

ABE/ETMA 430 - Project Management

Description:

Engineering team effectiveness; project definition; assessing related technologies; marketing and business planning related to engineering; budgeting and financial analyses of engineering projects; safety, ethics and environmental considerations; intellectual property; engineering proposal presentation. (2 credit hours)

Course Structure:

This is a 2-credit hour course. The course consists of one 2-hour lecture per week. It is anticipated that you will dedicate approximately 3-5 hours per week working on this course, but actual time commitments will vary depending on your input, needs, and personal work habits.

For Fall 2026, this course will be entirely online. Short (~5-15 minutes) “Introductory Videos”, or “IVs” will be posted to Canvas that cover important project management concepts and skills. These IVs will cover a lot of material in a relatively short time, however, students have the ability to pause the videos and watch them multiple times. Students are expected to watch these videos prior to the next class meeting. Then, during class time, students will work in teams, via Zoom breakout rooms, to complete in-class activities (ICAs) and answer questions that leverage the material presented in the IV videos. Guest speakers will also be periodically scheduled throughout the semester to give students an external perspective on targeted topics.

Meeting Times:

All class lectures will meet via Zoom. ***Please ensure that you are accessing Zoom using your illinois.edu Zoom account.***

Lecture (Virtual) – Tuesdays 10:00-11:50 AM

Join Zoom Meeting

<https://illinois.zoom.us/j/85720398515?pwd=Kx1DQ0Vrw9Q6eUWyxOrsgdQl65Bbz.1>

Meeting ID: 857 2039 8515

Password: 483682

Teaching Team:



Professor: Paul C. Davidson, Ph.D.

Office: 360E AESB

Phone: 217-300-3755

Email: pdavidso@illinois.edu

Office Hours: email to arrange

About Me: I graduated from the University of Illinois at Urbana-Champaign with a B.S. in Agricultural Engineering in 2005. I continued at U of I for my M.S. in Agricultural Engineering in 2007 and Ph.D. in Agricultural and Biological Engineering in 2010. After completing my Ph.D., I worked for Waterborne Environmental, Inc., as an agricultural engineer and project manager, primarily focusing on field projects. After four years in environmental consulting, I returned to ABE as a faculty member in 2014. I am currently an Associate Professor in ABE. My research is generally focused on improving water quality from agricultural runoff and investigating ways to reuse wastewater to produce food in hydroponic systems. In addition to teaching this course, I co-teach ABE 152 and ABE 199 CHP (Water in the Global Environment) and also teach ETMA 132 (Basics of Project Management).

Teaching Goals: In this course, I aim to create an environment that helps students learn how to *do* project management. While concepts will be introduced through lecture materials, the majority of in-class time will be devoted to students working in teams to complete activities. It is my strong belief that the only effective way to learn project management is to actually do it. Therefore, this course will give students the opportunity to serve as a project manager and learn from doing, as well as learn from others. If you leave this course feeling like you are better equipped to manage a project, then I have achieved my primary goal! And, let's all have some fun along the way!



TA: Brandon Hollenback, Ph.D. student in ETMAS

Email: bnh2@illinois.edu

Office Hours: email to arrange

About Me: I completed my bachelor's degree in Technical Systems Management in 2021, my M.S. in Engineering Technology and Management for Agricultural Systems in 2026, both here at UIUC, and am currently a Ph.D. student in the ETMAS program. My current research is under Dr. Davidson, exploring the use of the aqueous phase wastewater produced from the hydrothermal liquefaction of food waste as a potential sustainable fertilizer for ornamental flower production in

hydroponic systems. I am also an intern at Nutrien, assisting in their Sustainable Agriculture division, helping farmers improve sustainability efforts across the US. This course was one of my favorites during my undergraduate years, as it helped me improve my project management skills that have been incredibly useful throughout my career, which then evolved into working on a project here to analyze students' skills related to project management and determining how to enhance these skills in the classroom. This is my first year as a TA for this course, so I'm very excited to see how much has changed since I was a student, and look forward to helping you all have a very successful year!



TA: Liam Reynolds, Ph.D. student in ABE

Email: liampr2@illinois.edu

Office Hours: email to arrange

About Me: I finished my undergraduate degree in ABE, here at UIUC, in the Spring of 2023. During my undergraduate studies, I worked under Dr. Davidson to investigate the impacts of mixed wastewaters, as a nutrient source, on lettuce seed germination for hydroponic crop production. My Ph.D. research expands upon this work through the entire growth cycle of crops, additional crop varieties, and additional wastewater treatments. I was involved with the Illinois Urban Farmers to further my

interest and passion in urban & non-traditional agriculture. I have worked for two startup companies in the urban agriculture sector, Milwaukee Microgreens, and Wilder Fields. I have presented my research at the Annual International Meeting of ASABE the past four summers, in Omaha, Anaheim, Toronto, and Indianapolis. My endgame is to utilize Urban Agriculture to provide fresh, quality, local food for all. I completed this ABE/ETMA 430 course as a student in Fall 2022 and served as a TA the past three Fall semesters (2023, 2024, 2025). I look forward to being on the other side of the "table" again this fall and working with you all throughout the semester to develop meaningful projects!



TA: Xochilth Saldana, Ph.D. student in ABE
Email: saldana8@illinois.edu
Office Hours: email to arrange

About Me: I am originally from California and completed my B.S. in Mechanical Engineering at the University of California, San Diego in 2021. After graduating, I joined the ABE department as a PhD student. My primary research interests focus on food security and nutrition. I examine how conservation agriculture practices affect soil zinc availability, maize grain zinc concentration, and zinc losses via drainage water in well-drained Midwestern cropping systems. To extend this work across diverse agroecosystems, I collaborate with the International Maize and Wheat Improvement

Center (CIMMYT) to assess how conservation agriculture practices, fertilization, and hybrid varieties affect yield and zinc and iron concentrations in maize across CIMMYT's research platforms in Latin America. I have also been interning at John Deere for the past four years as an Agricultural Modeler. This is my first year TA'ing for this course, and I haven't taken a similar one, but I am excited to be joining the team!



TA: Abbey Steele, M.S. student in ABE
Email: abigale3@illinois.edu
Office Hours: email to arrange

About Me: I am currently a second-year M.S student in the Agricultural and Biological department and received my B.S degree from the ABE department as well. I am in Dr. Davidson's research group where I had begun as an undergraduate research assistant and now have my own thesis project that focuses on the feasibility of using pre-fermentation brewery wastewater as hydroponic nutrient supplementation. This research involves using the wastewater in nitrification, germination, and hydroponic microgreen growth experiments. My previous work

experiences all lie within the environmental sustainability field including sustainable wastewater treatment at a laboratory in Research Park, sustainable food packing production at a start-up company, construction of a research grade semi-hydroponic growth system for root exudate collection, and hands-on work in corn fields to analyze the microbiome for research and commercial purposes. I took ABE 430 in fall 2024 and was a TA in fall 2025 so I look forward to returning as a TA this semester!

Teaching Team Responses:

As a rule of thumb, the teaching staff will aim to grade and return all individual and team assignments within the same length of time that students are given to complete the assignment.

The teaching staff will respond to email messages within 24 hours of receiving them, Monday through Friday, 9 AM – 5 PM central time. During weekends, we will continue to check email, but the response time may take up to 48 hours. If you leave a voicemail message, please check your email for a response. Email should always be the first communication approach. **Students are expected to follow a professional structure when sending an email; greeting, body, and signature.**

Text (recommended, but not required): *Project Management (2nd Edition)*, Jeffrey K. Pinto

Course Learning Outcomes:

At the end of this course, students will be able to:

- Develop and manage project deadlines, milestones, resources, and budgets;
- Work effectively in a team setting and balance the responsibility of being a project manager;

- Reconcile differences within a team and manage conflict;
- Evaluate project alternatives and select a project based on approved selection methods; and
- Manage project scope and scope changes.

Grading Procedures:

There will be a combination of individual and team assignments, as will often be the case in your future careers. For the team assignments, team grades will be assessed and then individuals will additionally receive a grade based on peer evaluations. Each student will be graded on attendance/participation and peer review, individually. Grades will be posted on the ABE/ETMA 430 Canvas website. You can access your grades by logging on to this website:

<https://canvas.illinois.edu/>

Grading will be completed by both Dr. Davidson and the TAs. Any questions or concerns regarding the grading should be directed to Dr. Davidson. Final letter grades will be assigned at the discretion of the Dr. Davidson.

Late submissions policy (-10%/week):

Late submission of work will be accepted since we strongly believe that it is more important for you to learn the material than to rush and submit low quality work to meet a deadline. However, late submission of work is not fair to those who submit theirs on time, so a late penalty of 10% per week will be applied (e.g., a 10% penalty will be applied for work submitted 1-7 days after the original due date, 20% penalty for work submitted 8-15 days after the original due date, etc.). **No submissions will be accepted after November 17, 11:59 PM.**

Grading Distribution:

Introductory Videos (IVs)	5%	<i>10 IVs with each being worth 0.5%</i>
Attendance/Participation (ICAs)	13%	<i>13 class meetings with each being worth 1%</i>
Peer Evaluation	12%	<i>4 peer evaluations worth 3% each</i>
Individual Assignments	30%	<i>3 individual assignments worth 10% each</i>
<u>Semester Project</u>	<u>40%</u>	<i>4 deliverables worth 10% each</i>
TOTAL	100%	

Letter Grades:

99.5-100%	A+
89.5-99.4%	A
87.5-89.4%	B+
79.5-87.4%	B
77.5-79.4%	C+
69.5-67.4%	C
67.5-69.4%	D+
59.5-57.4%	D
<59.5%	F

Introductory Videos (IVs):

Introductory Videos (IVs) are to be watched prior to class and succinctly cover important course material. In order to have a good discussion about the course material during the ICAs, all students must watch the videos and be familiar with the content. Therefore, a considerable portion of your final grade is assigned to watching these IVs. **It should be noted that the teaching team members are able to see if each student watched each video, as well as how long each student spent watching each video.**

Attendance/Participation:

Attendance and **participation** are expected and graded and consist of contributions to ICAs, as will be demonstrated by your completion of the activities. Two excused absences will be permitted when approved in advance of the absence. You are expected to fully participate in the course, including viewing all course materials, completing all assignments, and engaging in discussion activities. During Zoom lectures, we will utilize breakout rooms for team activities. **During these breakout rooms, we expect your video to be on to encourage a better discussion with your group members.**

Activities and assignments cannot be made up unless arrangements have been made with the instructor prior to the absence.

Peer Evaluation:

To assess the contribution of each individual team member towards the semester project, a peer review will be conducted after each semester project deliverable (Proposal, Budget/Justification, Interim Report, and Final Report). The peer review will be conducted through CATME, which is an online tool designed specifically for assessing teamwork. ***A student will receive zero points for not completing a peer evaluation.*** Additional details about CATME will be discussed during lecture.

Individual Assignments:

There will be 3 Individual Assignments (completed outside of class) throughout the semester. These assignments reinforce project management concepts and real-world applications of project management.

Semester Project:

The semester project is a significant portion of this course and makes up 40% of your final grade. While it is a single team-based project that you will develop throughout the course, it is comprised of 4 deliverables; Proposal, Interim Report, Budget/Justification, & Final Report. Each of these deliverables are worth 10% of your final grade.

- * *At times, you will be working on the Semester Project concurrently with the Assignments, which is similar to the expectations of a future employer*

Academic Integrity

The University of Illinois at Urbana-Champaign *Student Code* should also be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: <http://studentcode.illinois.edu/>.

Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the Academic Integrity Policy: <http://studentcode.illinois.edu/>. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

AI Guidance

Generative AI tools, such as ChatGPT, Co-pilot, and Gemini are welcome in this class, provided that you cite when and how you use the tool. There are a variety of AI programs available to assist students. AI programs are not a replacement for critical thinking, writing, analysis, creativity, originality, and problem-solving. Project Management is a craft that you must develop over time by learning skills and building intuition. However, AI tools may be used to assist as long as proper attribution is provided.

Students with Disabilities

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor as soon as possible. To insure that disability-related concerns are properly addressed from the beginning, students with disabilities who require assistance to participate in this class should contact Disability Resources and Educational Services (DRES) and see the instructor as soon as possible. If you need accommodations for any sort of disability, please speak to me after class, or make an appointment to see me, or see me during my office hours. DRES provides students with academic accommodations, access, and support services. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TDD), or e-mail a message to disability@uiuc.edu. <http://www.disability.illinois.edu/>.

Emergency Response Recommendations

Emergency response recommendations can be found at the following website: <http://police.illinois.edu/emergency/>. I encourage you to review this website and the campus building floor plans website within the first 10 days of class. <http://police.illinois.edu/emergency/floorplans/>.

Family Educational Rights and Privacy Act (FERPA)

Any student who has suppressed their directory information pursuant to *Family Educational Rights and Privacy Act* (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <http://registrar.illinois.edu/ferpa> for more information on FERPA.

Sexual Misconduct Policy and Reporting

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: wecare.illinois.edu/resources/students/#confidential.

ABE/ETMA 430 Project Management - Course Schedule of Topics (tentative)

** When Introductory Videos (IV) are listed, they are to be watched prior to that class meeting*

Week 1 (August 25)

Topic	Deliverable
• Introduction to course (LIVE Lecture) • Complete CATME Team Maker	• ICA #1

Week 2 (September 1)

Topic	Deliverable
• Straight from a PM: Kaitlyne Diaz (Big Construction) • Why Project Management? (IV 2.1) • Team Selection & Team Building • Introduce Assignment #1 (Individual)	• ICA #2

Week 3 (September 8)

Topic	Deliverable
• Straight from a PM: Greg Goodwin (IL Corn Growers) • The Organizational Context: Strategy, Structure, and Culture (IV 3.1) • Project Selection (IV 3.2) • Introduce Semester Project Proposal (Team)	• ICA #3 • Assignment #1 (Individual)

Week 4 (September 15)

Topic	Deliverable
• Straight from a PM: Jeff Noble; Consolidated Grain and Barge Co. • Introduce Assignment #2 (Individual) • Work on Semester Project during class	• ICA #4

Week 5 (September 22)

Topic	Deliverable
• Proposal Lightning Talks (Team) • Introduce Assignment #3 (Individual) • Introduce Semester Project Interim Report (Team)	• ICA #5 • Semester Project - Proposal (Team)

Week 6 (September 29)

Topic	Deliverable
• Straight from a PM: Brandon Hollenback, Liam Reynolds, Xochilth Saldana, & Abbey Steele (All-Star PM TAs!) • Project Selection (cont.) / Portfolio Management (IV 6.1) • Cost Estimation and Budgeting (IV 6.2)	• ICA #6 • Assignment #2 (Individual)

Week 7 (October 6)

Topic	Deliverable
• Straight from a PM: Tim Rendall • Introduce Semester Project Budget (Team) • Work on Semester Project during class	• ICA #7 • Assignment #3 (Individual) • <i>Return graded Proposals/Lightning Talks</i>

Week 8 (October 13)

Topic	Deliverable
- Project Team Building, Conflict, and Negotiation (IV 8.1) - Panama Canal Expansion case study (IV 8.2) - Individual team meetings to discuss semester project progress / Work on Semester Project during class	ICA #8

Week 9 (October 20)

Topic	Deliverable
Straight from a PM: Nora Onstad (Waste and Water System Supervisor, Kalispel Tribe of Indians) - Semester Project Interim Report Presentations - Work on Semester Project during class	- ICA #9 - Semester Project Interim Report (Team)

Week 10 (October 27)

Topic	Deliverable
Straight from a PM: Zach Huffman (ABE faculty member – Assistant Professor of Practice in Construction Management) - Bradley Fighting Vehicle & DeHavilland Falling Comet case studies (IV 10.1) - Introduce Semester Project Final Report and Presentation - Work on Semester Project during class	- ICA #10 - Semester Project Budget (Team)

Week 11 (November 3)

Topic	Deliverable
Introduction to capstone courses – Dr. Maghirang (ABE 469) & Travis Johnson (ETMA 439) - Scope & Risk Management (IV 11.1) - Tacoma Narrows & Flint, MI, case studies (IV 11.2)	- ICA #11 <i>Return graded Interim Reports/ Presentations</i>

Week 12 (November 10)

Topic	Deliverable
Straight from a PM: Carlos Rivas (Arco Murray) - Project Closeout & Termination / Course Summary (LIVE Lecture) - Individual team meetings to discuss semester project progress / Work on Semester Project during class	- ICA #12 <i>Return graded Budget/Justification</i>

Week 13 (November 17)

Topic	Deliverable
Final Presentations/Commercials	- ICA #13 - Semester Project Final Report and Presentation (Team)