



COURSE OUTLINE: CON313 - SUSTAINABLE PRACTICE

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Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	CON313: SUSTAINABLE CONSTRUCTION PRACTICES
Program Number: Name	4077: CNST. PROJECT MGMT.
Department:	CIVIL/CONSTRUCTION
Academic Year:	2022-2023
Course Description:	Students explore many facets of building green in the construction industry from a general contractor and design professional's perspective. Students will gain an introductory knowledge of the Canada Green Building Council (CaCBC), Net Zero Energy Program and the various LEED Rating Systems with an emphasis on new construction. The significance of the elements of green construction, green procurement, and contracting for green construction as they relate to a product's green strategy are addressed. Students will learn to develop waste management plans to support sustainable construction practices.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course:	4077 - CNST. PROJECT MGMT. VLO 1 Develop and use strategies to promote continuous professional learning in the construction industry. VLO 3 Assess construction project operations for compliance with contractual obligations, applicable laws, standards, bylaws, codes and ethical practices in construction methodology. VLO 4 Analyze and monitor construction processes to ensure that sustainability practices are implemented in accordance with contract documents, industry standards and environmental legislative requirements. VLO 7 Perform a feasibility study to inform decisions in the planning phase of a construction project. VLO 10 Develop and oversee quality assurance and control processes involved in the completion of construction projects to meet project specifications and industry quality standards. VLO 13 Build and lead multidisciplinary teams throughout the construction project lifecycle to accomplish construction project goals.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.



	<p>EES 4 Apply a systematic approach to solve problems.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p> <p>EES 6 Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.</p> <p>EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.</p> <p>EES 10 Manage the use of time and other resources to complete projects.</p> <p>EES 11 Take responsibility for ones own actions, decisions, and consequences.</p>
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Course Evaluation:	<p>Passing Grade: 50%, D</p> <p>A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.</p>
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Other Course Evaluation & Assessment Requirements:	<p>Definition Grade Point Equivalent</p> <p>A+ 90 - 100% 4.00</p> <p>A 80 - 89%</p> <p>B 70 - 79% 3.00</p> <p>C 60 - 69% 2.00</p> <p>D 50 - 59% 1.00</p> <p>F 49% and below 0.00 (Fail)</p> <p>CR (Credit) Credit for diploma requirements has been awarded.</p> <p>S Satisfactory achievement in field /clinical placement or non-graded subject area.</p> <p>U Unsatisfactory achievement in field/clinical placement or non-graded subject area.</p> <p>X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.</p> <p>NR Grade not reported to Registrar`s office.</p> <p>W Student has withdrawn from the course without academic penalty.</p> <p>Attendance</p> <p>Students are only allowed to miss three classes without a documented explanation. One mark will be deducted from your overall grade for each undocumented explanation. The maximum deduction in overall grade is not to exceed 15%. Valid documented explanation include:</p> <ul style="list-style-type: none"> • Medical reason • Family emergency • Childcare issue • Transportation problems • And any other reasonable explanation <p>The documented explanation must be sent to the course professor by e-mail no later than three days from a missed class. A Doctor note, etc., is to be attached as a PDF file to your e-mail.</p>
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Course Outcomes and Learning Objectives:	<table border="1"> <thead> <tr> <th>Course Outcome 1</th> <th>Learning Objectives for Course Outcome 1</th> </tr> </thead> <tbody> <tr> <td>Upon successful completion the student will be able to: 1.0 Develop and use</td> <td>1.1 Remain current with changes in the construction industry in general and in the construction project management field.</td> </tr> </tbody> </table>	Course Outcome 1	Learning Objectives for Course Outcome 1	Upon successful completion the student will be able to: 1.0 Develop and use	1.1 Remain current with changes in the construction industry in general and in the construction project management field.
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	<p>strategies to promote continuous professional learning in the construction industry. Identify environmental regulations, policies, procedures, and guidelines.</p>	<p>1.2 Identify the roles and benefits of professional organizations and certification e.g., Canadian Construction Association (CCA) Gold Seal Certification, Canadian Environmental Assessment Act, etc. 1.3 Develop a plan to keep pace with and adapt to changing workforce demands and trends, as well as technological advances in the construction project management field. 1.4 Identify strategies for building a professional network and for participating in professional associations and activities i.e., ISO 14000</p>
	<p>Course Outcome 2</p>	<p>Learning Objectives for Course Outcome 2</p>
	<p>2.0 Assess construction project operations for compliance with contractual obligations, applicable laws, standards, bylaws, codes, and ethical practices in green construction methodology.</p>	<p>2.1 Determine relevant legislation and bylaws that apply to specific construction projects. 2.2 Identify and apply legal principles affecting the review and administration of contracts. 2.3 Read and interpret relevant building drawings, specifications, and codes, i.e., National and Ontario Building Codes 2.4 Monitor that all inspections are performed and reported as required. 2.5 Apply the most current information regarding codes and standards. 2.6 Identify codes and ethics of the applicable provincial associations, societies, or workplaces. 2.7 Apply ethical reasoning to social and contractual issues that evolve when overseeing a construction project.</p>
	<p>Course Outcome 3</p>	<p>Learning Objectives for Course Outcome 3</p>
	<p>3.0 Analyze and monitor construction processes to ensure that sustainability practices are implemented in accordance with contract documents, industry standards and environmental legislative requirements.</p>	<p>3.1 Identify legislative requirements for environmental compliance 3.2 Analyze impact studies and assessments and report the results to project stakeholders. 3.3 Identify and attempt, where possible, to reduce the negative economic, social, and environmental impacts of construction projects. 3.4 Monitor environmental site assessments and document identified remediation strategies implemented. 3.5 Apply the principles of sustainable development, combining environmental stewardship and economic performance in project work. 3.6 Promote sustainability practices across the building lifecycle and rehabilitation/renewal practices. 3.7 Recommend the use of sustainable construction materials, methods, and systems to reduce impact on the environment.</p>

	3.8 Direct subcontractors to conform to the environmental protection laws and regulations. 3.9 Review and submit relevant documentation for green certification. (LEED)
Course Outcome 4	Learning Objectives for Course Outcome 4
4.0 Perform a feasibility study to inform decisions in the planning phase of a construction project.	4.1 Consult with project stakeholders and regulatory authorities to determine scope of construction project. 4.2 Perform appraisals of project goals, deliverables, approaches, and finances to determine project feasibility. 4.3 Assess requirements for business planning and management based on project stakeholders needs. 4.4 Evaluate historical, geographical, and environmental site information for use in planning construction projects. 4.5 Align project goals with preliminary drawings and specifications. 4.6 Determine the use of construction methods, processes and materials based on project requirements 4.7 Complete feasibility analysis and cost estimate, for green alternate strategies, materials, and processes.
Course Outcome 5	Learning Objectives for Course Outcome 5
5.0 Develop and oversee quality assurance and control processes involved in the completion of construction projects to meet project specifications and industry quality standards.	5.1 Lead, document, and report on the costs/benefits of methods employed. 5.2 Create deficiency lists and recommend solutions. 5.3 Monitor, report, and correct deficiencies and non-compliance with project specifications. 5.4 Meet relevant quality specifications and standards such as Canadian Standards Association (CSA), ASTM International Standards for Building Design and Construction.
Course Outcome 6	Learning Objectives for Course Outcome 6
6.0 Build and lead multidisciplinary teams throughout the construction project lifecycle to accomplish construction project goals.	6.1 Apply team building and coordination skills within multidisciplinary teams. 6.2 Use collaborative leadership skills to communicate and to influence diverse project team members. 6.3 Establish and communicate performance expectations to team members.
Course Outcome 7	Learning Objectives for Course Outcome 7
7.0 Participate in the development of an Environmental Management Plan.	7.1 Analyze components of an Environmental Management plan including corporate policy, environmental regulations, and site-specific considerations. 7.2 Implementation of/and monitoring on-site environmental

controls
7.3 Analyze emergency response plan, environmental protection plan, public information, and consultation
7.4 Understand the compliance audit process
7.5 Create and Environmental Management plan

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	30%
Final Exam	15%
Midterm	15%
Participation	20%
Presentation	20%

Date: January 9, 2023

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.

