Western University  
Faculty of Engineering  
Thompson Centre for Engineering Leadership and Innovation  

**ES 9510 Section 650 – Engineering Planning & Project Management**  

**COURSE OUTLINE 2020-2021**

**DESCRIPTION**

This graduate level course is an introduction to the most widely accepted project management practices in the workforce today. It is based upon the guide published by the Project Management Institute known as “The Project Management Body of Knowledge” – or PMBOK. Project Management lends itself to being taught properly in either one of two ways. It can either be analyzed sequentially across the five phases of a project (initiating, planning, executing, monitoring and controlling, and closing) or it can be decomposed into its 12 areas of necessary expertise for the professional practitioner and then introduced to the student. We choose this second approach. We do so for several reasons, not least of which is that this is in keeping generally with the order in which most scholarly works tackle the subject. The course content is developed in the software package “Storyline” by Articulate Ltd. It is delivered through Owl. The student will note numerous enhancements to the course curriculum in part to compensate for semi-synchronous instruction methodology. Most significant among these are gamification throughout as well as video guest lecturing from well-known campus leaders throughout. An instructor will be available via email, and messenger at all times throughout the course. Response times in this regard will vary but in general students should not have to wait more than 48 hours for any enquiries. This is consistent with the in-class version of the course. The course is to be delivered in partial synchronicity. Students will be allowed to proceed through the course at their own pace lecture wise, but all assessments are completed to a consistent group timing. That said, we will meet weekly for limited lecturing opportunities as well as group tutorial sessions. The final exam will be available in infinite variability through Owl. The final exam CANNOT be written in person on campus in a computer laboratory as had been done in previous years. The course will be 12 weeks in duration followed by a final assessment during the examination period. This assessment will most likely be an asynchronous take home type, and students should assume it is unless informed otherwise.

**PREREQUISITES**

A student being in good standing with the Masters in Engineering program is the only requisite.
<table>
<thead>
<tr>
<th>Topic #</th>
<th>Description</th>
<th>Learning Activities</th>
<th>Tentative timeline</th>
</tr>
</thead>
</table>
| 1       | Introduction to Project Management | - Flipped preparation  
- One live recorded lecture including breakouts  
- One Storyline lecture  
- Additional reading material  
- One gamified summary quiz                                                                                                                                                                                                                                                                  | Week 1              |
| 2       | Project Life Cycle and Organization| - Flipped preparation  
- One live recorded lecture including breakouts  
- One Storyline lecture  
- Additional reading material  
- One gamified summary quiz  
- Reflection: Leadership                                                                                                                                                                                                                                                                     | Week 2              |
| 3       | Project Management Processes       | - Flipped preparation  
- One live recorded lecture including breakouts  
- One Storyline lecture  
- Additional reading material  
- One gamified summary quiz  
- Reflection: Organizational structure                                                                                                                                                                                                                                                      | Weeks 3             |
| 4       | Integration Management             | - Flipped preparation  
- One live recorded lecture/tutorial  
- One Storyline lecture  
- One gamified summary quiz                                                                                                                                                                                                                                                                     | Week 4              |
<table>
<thead>
<tr>
<th>Week 5</th>
<th>Scope Management</th>
<th>Gamified assignment</th>
<th>Flipped preparation</th>
<th>One live recorded lecture/tutorial</th>
<th>One Storyline lecture</th>
<th>One gamified summary quiz</th>
<th>Reflection: well-managed scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 6</td>
<td>Time Management</td>
<td>Gamified assignment</td>
<td>Flipped preparation</td>
<td>One live recorded lecture/tutorial</td>
<td>One Storyline lecture</td>
<td>Additional reading material</td>
<td>One gamified summary quiz</td>
</tr>
<tr>
<td>Week 7</td>
<td>Cost Management</td>
<td>Gamified assignment</td>
<td>Flipped preparation</td>
<td>One live recorded lecture including breakouts</td>
<td>One Storyline lecture</td>
<td>Additional reading material</td>
<td>One gamified summary quiz</td>
</tr>
<tr>
<td>Week 8</td>
<td>Special Topics: Agile &amp; LEED</td>
<td>Gamified assignment</td>
<td>Flipped preparation</td>
<td>One live recorded lecture including breakouts</td>
<td>One Storyline lecture</td>
<td>Additional reading material</td>
<td></td>
</tr>
</tbody>
</table>

Rev 01 – September 9, 2020
<table>
<thead>
<tr>
<th>Week</th>
<th>Course</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 9    | Communication Management   | • Flipped preparation  
• One live recorded lecture including breakouts  
• One Storyline lecture  
• Additional reading material  
• Voice thread peer review |
| 10   | Human Resource Management  | • Flipped preparation  
• One live recorded lecture/tutorial  
• One Storyline lecture  
• Additional reading material  
• Gamified assignment  
• Reflection: PEO & PMI |
| 11   | Risk Management            | • Flipped preparation  
• One live recorded lecture including breakouts  
• One Storyline lecture  
• Additional reading material |
| 12   | Procurement Management     | • Flipped preparation  
• One live recorded lecture  
• One Storyline lecture  
• Additional reading material  
• Gamified assignment |
## Online Zoom Lecture / Tutorial Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Hours (nominal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday Sept 9th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Sept 16th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Sept 23rd, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Sept 30th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Oct 7th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Oct 14th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Oct 21st, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Oct 28th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Nov 4th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Nov 11th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
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<tr>
<td>Wednesday Nov 18th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Nov 25th, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td>Wednesday Dec 2nd, 2020</td>
<td>8:30-am – 9:30 am</td>
<td>1</td>
</tr>
<tr>
<td><strong>EXAM Date</strong></td>
<td><strong>TBD</strong></td>
<td><strong>TBD</strong></td>
</tr>
</tbody>
</table>

Total Synchronous Teaching Hours 13

Please note: Additional **OPTIONAL** Tutorials **MAY** be added. If this is done, the instructor will ensure that **ALL** students have availability. This may necessitate multiple offerings of these events.

In the event of technical malfunction of Owl, the instructor will post filmed lectures from the in-class version of this course in a timely manner on YouTube.com. Please keep your instructor up to date with any such problems.

### SPECIFIC LEARNING OUTCOMES

<table>
<thead>
<tr>
<th>Degree Level Expectation</th>
<th>Weight</th>
<th>Assessment Tools</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth and breadth of knowledge</td>
<td>30%</td>
<td>Assignments 2 &amp; 3</td>
<td>• Understanding of computational and/or empirical methodologies to solve project management problems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Major Assignment</td>
<td>• Articulate a knowledge of, and understand what activities are required during project initiating, planning, executing, controlling, and closing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mid Term</td>
<td>• Attain familiarity and confidence with the management of integration, cost, time, scope, quality, human resources, risk, and communication on projects.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final Assessment</td>
<td></td>
</tr>
<tr>
<td>Research &amp; scholarship</td>
<td>5%</td>
<td>Assignment 1</td>
<td>• Apply themselves and foster in others an appreciation for project management best practices in the carrying out of academic scientific research.</td>
</tr>
</tbody>
</table>
| Application of knowledge | 30% | Major Assignment | • Ability to apply knowledge in a rational way to analyze a particular problem  
• Ability to use coherent approach to design a particular engineering system using existing design tools |

| Professional capacity / autonomy | 5% | Assignment 1, Major Assignment | • Awareness of academic integrity - Turnitin  
• Ability to implement established procedures and practices in the coursework related to APA citations  
• Understands what is expected of a professional engineer from a professional project manager.  
• Understands the roles and responsibilities of a professional project manager. |

| Communication skills | 15% | Major Assignment, Assignment 1 | • Ability to communicate (oral and/or written) ideas, issues, results and conclusions clearly and effectively.  
• Apply in themselves and foster in others an appreciation for project management best practices in the workplace. |

| Awareness of limits of knowledge | 15% | Assignments 1,2,3, Major Assignment | • Clearly communicates the difference between a process and a project and thereby knows when to apply project management practices.  
• Understands and practices the commonly accepted professional standards of project management. |

### ASSESSMENTS

<table>
<thead>
<tr>
<th>Assessment Type</th>
<th>Material Covered</th>
<th>Tentative Due Date(s)</th>
<th>Weight</th>
</tr>
</thead>
</table>
| Homework Assignments (three) | Units 1 through 7 | September 20, 2020  
November 1, 2020  
November 8, 2020 | 21% |
| Major Assignment in 5 phases (one) | Units 1 through 12 | October 4, 2020  
October 18, 2020  
October 25, 2020  
November 15, 2020  
November 29, 2020 | 30% |
| Term tests (one) | Units 1 through 7 | October 28, 2020 | 14% |
| Final Assessment (synchronous) | Units 1 through 12 | TBD | 35% |

### Activities in which collaboration is permitted:

As a general statement, all assessments in this course are to be completed independently. However, some informal collaboration among classmates is tolerated so long as it is restricted to reflective discussion with one another, or if it is related to the development of skills necessary for completing an activity. Examples are provided below to mitigate any ambiguity in that statement:
• Assignments 1 through 3
  o An example of a tolerable collaboration would be evidence of discussing the leadership skills of individuals in cases provided to test if a classmate has the same impression as you the student in question. This might be possible for example in assignment #1.
  o An example of an intolerable collaboration would be evidence of copying one another's calculations related to a crashing, resource levelling, learning curve, net present value, or other Right/Wrong summative questions as might be possible for example in assignments 2 or 3.

• The Major Assignment
  o An example of tolerable collaboration between students would be evidence of one student mentoring another student to improve their gaming skills necessary for delivering an optimal solution related to the construction build in the Major Assignment.
  o An example of intolerable collaboration between students would be evidence of copying one another's financial plan and build order for construction of the building in the Major Assignment.

Activities in which students must work alone (collaboration is not permitted):

• The mid term
• The final assessment

CONTACT INFORMATION:

Course instructor: Kevin Lawrence McGuire P. Eng., PMP
Email address: kmcgui5@uwo.ca
Contact policy:
  • Contact instructor via email (above) or through messages in OWL
  • Office hours are held via Zoom at student request. Allow 24 hours advance notice in request.
  • A general FAQ section on the ‘forums’ section of OWL will be used for students to pose course-related questions so that all have the same information.
  • All correspondences will receive a reply.

REQUIRED TEXTBOOK


The Project Management Body of Knowledge (PMBOK) – 6th edition – PMI
ISBN: 978-1628251845 (Mandatory e-book or paperback)
OPTIONAL COURSE READINGS

None

COURSE CONTENT

The lecture notes and online lecture videos are copyrighted to the instructor and legally protected. Do not post these videos and lecture notes on any other website or online forums. The recording of the live/synchronous sessions of the course without the permission from the instructor is prohibited. The illegal posting and sharing of the copyrighted course content could be subjected to legal actions.

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 under “Assessments” 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 (see Western's scholastic discipline regulations for graduate students).

SYNCHRONOUS LEARNING ACTIVITIES

Students are expected to participate in synchronous learning activities as outlined in the course syllabus and/or described by the instructor. If you have issues that will impede your ability to participate in synchronous activities, please discuss with the course instructor at the beginning of the course.

CONDUCT

Students are expected to follow proper etiquette during synchronous and asynchronous activities to maintain an appropriate and respectful academic environment. Any student who, in the opinion of the instructor, is not appropriately participating in the synchronous and asynchronous learning activities and/or is not following the rules and responsibilities associated with the online learning 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.

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HEALTH/WELLNESS

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 (remotely accessible) 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/](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. Campus mental health resources may be found at [http://www.health.uwo.ca/mental_health/resources.html](http://www.health.uwo.ca/mental_health/resources.html)
[https://www.uwo.ca/health/psych/index.html](https://www.uwo.ca/health/psych/index.html)

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.

ACCESSIBILITY

Please contact the course instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at 661-2111 x 82147 or [http://academicsupport.uwo.ca/accessible_education/index.html](http://academicsupport.uwo.ca/accessible_education/index.html), for any specific question regarding an accommodation.

DOCUMENT CONTROL

Rev 00 – Originally released to students upon publication of the course in Owl September 7th, 2020. It is dated September 1, 2020 and is completed in the format traditionally applied by this course prior to September 2020.

Rev 01 – Syllabus completely revised to achieve alignment with template published by the Western Engineering graduate school chair. Major alterations include: 1. Application of learning outcomes; 2. Changes in Sickness, Health/Wellness directions to students; 3. Changes to content and wording of sections of this document including: Cheating, Plagiarism & Academic Offenses, Accessibility, Conduct, Synchronous Learning Activities, Assessments (comments related to collaboration), and Topics (sub-topics removed, Learning Activities added).

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