

Syllabus
Advanced Engineering Leadership Development
EGS 6681

Section (Class No.): CAMP (12298)

Class Periods: Wednesdays, Periods 3-4 (9:35 to 11:30 a.m.)

Location: WERT 370

Academic Term: Fall 2025

1. Co-Instructors:

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Office hours: Thursdays, 1:00 to 2:30 p.m. via Zoom:

<https://ufl.zoom.us/j/4394996031>, or by appointment using this link:

https://calendly.com/rmfrazier_gator/office_hours

Web site: UF course Canvas website

No teaching assistant

Bill McElroy, P.E., Associate Director and Gene Fraser Teaching Professor, Engineering
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Office location: off-campus Fall 2025 semester

Office hours: Zoom personal meeting room <https://ufl.zoom.us/j/6112768635> or
phone: 10:00 to 11:00 a.m. Tuesdays. Other one-on-one Zoom/phone sessions are
available by appointment (use email to set up).

Website: UF course Canvas website

No teaching assistant

2. Course Description: This course is designed to further develop the leadership framework and capabilities of engineering students. It involves a case study-based instructional approach that reviews and applies strategic leadership concepts and knowledge critical to the success of engineering-based companies that now operate in a highly uncertain and volatile business environment. 3 credit hours.

3. Credit Hours: 3

Graduate students will not receive graduate credit for taking the undergraduate version of the class. They may enroll in the undergraduate section, but the credits will then not count toward the degree or graduate certificate.

4. Course Pre-Requisites/Co-Requisites: EGS 4038, or instructor approval.

5. Course Objectives: Like most modern-day businesses, engineering or technology-based companies must also survive and grow in an uncertain and rapidly changing business environment. Engineering leaders must help their organizations become “learning machines”, integrating strategic intent in the way they think, behave and influence their organization and the staff. Engineering leaders who learn, practice and effectively apply strategic leadership skills can catalyze the organization’s learning process and help create and sustain competitive advantage.

Advanced Engineering Leadership Development (AELD) extends the comprehensive leadership learning and development process for engineering students into the subject of strategic leadership and topics relevant to leader-engineer roles that students may hold in engineering or technology-based companies. The course content and structure are intended to provide students with a real-world, hands-on, learning experience to help prepare and/or develop Gator Engineers to accept roles, and/or advance, as a leader-engineer in the work force.

The main goals for the course are summarized below. Students completing the course will be able to:

- identify and evaluate actions comprising the learning process of strategic leadership that organizations apply to build high-performance systems and maintain long-term viability

- apply concepts, knowledge and approaches relevant to many strategic leadership roles and responsibilities in organizations

- create more effective written documents and presentations

Course completion is one of the prerequisites for obtaining the Engineering Leadership Certificate (undergraduate and graduate versions available), offered through the Herbert Wertheim College of Engineering and issued by the University of Florida.

6. Material and Supply Fees: none
7. Professional Component (ABET): Not applicable as the course is not specific to a major under ABET purview.
8. Relation to Program Outcomes (ABET): Not applicable as the course is not specific to a major under ABET purview.
9. Required Textbooks and Software: Graduate students will have an additional reading assignment for the course. The book “The Good Struggle: Responsible Leadership in an Unforgiving World” by Joseph Badaracco will be part of a course purchase from Harvard Business Publishers and will form the basis for the final quiz that graduate students complete as part of the course requirements. The projected costs will be approximately \$12.50. The instructor will provide more information about obtaining the required text after the beginning of the semester.

All students will be required to purchase a course packet of pre-selected case studies (which may vary each semester) from a publisher such as Harvard Business Publishers. (Example: “Tesla Motors”, Eric Van Den Steen, HBR 9-714-413, Rev. Dec. 17, 2015.) The

instructor will provide more information about obtaining the required course packets during the first two class sessions. The projected costs will be approximately \$10.

Students will have additional assigned weekly readings and materials that are outlined in the weekly instructions on the Canvas course site. Reading materials will either be articles that are available electronically for free to UF students through the University e-library system, or through postings provided on the Canvas course website.

10. **Recommended Materials:** Students will also have access to recommended additional weekly readings and materials that will support class discussions. These are also outlined by weekly content on the Canvas course site. Reading materials will either be articles that are available electronically for free to UF students through the University e-library system, or through postings provided on the Canvas course website. Students are encouraged to review and take advantage of the recommended materials. Note that these are recommended, not assigned, materials provided as a value-added resource to students.
11. **Course Schedule:** The 3 credit-hour course will be delivered in a hybrid format with synchronous 2-hour periods held each week on Wednesday mornings. Some class sessions will involve student-led discussions about the assigned case studies related to the weekly topics. Class sessions will be facilitated by the instructor and include weekly course content discussions, supported by guest presenters (as applicable), videos, student presentations (at designated times), and other class activities (at designated times). Class sessions will be recorded so that distance-learning students can view them after-the-fact. Students will also work asynchronously to complete specific weekly actions to meet course content requirements through instructions provided the Canvas course management system.

Per UF guidelines, the course equates to 2.5 hours of equivalent weekly contact periods (50 minutes per period). The UF definition assumes that students may spend a minimum of 6 additional hours (2 hours per credit hour) outside of the weekly equivalent contact time in completing the course requirements.

The case studies and activities for the course have been selected to enhance student understanding of topics relevant to the general framework of the AELD course. Students will work in assigned teams reviewing case studies, preparing class presentations, and/or submitting Canvas assignments to answer some specific questions related to understanding and applying course concepts relevant to the case. To the extent possible, the selected cases involve engineering or technology-based organizations and correspond to the target discussion topics for the week the case is assigned.

Teams will also work to complete targeted activities and assignments related to a hypothetical case study that evolves as the course progresses throughout the semester. The intent of the on-going case activities and assignments is more application of the concepts, knowledge and approaches covered in class sessions and activities that are relevant to the leader-engineer in strategic leadership aspects of engineering and technical organizations.

On-campus students should expect to acquire class point activities in each weekly class session. These may involve use of iClicker or other technology asking questions about pre-assigned course content and discussions. Class session points will accumulate during the semester and count towards a percentage of the course grade (see Section 13 below). No make-ups of missed class points will be allowed without an excused absence as defined by UF.

The outline of main topics expected to be covered in each weekly module, student learning objectives for each module, and key activities corresponding to each module are summarized below. The actual availability and due dates for assignments, activities, and quizzes are set in the Canvas course management system (see Syllabus page of Canvas course site). The weekly instructions in the Canvas course website track the summary table and provide additional details.

Weeks (Monday-Sunday Schedule)	Expected Discussion Topics	Key Activities and Submittals ¹
1 (semester begins Thursday, 8/21)	none	none
2	course overview and explanation of course requirements; leadership and engineering leadership in context; leader-engineer roles	acquire course materials weekly readings weekly class session ²
3	the concept of strategic leadership; key business fundamentals, concepts, and terms (including common financial analyses and indices)	team formation acquire course materials weekly readings weekly class session Assignment 1A starts
4	the concept of strategy; key business fundamentals, concepts, and terms continued (pricing approaches; price-cost-demand relationships; overview of Monte Carlo analyses; overview of stakeholder theory)	weekly readings weekly class session Assignment 2 starts
5	the concept of competitive advantage and industry analyses; design thinking; vision, mission, values and purpose statements;	weekly readings weekly class session Assignments 1B, 3 start
6	the concept of Blue Ocean strategy; the process of creating uncontested new market space; the concept of value curves	weekly readings weekly class session
7	leadership and creativity; innovation as a strategy; the concept of value propositions	weekly readings weekly class session Assignments 1C, 4 start

8	structuring and building organizations; organizing around value-added processes	weekly readings weekly class session (1 st team presentations)
9	the concept of balanced scorecards (BSC); performance metrics and monitoring	weekly readings weekly class session Assignments 1D, 5 start
10	decision-making processes and tools	weekly readings weekly class session
11	uncertainty, risks and risk management	weekly readings weekly class session Assignments 1E, 6 start
12	strategic leadership and change; strategic leadership and information technology	weekly readings weekly class session
13	crisis management and crisis leadership	weekly readings weekly class session Assignments 1F starts
14	Final A1G team presentations	weekly readings weekly class session
15 (no class sessions this week)	globally responsible leadership; strategic leadership in a global business world Thanksgiving Week	weekly readings complete course evaluations
16	course close-out	weekly class session complete course evaluations graduate student final quiz (schedule TBA)
NOTES: ¹ Refer to class schedule for dates of availability and submittal. In the event of unintended conflict, Canvas schedules apply. ² Attendance of all weekly sessions expected for students registered in on-campus sections of course. EDGE students are expected to view videos of the weekly class sessions as part of the course requirements.		

12. Policies and Class Expectations:

General: The learning environment for the AELD course is intended to be professional, courteous and respectful.

The instructor is fully invested in this course instructional effort. Students taking the AELD course are expected to provide a commensurate level of investment and commitment to its completion.

The instructors are more than willing to provide students with the corresponding subject matter expertise, professional experience, judgment and insight to accomplish course objectives and maximize student learning outcomes. The instructors are also open to suggestions and constructive criticisms to continually improve the course.

Unless stated otherwise, assignments are to be submitted via Canvas in the specified format by the stated deadline. No late submittals will be accepted subject to [UF Attendance Policies](#).

The Engineering Leadership Institute (ELI) offers elective courses and credentials that help engineering students build valuable professional skills often missing from traditional engineering programs. We welcome students who take ownership of their learning and are committed to fully engaging with the course content and its real-world applications. So that everyone is on the same page, we've posted course expectations for students on our [website](#). The instructor will review and discuss them in class at the start of the semester.

Requirements for class attendance, excused absences, make-up exams, assignments, and other work in this course are consistent with university policies. Click here to read the university attendance policies: [UF Attendance Policies](#).

Other Specific Policies and Expectations:

Use of AI: You are a student at this institution because you live in a free society that values intellectual freedom and the open exchange of ideas. You are here to learn, grow, and develop your own critical voice – not to copy or substitute others' work for your own understanding.

Students may use generative AI tools (such as ChatGPT, Claude, etc.) to enhance their learning and writing process, but must do so transparently, ethically, and responsibly. AI should serve as a collaborative tool to support brainstorming, idea generation, research assistance, grammar checking, and feedback on drafts, rather than as a replacement for critical thinking, original analysis, or authentic voice.

All AI use must be properly disclosed and cited, with students providing clear documentation of which tools were used, how they were employed, and what prompts generated the assistance. Students remain fully responsible for the accuracy, quality, and integrity of their submitted work, including any AI-generated content, and must be prepared to verify information, correct inaccuracies, and defend their own ideas.

Be aware of AI's significant limitations - AI frequently generates incorrect facts, numbers, and even fabricated citations that must be independently verified, while also potentially producing biased or incomplete information. Should the UF Student Conduct process find a student guilty of using AI to generate substantial portions of assignments, complete entire projects, or bypass the core learning objectives, this will constitute academic

misconduct and will result in penalties ranging from assignment failure to course failure, depending on the severity of the violation.

Teams: All of the assignments and presentations will be team-based. Students will be allowed to self-assign to a team formed in Canvas by the instructor (normally consisting of 2-4 students per team depending on class enrollment), within the prescribed period (to be announced). At that time, the instructor will randomly assign the other students (who did not self-assign) into teams.

Note that Canvas recognizes only the teams created by the instructor for grading purposes, so students must be assigned to one of the designated teams. Students may also form a student or project group in Canvas if they choose; however, this is incidental to and not a substitute for being assigned to one of the designated teams.

Team members are expected to actively and fully participate in the development of each assignment. There is 1 submittal per team, which is graded, and the grade applies to all team members. Teams are expected to be self-regulating with respect to managing team member contributions and participation issues.

It would be unfair to other team members, and unacceptable to the instructors, for an individual to not meet their team obligations and yet receive the same grade as the other teammates on an assignment. If an individual has valid extenuating circumstances impacting their participation, they have the obligation to communicate this to their team members in a timely manner. Note that communicating issues of this nature at the last minute is unacceptable except in specific and documentable instances. Such documentation will be required, in case the instructor needs to get involved.

Final Quiz: Graduate students will have a final quiz for the course. The final quiz will be an online, open-book, open-note format covering the assigned reading (see Section 9). UF Honor Code provisions apply. The instructor will provide more information about the final quiz during the first week of the class.

Assignments: Canvas assignments will be issued related to all case studies and activities. The assignments will provide instructions for their preparation, including the release and due dates. Microsoft Word (MS) templates will be available through the Canvas course site for student reuse as needed in completing assignments. Rubrics will be available that the instructor will use to evaluate the submittals.

Students should expect a minimum 10% grade penalty for failure to follow all instructions on the templates and the specific assignments. Refer to the Expectations for Quality of Work section below for more information.

Students listed as participating members on the team assignments will receive the same assignment grade. The instructor will assume that unlisted students were not a participating team member and they will receive a grade of 0 for that assignment.

No late assignments will be accepted, subject to UF attendance policies. Excused absences must be consistent with university policies in the graduate catalog and require appropriate documentation.

Expectations for Quality of Work: Effective written communications are an important part of being an engineer, an engineering leader and a professional. While students are not expected to be able to write like English majors or accomplished authors, all

students are expected to take sufficient care to produce assignment submittals that reflect a collegiate or working professional level of effort in terms of compositional structure and correct grammar usage. To this end, the instructor's expectations for all assignment submittals are outlined below:

Students will take ownership of producing high-quality assignment deliverables that they would submit to their employer.

Submittals will reflect good, common practice in developing paragraphs and sentences (such as one topic per paragraph, use of complete sentences and not fragments, one thought per sentence that supports the paragraph topic, consistent fonts and structure, etc.). Good common practice for this course does not include responses that involve long blocks of text containing multiple topics.

Students will use standard resources available through MS Word (or other acceptable sources) to search for and correct grammatical issues prior to assignment submittal. Submittals that contain noticeable misspelled words, incomplete sentences and similar careless issues will be considered a non-professional submittal and subject to a minimum 10% grade penalty. (This may be in addition to the grade penalty assigned for not following assignment instructions.) The quality of team-based submittals is a shared responsibility among the team members.

Team-based submittals mean that the document reflects a team compilation of contributions, endorsed by all participating team members. In finalizing the submittal, remember that there is no "I" in team and submittals should reflect this concept by removing words (such as "I" or "me") that reflect only individual perspectives, unless the question asks for individual team member responses.

Source and reference listings may be required for some assignment submittals (as specified in the Canvas assignment). Assignments that fail to include references, as may be requested, will be considered incomplete and subject to a minimum 10% grade penalty. (This may be in addition to grade penalties assigned instructional or quality-based reasons.)

Presentations: Two of the on-going case assignments will involve formal team presentations. The assignments will specify the objectives, format and instructions for the presentations. In-class students will make the presentations during designated class sessions (that will be clarified by the instructors). The presentations are expected to integrate the guidelines and approaches for effective persuasive presentations covered in EGS 6039 Engineering Leadership.

Teams should expect to make summary presentations on selected cases at times. Those teams that are not prepared to make their case summary presentation(s) or do a minimal or poor job in complying with the instructions for their presentation(s) should expect to receive a minimum 10% up to a 20% penalty on top of the assigned grade for the corresponding team assignment submittal(s).

13. **Evaluation of Grades:** Final grades will be determined based on the course component weighting factors indicated below:

AELD Course Components	Grade Weighting Percentages (all graduate sections)
Weekly class session points	15
On-going Case Study Assignments (up to 4)	25
Main Case Study Assignments (up to 4 some of which, for on-campus teams, may involve case summary presentations)	20
Business Presentations (up to 2)	10 (first) 15 (last)
Final Quiz	15
Totals:	100

14. Grading Policy: Final course grades will be determined by summing the weighted points associated with each of the grade components. Weighted points for each component will be calculated as the ratio of the points earned to the maximum points possible, multiplied by the grade weighting percentage for the component (rounded to the nearest hundredths decimal point). The cumulative weighted percentage points will be summed, multiplied by 100, rounded to the nearest tenths of a digit, and compared against the following grade scale:

A = 93 or above	C = 73.0 ÷ 76.9
A- = 90.0 ÷ 92.9	C- = 70.0 ÷ 72.9
B+ = 87.0 ÷ 89.9	D+ = 67.0 ÷ 69.9
B = 83.0 ÷ 86.9	D = 63.0 ÷ 66.9
B- = 80.0 ÷ 82.9	D- = 60.0 ÷ 62.9
C+ = 77.0 ÷ 79.9	E = 59.9 or below

NOTE: Given the variability in the grading weighting criteria between undergraduate and graduate students, course grades indicated by the Canvas class website are unweighted and do not reflect the actual course grade. Students are encouraged to keep up with their class grade individually based on the class grading approach previously outlined.

More information on UF grading policy may be found at

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

15. Students Requiring Accommodations: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

16. **Course Evaluation:** Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluer.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.
17. **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 instructor.

A ñclass lectureò 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 instructor is prohibited. To ñpublishò 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.

18. **University Honesty Policy:** UF students are bound by The Honor Pledge which states, ñWe, 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: ñOn my honor, I have neither given nor received unauthorized aid in doing this assignment.ò The 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, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.
19. **Commitment to a Safe and Inclusive Learning Environment:** The Herbert Wertheim College of Engineering 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 your instructor or any of the following:

- Å Your academic advisor or Graduate Program Coordinator
- Å HWCoe Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Å Dr. Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@ufl.edu
- Å Dr. Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

20. Software Use: All faculty, staff, and students of the University 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 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.
21. Student Privacy: There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>
22. 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. A nighttime and weekend crisis counselor is available by phone 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: 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, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.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 Connections Center, Reitz Union, 392-1601. Career assistance and counseling; <https://career.ufl.edu>.

Library Support, <http://cms.uflib.ufl.edu/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>.

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