HUMBER

Course Outline

Course Name: Technical Project 1 (ELEC 330)

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 1 (ELEC 330)
Pre-Requisites	ELEC 252 & ELEC 253
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

Students will work in a team to write a comprehensive proposal for their chosen technical project. The project is brought to an end in the final semester, ELEC 351 - Technical Project 2. The project entails the design, development, and installation of an automated process. It is preferred that students work with industry partners, outside of the college, on procuring a solution to their inadequacies. However, they may consult with the industry to define the scope and implementation of their project. The proposal will demonstrate the project need and feasibility, fully appraise all aspects of the project, and obtain project authorization. The proposal will express the objectives and requirements of the project in terms of the project's scope, schedule, resource requirements, cost estimation, quality, and risk management.

Course Rationale

This course helps students sharpen their research skills. Students are required to search for an authentic project, which leads them to ameliorate their research abilities. Writing a thorough proposal and providing a design is the first step to completing the capstone project, which is built in the final term of the program.

Course Learning Method(s)

- Problem Based Learning (PBL)
- Case Based Learning
- Group or Team Work
- Cooperative Learning

Learning Outcomes

- Describe project scope including a statement of project scope, a scope management plan, and a work breakdown structure (WBS).

- Order project activities by developing an activity list, giving updates to the WBS, and designing a project network diagram.
- Develop a project schedule including Gantt Charts, network diagrams, milestone charts, or text tables, using supporting
- Develop cost estimates for completing each activity, giving supporting detail, including assumptions and constraints.
- Build a budget and spending plan for measuring and monitoring costs, telling how much will be spent on what resources at what time.
- Create a formal project communications plan including: a collection and distribution structure, schedules listing when information will be produced, and a method for updating the communications plan.
- Define role and responsibility assignments within the team, produce an organizational chart with detail as appropriate.
- Design a document describing potential risks, including their sources, symptoms, and ways to address them.
- Defend the project planning phase to get the project plan approved to begin work on the project.

Assessment Weighting

Assessment	**Weight**
Final Presentation	20%
Final Individual Report	20%
Midterm Group Report	20%
Weekly Evaluation	20%
Midterm Proposal	20%
Total	**100%**

Modules of Study

Module	**Course Learning Outcomes**	**Resources**	**Assessments**
Module 1: Conception Phase – Purpose and Goal Activities Documentation Defining Phase Completion	• Describe project scope including a statement of project scope, a scope management plan, and a work breakdown structure (WBS).		• Weekly Evaluation
Module 2: Project Plan – The Work Breakdown Structure (WBS) Establishing Responsibilities Project Schedule and Adjustments Costs and Budgets Monitoring and Controlling	• Describe project scope including a statement of project scope, a scope management plan, and a work breakdown structure (WBS). • Create a formal project communications plan including: a collection and distribution structure, schedules listing when information will be produced, and a method for updating the communications plan.		• Midterm Proposal • Weekly Evaluation

Module	Course Learning Outcomes	Resources	Assessments
Module 3: The Study Phase – Purpose and Goal Activities Documentation Defining Phase Completion	• Describe project scope including a statement of project scope, a scope management plan, and a work breakdown structure (WBS). • Order project activities by developing an activity list, giving updates to the WBS, and designing a project network diagram. • Create a formal project communications plan including: a collection and distribution structure, schedules listing when information will be produced, and a method for updating the communications plan.		• Midterm Proposal • Weekly Evaluation
Module 4: The Design Phase – Purpose and Goal Activities Documentation Defining Phase Completion	• Develop a project schedule including Gantt Charts, network diagrams, milestone charts, or text tables, using supporting • Design a document describing potential risks, including their sources, symptoms, and ways to address them.		• Weekly Evaluation • Final Individual Report
Module 5: Project Management – Management Functions Project Organizations Management Styles Project Reporting Gathering and Organizing Data Project Control	• Develop cost estimates for completing each activity, giving supporting detail, including assumptions and constraints. • Build a budget and spending plan for measuring and monitoring costs, telling how much will be spent on what resources at what time. • Define role and responsibility assignments within the team, produce an organizational chart with detail as appropriate. • Defend the project planning phase to get the project plan approved to begin work on the project.		• Weekly Evaluation • Final Presentation

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	Reinforce and measure	• Lecture and presentations • Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. Respond to written, spoken, or visual messages in a manner that ensures effective communication.
Critical Thinking and Problem-Solving	• Analysing • Synthesizing • Evaluating • Decision-Making • Creative and Innovative Thinking	Reinforce and measure	• Solution development and managing project • Apply a systematic approach to solve & Problem Solving problems.
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. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
Numeracy	• Understanding and applying mathematical concepts and reasoning • Analyzing and using numerical data	Reinforce and measure	• Electrical calculation • Execute mathematical operations accurately.
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	• Searching and developing BOM • Locate, select, organize, and document information using appropriate technology and information systems. Analyze, evaluate, and apply relevant information from a variety of sources

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	• Time management and meeting deadline • 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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See the **Humber Libraries website** for additional information regarding copyright and for details on allowable limits.
