

## Syllabus Engineering Leadership

**EGS 4038 – Section 0192 (On-campus Undergraduate Students)**

**EGS 6039 – Section 0132 (On-campus Graduate Students)**

**EGS 6039 – Section 0144 (Special Distance Learning for Graduate Students)**

**EGS 6039 – Sections 015B and 2737 (EDGE Distance Learning Program for Graduate Students)**

**Class Periods:** Tuesdays, Periods 3-5 (9:35 a.m. – 12:35 p.m.)

**Class Location:** NEB 102

**Academic Term:** Fall 2017

- 1. Instructor:** Bill McElroy, P.E., Assistant Director, Engineering Leadership Institute, University of Florida Herbert Wertheim College of Engineering
  - a. E-mail address: [mcelrowj@eng.ufl.edu](mailto:mcelrowj@eng.ufl.edu)
  - b. Office Telephone: 352-294-7383
  - c. Office location: Weil Hall Room 313B
  - d. Office hours: By appointment. Generally flexible on Mondays, Wednesdays and Fridays. (Tuesdays and Thursdays are not good meeting days.)
  - e. Web site: UF course Canvas web site
  - f. No teaching assistant
  
- 2. Course Description:** *Engineering Leadership* introduces engineering students to the concepts, theory and practice of engineering leadership; effective written and oral communications and presentations; engineering leadership characteristics, individual differences and self-awareness; developing and building teams; managing change, conflicts, and crises; and understanding real-world ethics and core values.
  
- 3. Credit Hours:** 3  
Graduate students will not receive graduate credit for taking the undergraduate version of the class. They are allowed to enroll in the undergraduate section, but the credits will then not count toward the degree.
  
- 4. Course Pre-Requisites/Co-Requisites:** For EGN 4038, Junior/Senior standing
  
- 5. Course Objectives:** Prepare students to assume engineer-leader roles in their professional careers, whether in the private, academic, public, or non-profit sectors. Assist students in describing and applying the foundations of leadership to their individual leadership framework, with linkages to vision, high ethical standards and professionalism. Assist students in developing their effective communications and presentation skills. Provide students with a background in applying concepts to manage collaborative team dynamics, drive change, and manage conflicts and crises. Course completion is one of the prerequisites for obtaining the Engineering Leadership Certificate (undergraduate and graduate versions available) offered by the Herbert Wertheim College of Engineering.

6. **Material and Supply Fees:** not applicable
7. **Professional Component (ABET):** Not applicable as course is not specific to a major under ABET purview.
8. **Relation to Program Outcomes (ABET):** Not applicable as course is not specific to a major under ABET purview.
9. **Required Textbooks and Software:**
  - a. Title: Exploring Leadership – for College Students Who Want to Make a Difference (all Sections)
  - b. Author: Komives, S.R., Lucas, N. and T.R. McMahon
  - c. Publication date and edition: 2013, 3<sup>rd</sup> Edition
  - d. ISBN number: 978-1-118-39947-7 (pbk.)
  
  - a. Title: Lincoln on Leadership (all Sections)
  - b. Author: Donald T. Phillips
  - c. Publication date and edition: 1992
  - d. ISBN number: 0-446-394459-9
  
  - a. Title: Leadership Conversations (Graduate Sections Only)
  - b. Author: Berson, Alan S. and Richard G. Stieglitz
  - c. Publication date and edition: 2013, 1<sup>st</sup> Edition
  - d. ISBN number: 978-1-118-37832-8
10. **Recommended Materials:** Students should expect to have additional reading assignments and materials that will be outlined in the detailed course schedule provided by the instructor. Reading materials will be articles that are available electronically through the University library system or through postings on the Canvas course website.
11. **Course Schedule:** The course will be delivered weekly in the 3-hour segments typically through lecture overviews by the instructor and class discussions/workshops facilitated by the instructor and supported by guest presenters, plus videos and student presentations. Students will have access to an updated course schedule that outlines the expected coverage of topics each week, as well as the reading requirements and expected classroom discussions and activities for that week.

The outline of expected topics to be covered each week is summarized below. The actual weekly outline and topics are subject to change at the course instructor's discretion, and will be reflected in the updated course schedule that students will have access to via the Canvas course website:

<b>Week</b>	<b>General Topics</b>
1	course overview; explanation of course requirements; leadership and engineering leadership in context; an initial look at effective leadership elements
2	overview of evolution of leadership theories, approaches, and processes; leadership styles and simple leadership frameworks; concept of authentic leadership
3	components of the Relational Leadership Model; concepts of leadership vs. management, leadership vs. power, competence vs. likeability, vision and values, and ethical leadership
4	persuasion and influence; persuasive communications; concept of target audiences; developing effective presentations and speeches; effective techniques for public speaking; the role of storytelling
5	effective writing styles, approaches and techniques; conversational approaches; writing and presentation applications
6	nature and sources of conflict; individual reaction styles to conflict; resolution methods; having difficult conversations
7	emotional intelligence and leadership; communications styles; personality types and teams
8	overview of motivational theory and applications; attitudes, perceptions and judgments
9	teams, team dynamics and team building
10	organizational vision, mission and values; the concept of corporate culture; leading without authority; leading virtual teams
11	diversity and inclusion in organizations and teams; global leadership concepts, realities and awareness
12	leading and managing change in organizations; the concept of tipping point leadership
13	professional credibility and its foundations; values and ethics in engineering leadership; technical competence and disciplined execution as components of credibility and excellence
14	no class; Thanksgiving Holidays
15	framework for professional engineering and leadership; innovation, creativity and leadership; the concept of sustainability; the nature of crises and critical success factors for managing and leading during a crisis
16	final class presentations; class summary and close-out

## 12. Policies and Class Expectations:

### General

The learning environment for *Engineering Leadership* is intended to be professional, courteous and respectful. The course is designed around what is believed to be current and relevant best practices to help create and/or develop the Gator Engineer who is prepared to accept roles, and/or advance, as an engineer-leader in their place of employment.

The instructor is fully invested in this course instructional effort. The instructor is more than willing to provide students with the corresponding subject matter expertise, professional experience, judgment and wisdom to accomplish course objectives and maximize student learning outcomes. The instructor is also open to suggestions and constructive criticisms to continually improve the course.

Students taking this course are expected to provide a commensurate level of investment and commitment to its completion. Otherwise, students will likely not receive the intended, full value that the course provides. Student investment and commitment to realizing the value will become more evident as the semester progresses through indicators such as class attendance; student attentiveness in class; preparation for and participation in class discussions and activities; and the degree of professionalism reflected in the various class submittals.

To promote a more complete understanding and application of this course content, students will be required to complete an *Individual Leadership Development Plan* (ILDP). The ILDP is intended to assist students in understanding and applying key competencies that are related to the course content and their individual strengths, and considered necessary for student effectiveness in their careers as engineering leaders. The ILDP is a requirement and a key deliverable for completion of the *Engineering Leadership* course. More about the ILDP can be found in the ILDP Framework documents available on the Canvas course website.

### **On-Campus, In-Class Students**

Attendance is mandatory at all sessions and will be monitored through assignment submittals, sign-in sheets, and/or similar methods. Turning in a submittal or signing in for a non-attending student may be considered for honor code violation.

Students are allowed one unexcused absence during the semester class. More than one unexcused absence can result in a loss of a letter grade per each absence over one at the discretion of the instructor, subject to the UF attendance policies. Excused absences must be consistent with university policies in the undergraduate (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) or graduate (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) catalog and require appropriate documentation.

Students are expected to arrive to class on time and to remain in class through completion. Excessive student use of electronic devices during class sessions, for non-class purposes, may be considered by the instructor as an unexcused absence for that day.

Students are expected to come to class prepared (including completion of all assigned readings) to actively participate in class discussions and activities.

### **Other Specific Policies and Expectations:**

**Teams:** Many of the assignments as well as the presentations will be team-based. Students are allowed to form their own teams (normally consisting of two to four students per team depending on class size), provided the instructor is notified about the team member names within the prescribed period (to be announced). The instructor will randomly assign the other students (not opting to join teams) into teams. Distance-learning student may also opt to form and work in teams (normally two per team).

**Quizzes:** Quizzes will be an open-book, open-note format. UF Honor Code provisions apply. Students will normally complete the quizzes electronically through the Canvas website for the course. (Distance-learning students will not need a proctor to complete the quizzes.) The quizzes will be available for prescribed periods of time (normally several days), with dates and times of availability established by the instructor, based on the course schedule and updates through announcements and emails (using the Canvas course website). No make-up quizzes will be available, subject to UF attendance policies.

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

**Assignments:**

- The Canvas assignments will provide instructions for their preparation, including the release and due dates. Students should expect a minimum 10% grade penalty for failure to follow all assignment instructions. Refer to the Written Assignments 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.

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

- Standing Individual Weekly Assignment: All students are required to submit a weekly assignment, with reflections on a leadership-related article posted each week in a major newspaper publication. The weekly assignment will provide the instructions about the publication and assignment completion. These weekly assignments will cumulatively count as one assignment grade, with the assignment score corresponding to the ratio of the number of assignments actually submitted to the number of weekly assignments required. No late assignments will be accepted, subject to UF attendance policies.  
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.
- Written Assignments: Effective written communications are an important part of being an engineer and 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 they question asks for individual team member responses.
- ✓ To ensure that assignments are well-structured and carefully written, students are encouraged to avail themselves of the University of Florida's writing studio <https://writing.ufl.edu/writing-studio/>. The studio offers free on-campus and online writing assistance on writing projects and is available to students of all levels. The instructor clearly understands that English may not be the first language of many students at the University of Florida. However, this fact is not an excuse for poorly-structured and carelessly-written assignment submittals. Appointments with the studio staff are strongly encouraged. Call (352) 846-1138 for more information.
- ✓ Source and reference listings are a normal component of most assignment submittals. 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.)

**13. Evaluation of Grades:** The base learning framework will be similar for both graduate and undergraduate students in that they will have the same course schedule, receive the same lecture materials, receive some of the same reading assignments, and

receive some of the same homework assignments. Class requirements for graduate students will differ in several ways. They will have an additional, more advanced course textbook containing more in-depth treatment of the base subject matter; may receive supplemental, more in-depth reading assignments as well as relevant case-study evaluations; and may receive more challenging homework assignments corresponding to the assigned reading and case-study materials. Testing formats and content will be similar for all students, although the test content may differ for the graduate student group to match higher level course requirements.

Final grades for on-campus, in-class students will be determined as follows:

- Students will receive weekly points for class attendance and participation that will count for 10%. This may include scores on weekly “readiness assurance quizzes” related to preparation for class.
- Students will be required to complete an ILDP that will count for 20%. The ILDP requirements are explained in the ILDP Framework document that is available on the course website and will be discussed at the outset of class.
- Assignments (up to 10 total) will count for 20%. For team-based assignments, each team member will receive the same score provided they participated; non-participating students will receive a score of 0 for those respective assignments.
- Quizzes (up to 8) will count for 30%.
- Presentations (up to 2) will count for 20%.

Final grades for distance-learning, graduate students will be determined as follows:

- Students will be required to complete an ILDP that will count for 20%. The ILDP requirements are explained in the ILDP Framework document that is available on the course website and will be discussed at the outset of class.
- Assignments (up to 10 total) will count for 25%. For team-based assignments (if any), each team member will receive the same score provided they participated; non-participating students will receive a score of 0 for those respective assignments.
- Quizzes (up to 8) will count for 30%.
- Presentations (up to 2) will count for 25%.

#### **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 points will be multiplied by 100, rounded to the nearest units digit, and compared against the appropriate grade scale.

The grade scale for undergraduate student total weighted class scores is:

A = 94 or above	C = 74 – 76
A- = 90 – 93	C- = 70 – 73
B+ = 87 – 89	D+ = 67 – 69
B = 84 – 86	D = 64 – 66
B- = 80 – 83	D- = 60 – 63
C+ = 77 – 79	E = 59 or below

The grade scale for graduate student total weighted class scores is:

A = 90 or above	C = 70 - 73
A- = 87 – 89	C- = 67 - 69
B+ = 84 – 86	D+ = 64 - 66
B = 80 – 83	D = 60 - 63
B- = 77 – 79	D- = 57 - 59
C+ = 74 – 76	E = 56 or below

More information on UF grading policy may be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> and <http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>.

**NOTE:** Class grades indicated through the Canvas class website do not reflect the grading criteria and policy contained in this syllabus. Accordingly, they are not reflective of student grades in the course. Students are encouraged to keep up with their class grade individually based on the class grading approach.

### 15. Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

## 16. Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

## 17. University Honesty Policy

UF 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 Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-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.

## 18. 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.

## 19. 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: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

## 20. 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](mailto: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:** <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

**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 Resource Center**, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.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://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf).

**On-Line Students Complaints:** <http://www.distance.ufl.edu/student-complaint-process>.