

Fundamentals of Engineering Project Management EGS 4625

Section GEN1 / Class #12970

Class Period / Location: Thursday, Period 4 (10:40 a.m. – 11:30 a.m.) / WERT 370

Section GEN2 / Class #23729

Class Period / Location: Thursday, Period 6 (12:50 p.m. – 1:40 p.m.) / WERT 370

Academic Term: Fall 2023

Instructor:

Mark Hoover, Adjunct Instructional Professor

Engineering Leadership Institute

University of Florida Herbert Wertheim College of Engineering

a. E-mail Address: mark.hoover@ufl.edu

b. Cell Phone: (352) 316-6518

c. Office Hours: By appointment only

d. Course Site: UF Canvas website

e. Teaching Assistant: None

Course Description:

This course provides engineering students with a comprehensive understanding of how to plan, optimize, and efficiently manage projects (or tasks) to implement products, services, or developments. This includes building the structure, processes, components, and linkages with a team for successful project delivery within scope, schedule, budget, and quality requirements.

Credit Hours: 3

Course Pre-Requisites / Co-Requisites: Junior or Senior level standing

Course Objectives:

In today's competitive and often complex work environment, engineers and other professional staff are very likely to be called upon to manage projects (or tasks) that implement their stakeholders' (or company's) products, services, or developments in an optimized and efficient manner. This course provides students with skills and knowledge in organizing multi-disciplinary teams to achieve successful project outcomes; enables students to understand the key components of a successful project and to integrate necessary processes, components, and attributes into their execution; allows practicing of communication skills to organize project teams; and facilitates student development of project trouble-shooting capabilities through careful analysis and root cause determinations.

Specific learning objectives are to prepare engineering students to plan, develop, lead, manage, and successfully implement and deliver projects within their chosen technical practice area. This involves an in-depth study of the various components, phases, and attributes of a project. Coupled with the *theory* of project management, students will *practice* and gain hands-on experience with the implementation and use of many key project components in a team setting to realize and experience concepts of theory through team-based and individual exercises that analyze case studies and apply newly gained knowledge to real-life examples. Students will have the opportunity to link knowledge and skills together to understand the basis of a successful project.

Materials and Supply Fees: None

Course Schedule:

The course will be delivered according to the following schedule (subject to revision by the course instructor via Canvas, as necessary):

Week #	Week Beginning	Week Ending	Team Collaboration	Weekly Lecture	Lecture Module	Lecture Topic	Quiz	Exam
1	8/23/2023 Classes Begin!	8/25/2023	---	8/24/2023 WERT 370	Module 1	Course/Syllabus Overview, Basic Concepts	Welcome and Syllabus Quiz DUE: 8/30/2023	---
2	8/28/2023	9/1/2023	---	8/31/2023 WERT 370	Module 2	PM History, PM Methodologies, Project Life Cycle	Module 2 Quiz DUE: 8/31/2023	---
3 ^a	9/4/2023	9/8/2023	9/5/2023 Team Location	9/7/2023 WERT 370	Module 3	Leadership/Management, Personality Styles	Module 3 Quiz DUE: 9/7/2023	---
	9/6/2023 (Wednesday) from 7:20 p.m. to 9:10 p.m.; location to be determined					EXTRA CREDIT WORKSHOP #1: LEGO TEAM BUILD #1 -- ATV		
4	9/11/2023	9/15/2023	9/12/2023 Team Location	9/14/2023 WERT 370	Module 4	Engineering Contracts	Module 4 Quiz DUE: 9/14/2023	---
5	9/18/2023	9/22/2023	9/19/2023 Team Location	9/21/2023 WERT 370	Module 5	Risk Management	Module 5 Quiz DUE: 9/21/2023	Exam #1 * Modules 2-4 DUE: 9/19/2023
6	9/25/2023	9/29/2023	9/26/2023 Team Location	9/28/2023 WERT 370	Module 6	Health & Safety	Module 6 Quiz DUE: 9/28/2023	---
7 ^b	10/2/2023	10/6/2023	10/3/2023 Team Location	10/5/2023 WERT 370	Module 7	Quality Concepts	Module 7 Quiz DUE: 10/5/2023	---
8	10/9/2023	10/13/2023	10/10/2023 Team Location	10/12/2023 WERT 370	Module 8	Client Relationships, Customer Service	Module 8 Quiz DUE: 10/12/2023	---
9	10/16/2023	10/20/2023	10/17/2023 Team Location	10/19/2023 WERT 370	Module 9	Chartering/Endorsement, Project Scoping	Module 9 Quiz DUE: 10/19/2023	Exam #2 * Modules 5-8 DUE: 10/17/2023
	10/18/2023 (Wednesday) from 7:20 p.m. to 9:10 p.m.; location to be determined					EXTRA CREDIT WORKSHOP #2: LEGO TEAM BUILD #2 -- Airplane		
10	10/23/2023	10/27/2023	10/24/2023 Team Location	10/26/2023 WERT 370	Module 10	Work Breakdown Structures, Network Diagrams	Module 10 Quiz DUE: 10/26/2023	---
11	10/30/2023	11/3/2023	10/31/2023 Team Location	11/2/2023 WERT 370	Module 11	Scheduling/Budgeting (Cost/Price), Project Execution Plans	Module 11 Quiz DUE: 11/2/2023	---
12 ^c	11/6/2023	11/10/2023	11/7/2023 Team Location	11/9/2023 WERT 370	Module 12	Project Controls, Earned Value Management	Module 12 Quiz DUE: 11/9/2023	Exam #3 * Modules 9-11 DUE: 11/7/2023
13	11/13/2023	11/17/2023	11/14/2023 Team Location	11/16/2023 WERT 370	Module 13	Status Reports, Cash Flow, Change Management	Module 13 Quiz DUE: 11/16/2023	---
14 ^d	11/20/2023	11/24/2023	11/21/2023 Team Location	---	---	---	---	---
15	11/27/2023	12/1/2023	11/28/2023 Team Location	11/30/2023 WERT 370	Module 14	Project Closeout, Lessons Learned	Module 14 Quiz DUE: 11/30/2023	---
	11/29/2023 (Wednesday) from 7:20 p.m. to 9:10 p.m.; location to be determined					EXTRA CREDIT WORKSHOP #3: LEGO TEAM BUILD #3 -- Dune Buggy		
16 ^e	12/4/2023	12/6/2023 Classes End!	12/5/2023 Team Location	---	---	---	---	Exam #4 * Modules 12-14 DUE: 12/5/2023

^a Holidays occur during Week 3 on 9/4/2023 (Labor Day), Week 12 on 11/10/2023 (Veteran's Day - observed), and Week 14 on 11/22/2023 through 11/24/2023 (Thanksgiving Break).

^b Homecoming 2023 takes place during Week 7 on 10/6/2023 and 10/7/2023. GO GATORS!

^c Reading Days are scheduled for Week 16 on 12/7/2023 and 12/8/2023. GOOD LUCK ON FINALS!

* HonorLock required for all exams.

As shown, the course is modular in design and follows a weekly schedule. The recommended approach is to open the Canvas course site and start at the beginning (look for the “Start Here” box!). Overall, each module begins with a list of learning objectives. These are things you should be able to do when you finish the module. Next is a “To Do List” which shows in a stepwise fashion all the things you need to do to complete the module, followed by instructional materials that consist of concept lectures, applicable videos, and supplemental readings. Lastly, module activities are listed with links to the appropriate information. Activities consist of individual assignments, team assignments, and course assessments. The preferred method of navigating through the course content is to click the “Next” button at the bottom of each page when you are ready to move on.

Based on the course schedule, *Fundamentals of Engineering Project Management* will be delivered in a hybrid format with a single weekly 1-period lecture-based session (each Thursday in WERT 370 at the time listed for each section) coupled with a single weekly 2-period team-based session (typically each Tuesday in a location and at a time that will vary according to team preferences), primarily in the “flipped” classroom mode; namely, students will be required to preview the weekly lecture material prior to attending the weekly lecture-based session (each Thursday), which will be devoted to clarification, understanding, and assessment of the previewed lecture material. The following team-based session (typically each Tuesday) will involve practical application of the theories learned through discussion and case study analysis as learning assignments to be submitted by the individual students and/or project teams. The Tuesday “team collaboration” efforts will enable the practical application and demonstration of the prior Thursday lecture-based session theory. Students may also experience the need to work asynchronously to meet course requirements; consistent with UF’s expectations for a 3 credit-hour course, the anticipated weekly workload is 9 hours.

The course is designed to introduce engineering students to the concepts, theories, and applications of project management in multiple professional settings. Students will obtain a strong team-based and individual hands-on learning experience through a course curriculum consisting of supporting lectures on the various theories of project management and the application of these theories through team-based learning activities and assignments utilizing case studies and role-playing.

Undergraduate Engineering Project Management Certificate:

This course is part of the undergraduate Engineering Project Management Certificate offered through the Engineering Leadership Institute at the University of Florida Herbert Wertheim College of Engineering. This 9 credit-hour certificate requires students to make a grade of B or better in two required courses and one course from an electives list:

- Required: EGS 4625 Fundamentals of Engineering Project Management
- Required: EIN 3354 Engineering Economy, or
ECH 4604 Process Economics and Optimization, or
ENV 4601 Environmental Resource Management
- Plus one course from a list of approved courses

More information can be found at:

<https://www.eng.ufl.edu/leadership/academic-programs/certificates/undergraduate>

Professional Component and Relation to Program Outcomes (ABET):

This course is not specific to a major under ABET purview. However, the course meets the required level of contact hours of formal project management education necessary for the Project Management Institute (PMI) designation as a Certified Associate in Project Management (CAPM). Meeting this requirement enables the student to undertake the certification examination for this level (along with the student’s degree certification).

Required Textbooks and Software:

Textbooks

- Title: A Guide to the Project Management Body of Knowledge (PMBOK Guide)
Author: Project Management Institute, Inc.
Publication date and edition: 2017, Sixth Edition
ISBN number: 978-1-62825-184-5

NOTE: The PMBOK Guide (Sixth Edition) will be available free of charge to enrolled students through the Course Reserves tab on the Canvas course site. In addition, enrolled students should expect to have additional reading assignments (free of charge) comprised of journal articles (posted on the Course Reserves tab) and other handouts (posted on the modules tabs) that support various project components under discussion at the time.

Software

- Microsoft Office (available at no charge to all enrolled students through UF Apps)
- Microsoft Project (available at no charge to all enrolled students through UF Apps)
- Ability to create Adobe PDF files
- Browser: Either Chrome or Firefox must be used to access the Canvas course site

NOTE: This course integrates use of the HonorLock proctoring service for online course exams. You do not need to create an account; HonorLock is available 24/7 and all that is needed is a computer that meets UF standards with a working webcam, a stable Internet connection, and Google Chrome (HonorLock will add a Chrome Extension, which can also be downloaded at <https://static.honorlock.com/install/extension>). More information regarding HonorLock is provided on the Canvas course site under Files => HonorLock.

Recommended Materials:

Readings will be assigned according to the content on the Canvas course site, as applicable. These readings have been specifically chosen to provide a certain insight or skill; questions regarding reading content will be included in the exams.

Attendance Policy, Class Expectations, and Make-Up Policy:

Students are expected to attend all lectures and actively participate in all course content and team-based collaborations. Scheduled assignments, quizzes, and exams may be made up only through excused absences, consistent with published UF policies; such instances will require appropriate documentation (<https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies>).

Evaluation of Grades:

The anticipated allocation of class points is shown below, although points associated with each class component are approximate and may vary depending on changes by the course instructor.

Class Component	Total Points	Points for Each	Percentage of Final Grade
<u><i>Individual/Team Assignments</i></u>	<u><i>700</i></u>		
Individual Assignments (5)	70	varies	50%
Team Assignments (32)	630	varies	
<u><i>Quizzes/Exams</i></u>	<u><i>700</i></u>		
Quizzes (14)	140	10	50%
Exams (4)	560	140	
<i>TOTAL :</i>	<i>1,400</i>		<i>100%</i>

Grading Policy:

The final class grade will be based on the student’s performance on assignments (individual and team), quizzes, and exams within the grade scale for the class, which is listed below. There will be no grading “curve” for the class; however, various opportunities exist to earn additional credit for selected assignments based on individual and team performance.

Percent	Grade	Grade Points
90.0 – 100	A	4.00
87.0 – 89.9	A-	3.67
84.0 – 86.9	B+	3.33
81.0 – 83.9	B	3.00
78.0 – 80.9	B-	2.67
75.0 – 77.9	C+	2.33
72.0 – 74.9	C	2.00
69.0 – 71.9	C-	1.67
66.0 – 68.9	D+	1.33
63.0 – 65.9	D	1.00
60.0 – 62.9	D-	0.67
0 – 59.9	E	0.00

More information on UF grading policies can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Extra Credit Workshops:

In addition to the specified class components, three workshop sessions will be held on Wednesdays during Periods E1 and E2 (7:20 p.m. – 9:10 p.m.) in Week 3 (September 6, 2023), Week 9 (October 18, 2023), and Week 15 (November 29, 2023). These workshop sessions will add considerable overall value to the course, but attendance is not mandatory. Students who choose to participate will earn extra credit for their efforts, with the maximum possible combined workshop points (140) equaling 10% of the standard total class points (1,400). Project teams with full participation will earn additional credit compared to project teams with partial participation. More information regarding the workshops will be provided during the initial class lecture and via the Canvas course site, especially for specifics regarding content and details regarding location.

Individual Expectations:

Scheduled exams, individual assignments, and lecture quizzes must be accomplished within the scheduled “time windows” identified on the Canvas course site. These class components may be made up only through excused absences in compliance with published UF policies.

The process to request an excused absence is to make a request through Canvas e-mail to the course instructor at least 48 hours prior to the item “Start” time shown on the Canvas course site. The course instructor will review the request and reply via a timely return e-mail either granting or denying the request. It is the student’s responsibility to secure a determination of the excused absence request. Appropriate documentation may be requested by the course instructor.

Unless stated otherwise, individual assignments and quizzes/exams are to be submitted via Canvas by the stated deadline (“Due” date). Late individual submissions (after the “Due” date but before the item closes on the Canvas course site) for any unexcused absences will result in a 20% reduction in grade for the item. Submissions made after the item closes will not receive credit, subject to published UF policies (<https://catalog.ufl.edu/ugrad/current>).

Team Expectations:

Team Structure

Engineering project management is a team-based “sport” that requires team members to effectively work together, including working through differences and issues that may occur to create a high-quality submittal by the scheduled delivery date. To this end, the participation expectations and team formation components of this course are summarized below:

- Four specific roles will be rotated between individual team members for the numerous team assignments throughout the semester. These consist of assignment management/leadership roles (Project Manager [PM], Senior Consultant [SC], and Quality Lead [QL]) and the key role of Team Member (TM). Each student will serve in all assignment management/leadership roles at least once during the semester and perhaps multiple times, depending on class enrollment. The course instructor will publish a role roster by assignment for the semester (overall team spreadsheet) once the teams are established.
- Roles may be switched due to conflicts during the semester, but it is up to the student desiring a change to seek out and agree with another member of his/her team regarding the role swap. The adjustment may only occur between the roles of PM, SC, and QL, and must be an equal swap: PM for PM, SC for SC, or QL for QL. Once agreed upon, the course instructor must then be notified of the change so the assignment role roster can be updated.
- Responsibilities for the four specific roles are provided on the Canvas course site. It is the student’s responsibility to read and understand each role description to guide their execution when they are assigned each responsibility.

Team Formation

Five- to seven-person teams will be formed following the drop/add period in Week 2 to execute and deliver team assignments throughout the semester. The course instructor will coordinate the formation of all teams. This approach is the most “real-world” as staff in a professional setting typically have little to no say in the composition of their team; team formation is instead a function of the project and company needs as well as the experience and qualification of potential team members. Team formation in this manner will also enable students to make new acquaintances as they pursue successful team assignments together.

Team Participation

All students will be expected to actively participate in the numerous team assignments throughout the course; this participation will be tracked and graded via the “Module Participation” team assignments. As documented on each Module Participation Form, no participation by a team member will result in no course credit for that individual for the corresponding assignment.

Excused Absences from Team Assignments and Late Team Submittals

All team assignments are expected to be completed according to the schedule on the Canvas course site. In recognition of events occurring outside the student’s control, excused absences for team assignments may be granted per published UF policies.

The process to request an excused absence is to make a request through Canvas e-mail to the course instructor at least 48 hours prior to the item “Start” time shown on the Canvas course site, making sure the entire team is aware of the individual request. The course instructor will review the request and reply via a timely return e-mail either granting or denying the request. It is the student’s responsibility to secure a determination of the excused absence request. Appropriate documentation may be requested by the course instructor.

Approved excused absences will remove individual responsibilities from team assignments. Where possible, it is expected that the excused student will continue to support the team's assignment development efforts. Unexcused absences will result in zero (0) points for the assignment, subject to published UF policies.

Unless stated otherwise, team assignments are to be submitted via Canvas by the stated deadline ("Due" date). Late team submissions (after the "Due" date but before the item closes on the Canvas course site) for any unexcused absences will result in a 20% reduction in grade for the item. Submissions made after the item closes will not receive credit, subject to published UF policies (<https://catalog.ufl.edu/ugrad/current>).

Students Requiring Accommodations:

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center (DRC) by visiting <https://disability.ufl.edu/students/get-started>. Students should share their accommodation letter with the course instructor and discuss their access needs as early as possible in the semester.

Course Evaluation:

Students are expected to provide professional and respectful feedback on the quality of instruction and content of material in this course by completing course evaluations online via GatorEvals. Guidance for students on how to give course feedback in a professional and respectful manner is available at the following link: <https://gatorevals.aa.ufl.edu/students>. Students will be notified when the evaluation period opens and can complete evaluations through the e-mail they receive from GatorEvals, on the Canvas course site under GatorEvals, or via <https://ufl.bluera.com/ufl>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results>.

In-Class Recording:

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are: (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the course instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the course instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

University Honesty Policy:

University of Florida students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The UF Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, students are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the course instructor.

Use of Artificial Intelligence (A.I.):

If you choose to use A.I. in completing any work in this class, please note the following guidelines:

- Be aware of the limits of the A.I. tools. The results you get are very dependent on the prompts you use and how well you define those prompts. The numbers and facts you may get could be completely wrong so unless you can independently confirm the results through another source, do not trust that they are correct. You will be responsible for any incorrect numbers or facts you get from using the tool.
- A.I. is a tool and, as such, you must acknowledge that you used it in completing any work for the class. You must include a paragraph at the end of any assignment in which you used A.I. explaining how you used it and what prompts you used to get the results. Failure to do so may be considered a violation of the academic honesty policy.

Commitment to a Safe and Inclusive Learning Environment:

The Herbert Wertheim College of Engineering (HWCOE) values varied perspectives and lived experiences within our community and is committed to supporting the University’s core values, including the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information, and veteran status.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact the course instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- HWCOE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use:

All faculty, staff, and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University of Florida policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy:

There are federal laws protecting your privacy with regard to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>.

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. Nighttime and weekend crisis counselors are available at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing Staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center:

<https://counseling.ufl.edu>, and 392-1575; and the University Police Department at 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence:

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the [Office of Title IX Compliance](#), located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu.

Sexual Assault Recovery Services (SARS):

Student Health Care Center at 392-1161

University Police Department:

392-1111 (or 9-1-1 for emergencies) or at <https://police.ufl.edu>

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu>.

Library Support, <https://uflib.ufl.edu/find/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio>.

Student Complaints Campus:

<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code> ;
<https://care.dso.ufl.edu>

Online Student Complaints:

<https://distance.ufl.edu/getting-help> ;
<https://distance.ufl.edu/state-authorization-status/#student-complaint>