Western University
Faculty of Engineering
John M. Thompson Centre for
Engineering Leadership and Innovation

ELI 9400 – Engineering Leadership

COURSE OUTLINE Summer 2022

DESCRIPTION

This course develops leadership success skills, providing insight into the behaviour of team members with regards to their individual tasks and interactions with both other team members and external contacts outside the team. Other topics include: vision and leading change, leading through crises, coaching, managing performance, and developing organizational culture. Students will also look at ethical perspectives in engineering practice and how bias impacts decision-making.

ENROLLMENT RESTRICTIONS

Enrollment in this course is restricted to graduate students in the Graduate Diploma in Engineering Leadership and Innovation.

INSTRUCTOR CONTACT INFORMATION

Course instructor: Cassie Ellis, Ph.D.
Email address: cellis42@uwo.ca
Office: Virtual
Office hours: By appointment
Classroom: UC1105 https://wts.uwo.ca/ctg/classrooms/university_college/uc_1105.html
Lecture hours: 1:00-4:00pm

COURSE FORMAT

The format of this course will be in-person. Contingency plans are in place in the unlikely event that public health guidelines require us to make changes to the course delivery format.

TOPICS

***First class – May 16th**
****Last class – July 25th**

Topic #	Description	Learning Activities	Tentative timeline
1	**Leadership, Awareness of Self and Others**		
	Introduction: Defining leadership	• Class discussion	Week 1*

		• Additional reading material	
	Leadership vs management and supervision Communication Style	• Forum discussion • Class exercise • Additional reading material	Week 2
	Personality and Self-Awareness Understand the Ivey character model and the relationship between leader competence, commitment & character	• Class exercise & discussion • Case discussion • Additional reading material	Week 3
2	**Leadership, Leader Character and Ethics**		
	What "good" character looks like Assessing and improving your own character	• Video Case study • Pre-class survey • Class discussion • Additional reading material	Week 4
	Leader character and leading in a crisis	• Case discussion • Class discussion • Additional reading material	Week 5
	Ethical principles and a moral framework for ethical problem solving in engineering context	• Case study • Class discussion • Additional reading material	Week 6
3	**Culture, Psychology, Change and Communication in Leadership**		
	Organizational and national culture in relation to leadership	• Case study • Class discussion	Week 7
	Limitations of human decision-making in engineering practice	• Additional reading material • Class discussion • Class exercise	Week 8
	Leading successful organizational change	• Case study • Class discussion • Class exercise	Week 9
	Communication, feedback, and managing performance	• Additional reading material • Class discussion • Class exercises	Week 10
4	**Wrap Up**		
	Final Project Presentations Wrap Up	• Presentation • Class Discussion	Week 11**

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SPECIFIC LEARNING OUTCOMES

Degree Level Expectation	Approximate Weight	Assessment Tools	Outcomes
Depth & Breadth of Knowledge	30%	• Participation in in-class, workshop, and case-study discussions • Reflective Journal Entries • Final Project Reports	• Identify leadership in engineering context, and describe the differences between leadership and management. • Understand aspects of social psychology relevant to engineering leadership
Research & Scholarship	10%	• Reflective Journal Entries • Final Project Reports	• Able to analyze and characterize leadership practices used in an engineering context
Level of Application of Knowledge	30%	• Participation in in-class, workshop, and case-study discussions • Reflective Journal Entries • Final Project Reports	• Apply knowledge of leading and motivating to a real-world situation example • Identify and explain leadership challenges in organizations and develop appropriate solutions
Professional Capacity / Autonomy	5%	• Participation in in-class, workshop, and case-study discussions • Team Final Project Presentation and Report	• Understand ethical principles applicable to engineering practice. • Identify, analyze, interpret, and generate potential solutions to issues that arise in organizations with regards to ethical and professional practices
Level of Communication Skills	10%	• Participation in class discussion and exercises • Team project presentation • Final Project Report • Reflective Journal Entries	• Demonstrate effective verbal communication in class and case discussions • Demonstrate effective verbal and visual communication in group project, with oral presentation component, analyzing practical leadership problem • Demonstrate effective written communication in individual written assignments
Awareness of Limits of Knowledge	15%	• Participation in in-class discussion and exercises • Reflective Journal Entries • Final Project Report	• Understand and explain limitations of human decision-making in engineering practice, e.g., due to biases • Understand and explain challenges associated with cultural and individual behaviours that limit generalizability of best practices.

ASSESSMENTS

Assessment Type	Material Covered	Tentative Due Date	Weight
Participation in/Contribution to Class Activities	All	Throughout	15%
Participation in Online Forums	All	Throughout	10%
Reflective Journal Entries (three)	Weeks 1-3, Weeks 4-6, Weeks 7-10	Week 4, Week 7, Week 11	15%
Final Team Project Plan (one)	Student-selected leadership case from recent events	Week 8	5%
Final Team Project Presentation (one)		Week 12	20%
Final Project Report (one)		2 Weeks after Term	35%

Activities in which collaboration is permitted:

- Case preparation – students are expected to work in small teams to analyze cases and to provide verbal synopses in class
- Class discussion and exercises – students are expected to contribute to class discussion, including commenting on contributions of other students, and to participate in small group exercises in class.
- Group projects – students are expected to work in pre-assigned teams to analyze a leadership scenario and to make a joint in-class presentation

Activities in which students must work independently:

- Online forums/discussions
- Individual reflection journal assignments
- Individual written reports, including Final Project Report (on same topic as Team Project)

REQUIRED TEXTBOOK

- Ivey Publishing Course Pack (print copy or digital download copy instructions will be provided in class)
- Other required readings will be posted on OWL and discussed in class.

OPTIONAL COURSE READINGS

Any optional readings will be posted on OWL and discussed in class.

CHEATING, PLAGIARISM/ACADEMIC OFFENCES

Academic integrity is an essential component of learning activities. Students must have a clear understanding of the course activities in which they are expected to work alone (and what working alone implies) and the activities in which they can collaborate or seek help; see information above and ask instructor for clarification if needed. Any unauthorized forms of help-seeking or

collaboration will be considered an academic offense. University policy states that cheating is an academic offence. If you are caught cheating, there will be no second warning. Students must write their essays and assignments in their own words. Whenever students take an idea or a passage of text from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence. Academic offences are taken seriously and attended by academic penalties which may include expulsion from the program. Students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence at the following website:
https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

CONDUCT

Students are expected to follow proper etiquette to maintain an appropriate and respectful academic environment. Any student who, in the opinion of the instructor, is not appropriately participating in course activities and/or is not following the rules and responsibilities associated with the course activities, will be reported to the Associate Dean (Graduate) (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Associate Dean (Graduate), the student could be debarred from completing the assessment activities in the course as appropriate.

HEALTH/WELLNESS SERVICES

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several health and wellness related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. Information regarding health- and wellness-related services available to students may be found at http://www.health.uwo.ca/.

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Faculty of Engineering has a Student Wellness Counsellor. To schedule an appointment with the counsellor, contact Kristen Edwards (khunt29@uwo.ca) via confidential email and you will be contacted by our intake office within 48 hours to schedule an appointment.

Students who are in emotional/mental distress should refer to Mental Health@Western: http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options about how to obtain help.

SICKNESS

Students should immediately consult with the Instructor (for a particular course) or Associate Chair (Graduate) (for a range of courses) if they have problems that could affect their performance. The

student should seek advice from the Instructor or Associate Chair (Graduate) regarding how best to deal with the problem. Failure to notify the Instructor or the Associate Chair (Graduate) immediately (or as soon as possible thereafter) will have a negative effect on any appeal. Obtaining appropriate documentation (e.g., a note from the doctor) is valuable when asking for accommodation due to illness.

Students who are not able to meet certain academic responsibilities due to medical, compassionate or other legitimate reason(s), could request for academic consideration. The Graduate Academic Accommodation Policy and Procedure details are available at:
https://www.eng.uwo.ca/graduate/current-students/academic-support-and-accommodations/index.html

ACCESSIBLE EDUCATION WESTERN (AEW)

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program. Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education Western (AEW): http://academicsupport.uwo.ca/accessible_education/index.html

AEW is a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AEW and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.