HUMBER

Course Outline

Course Name: Technical Project 2 (ELEC 351)

Academic Period: 2023 - 2024

Faculty:

Faculty Availability:

Associate Dean:
Shaun Ghafari
shaun.ghafari@humber.ca

Schedule Type Code:

Land Acknowledgement

Humber College is located within the traditional and treaty lands of the Mississaugas of the Credit. Known as Adoobiigok [A-doe-bee-goke], the "Place of the Alders" in Michi Saagiig [Mi-Chee Saw-Geeg] language, the region is uniquely situated along Humber River Watershed, which historically provided an integral connection for Anishinaabe [Ah-nish-nah-bay], Haudenosaunee [Hoeden-no-shownee], and Wendat [Wine-Dot] peoples between the Ontario Lakeshore and the Lake Simcoe/Georgian Bay regions. Now home to people of numerous nations, Adoobiigok continues to provide a vital source of interconnection for all.

Equity, Diversity and Inclusion Statement

Humber College and the University of Guelph-Humber (Humber) are leaders in providing a learning, working and living environment that recognizes and values equity, diversity and inclusion in all its programs and services. Humber commits to reflect the diversity of the communities the College serves. Students, faculty, support and administrative staff feel a sense of belonging and have opportunities to be their authentic selves.

Faculty or Department	Faculty of Applied Sciences & Technology
Course Name:	Technical Project 2 (ELEC 351)
Pre-Requisites	ELEC 330
Co-Requisites	none
Equates	none
Restrictions	none
Credit Value	3
Total Course Hours	42

Developed By:	Prepared By:	Approved by:
		Shaun Ghafari

Humber Learning Outcomes (HLOs) in this course.

The HLOs are a cross-institutional learning outcomes strategy aimed at equipping Humber graduates with the employability skills, mindsets, and values they need to succeed in the future of work. To explore all the HLOs, please consult the Humber Learning Outcomes framework.

- Sustainability
- Systems Thinking
- Critical Thinking
- Collaboration
- Communication
- Digital Fluency
- Innovation
- Leadership
- Professionalism
- Strategic Problem-Solving

Course Description

This course is a succession of the Technical Project 1 (ELEC 330) course. Students are to build and document an automated industrial application based on the proposal submitted and approved in the Technical Project 1 course. The team of students will execute and monitor, evaluate, and take corrective actions to successfully conclude project activities. A final comprehensive technical report that includes all aspects of the project will be submitted at the end of the term. In addition, the team of students will present and demonstrate their project to a vast array of audiences, who may include their peers, students from other programs, and industry partners.

Course Rationale

The capstone project represents an essential role in preparing students for their future development. It gives students an opportunity to retain and apply whatever they have been acquiring throughout their college studies. Additionally, it offers an excellent platform to expand students' knowledge in the electrical engineering field and creates opportunities for employment.

Course Learning Method(s)

- Problem Based Learning (PBL)
- Case Based Learning
- Collaborative Learning
- Capstone
- Cooperative Learning

Learning Outcomes

- Create work result within scope
- Produce periodic progress report at each step

- Assess team performance and improve if needed
- Establish member responsibilities with the team to achieve desired work results.
- Perform corrective actions such as rework of deliverables and adjustments to the work process.
- Adapt project plan and scope if predicaments arise
- Provide highest standard of safety and quality whilst completing evaluation checklists.
- Ask formal acceptance for each phase or activity
- Create Project records for future references
- Write a comprehensive technical report including all details as per the project proposal.
- Demonstrate the project to their peers, faculty, and industry representatives if needed

Assessment Weighting

Assessment	**Weight**
Final Presentation	10%
Project recording	10%
Final Report	20%
Midterm Presentation	10%
Midterm Report	20%
Practical work	30%
Total	**100%**

Modules of Study

Module	**Course Learning Outcomes**	**Resources**	**Assessments**
Module 1: Implementation Phase – Purpose and Goal Activities Documentation Defining Phase Completion	• Create work result within scope • Demonstrate the project to their peers, faculty, and industry representatives if needed		• Practical work

Module	Course Learning Outcomes	Resources	Assessments
Module 2: Project Plan – The Work Breakdown Structure (WBS) Establishing Responsibilities Project Schedule and Adjustments Costs and Budgets Monitoring and Controlling	• Establish member responsibilities with the team to achieve desired work results. • Perform corrective actions such as rework of deliverables and adjustments to the work process. • Adapt project plan and scope if predicaments arise • Provide highest standard of safety and quality whilst completing evaluation checklists. • Create Project records for future references • Write a comprehensive technical report including all details as per the project proposal.		• Practical work • Midterm Report • Midterm Presentation
Module 3: Specifications and Reports – Preparing Specifications Trip and Meeting Reports Periodic Project Reports	• Produce periodic progress report at each step • Perform corrective actions such as rework of deliverables and adjustments to the work process. • Adapt project plan and scope if predicaments arise • Create Project records for future references • Write a comprehensive technical report including all details as per the project proposal. • Demonstrate the project to their peers, faculty, and industry representatives if needed		• Practical work • Final Report • Final Presentation
Module 4: Project Management – Management Functions Project Organizations Management Styles Project Reporting Gathering and Organizing Data Project Control	• Assess team performance and improve if needed • Adapt project plan and scope if predicaments arise • Ask formal acceptance for each phase or activity • Demonstrate the project to their peers, faculty, and industry representatives if needed		• Practical work • Final Presentation • Project recording

Required Resources

Planning, Performing, and Controlling Projects – Principles and Applications (3rd Edition)

By: Robert B. Angus, Norman A. Gundersen, and Thomas P. Cullinane

Publisher: Prentice Hall

ISBN 0-13-041670-3

Essential Skills

Section	Skills	Measurement	Details
Communication	• Reading • Writing • Speaking • Listening • Presenting • Visual Literacy	Reinforce and measure	• Presentation and group working • Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.
Numeracy	• Understanding and applying mathematical concepts and reasoning • Analyzing and using numerical data • Conceptualizing	Reinforce and measure	• Electrical calculation • Execute mathematical operations accurately.
Critical Thinking and Problem-Solving	• Analysing • Synthesizing • Evaluating • Decision-Making • Creative and Innovative Thinking	Reinforce and measure	• Problem solving • Apply a systematic approach to solve & Problem Solving problems
Information Management	• Gathering and managing information • Selecting and using appropriate tools and technology for a task or project • Computer literacy • Internet skills	Reinforce and measure	• Making BOM • Locate, select, organize, and document information using appropriate technology and information systems.
Interpersonal Skills	• Teamwork • Relationship management • Conflict resolution • Leadership • Networking	Reinforce and measure	• Team working • Show respect for diverse opinions, values belief systems, and contributions of others.

Section	Skills	Measurement	Details
Personal Skills	• Managing self • Managing change and being flexible and adaptable • Engaging in reflective practice • Demonstrating personal responsibility	Reinforce and measure	• Applying Responsible autonomy • Manage the use of time and other resources to complete projects.

Prior Learning Assessment & Recognition (PLAR)

Prior Learning Assessment and Recognition (PLAR) is the formal evaluation and credit-granting process whereby candidates may obtain credits for prior learning. Prior learning includes the knowledge competencies and skills acquired, in both formal and informal ways, outside of post-secondary education. Candidates may have their prior learning evaluated against the course learning outcomes as defined in the course outline.

To find out if this course is eligible for PLAR, and how this learning would be assessed, please contact the Program Coordinator for more details.

Academic Regulations

It is the student's responsibility to be aware of the College Academic Regulations. The Academic Regulations apply to all applicants to Humber and all current students enrolled in any program or course offered by Humber, in any location. Information about academic appeals is found in the **Academic Regulations**.

Anti-Discrimination Statement

At Humber College, all forms of discrimination and harassment are prohibited. Students and employees have the right to study, live and work in an environment that is free from discrimination and harassment. If you need assistance on concerns related to discrimination and harassment, please contact the Centre for Human Rights, Equity and Inclusion or the Office of Student Conduct.

Accessible Learning Services

Humber strives to create a welcoming environment for all students where equity, diversity and inclusion are paramount. Accessible Learning Services facilitates equal access for students with disabilities by coordinating academic accommodations and services. Staff in Accessible Learning Services are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. If you require academic accommodations, contact:

Accessible Learning Services

North Campus: (416) 675-6622 X5090

Lakeshore Campus: (416) 675-6622 X3331

Academic Integrity

Academic integrity is essentially honesty in all academic endeavors. Academic integrity requires that students avoid all forms of academic misconduct or dishonesty, including plagiarism, cheating on tests or exams or any misrepresentation of academic accomplishment.

Disclaimer

While every effort is made by the professor/faculty to cover all material listed in the outline, the order, content, and/or evaluation may change in the event of special circumstances (e.g. time constraints due to inclement weather, sickness, college closure, technology/equipment problems or changes, etc.). In any such case, students will be given appropriate notification in

writing, with approval from the Dean (or designate) of the School.

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