one with students, staff, and faculty across all majors and degree programs through writing workshops, custom workshops, and summer writing institutes. Tutoring is available online via Skype. They provide both FREE and fee-based services – hours and availability can be found on their website. Tutoring Services with WSIP

The 24/7 IT Support Center (commonly known as 24/7) can help you with troubleshooting hardware, software, and any special course technology you are using and is available 24 hours a day, with the exception of University observed holidays. Phone: (520) 626-TECH (8324); 24/7 Website

If you are looking for a quick answer to a D2L question, D2L Support has created several tool manuals, tutorials and an in-depth FAQ for many of the common issues and questions related to our learning management system, Desire2Learn. Help Pages

Need to talk to someone for more in-depth support? Various aspects of D2L are supported by different groups across campus, so D2L Help has put together a handy resource for finding quick and comprehensive support for any questions and issues that you may have.D2L Help Contacts ; Privacy Statement ; Accessibility Statement

The University of Arizona's UACBT service (Computer-Based Training) offers 24/7 availability of FREE online training to over 1000+ courses and 98,000+ video tutorials, covering a broad range of topics and applications browse titles here. Most tutorials have between five and fifteen hours of content. Each tutorial is divided into lessons from 2-10 minutes long on average. Each lesson is available as a Flash, QuickTime, Adobe Air, or Adobe Air for Linux movie. You can stop, start, rewind, and review each lesson as often as desired. Access UA Computer-Based Training

For scholarship opportunities and two great groups to network with:
http://www.saems.org/
https://www.azwater.org/

Netiquette

Netiquette is an abbreviation for "internet etiquette" – more simply put, guidelines for communicating online to ensure meaningful and polite exchanges. The common standards listed below work well for both the online classroom and beyond in professional online communication:

1. **Behavior**. Maintain the same standard of behavior and ethics that you would follow in a face-to-face context.
2. **Tone**. Treat others with respect. Be mindful of your tone and how that is conveyed in your writing style. DO NOT USE ALL CAPS (wasn't that loud/painful?). It is considered shouting and not appropriate in a classroom. Avoid sarcasm and irony as it is easily misinterpreted in an online environment.
3. **Clarity and Content**. Be succinct. Write, reread, and then post. Carefully consider what you have written. Does it make sense? Is is free from errors? Does is add to the conversation? Is it unnecessarily confrontational or offensive?
4. **Contribute**. Online learning is not passive. It is expected that you will share your knowledge and insight. Be an active contributor to the learning community.
5. **Be forgiving**. If someone makes a mistake or does something inappropriate, address it privately and politely. You can always let the instructor know and ask them to address it as well.

Please note: *ALL University of Arizona students have agreed to abide by the standards for behavior set forth by the* [Arizona Board of Regents.](#) *The* [Student Code of Conduct](#) *is in place to create a safe, healthy and responsible environment that allows UA students, faculty, and staff to be successful in their daily endeavors and long term goals. Sanctions may be imposed for acts of misconduct that occur on university property or at any university-sponsored activity (including the online environment). As further prescribed in these rules, off-campus conduct may also be subject to discipline.*

Changes to the Syllabus: The information contained in the course syllabus, other than the grade and absence policies may be subject to change with reasonable advanced notice as deemed appropriate by the instructor.