EPI-1173 MS Project and Data Analytics

International Education

Course Number:	**Co-Requisites:**	**Pre-Requisites:**
EPI-1173	N/A	N/A
Prepared by:	Lambton College, Outline Creator	
Approved by:	Chris Slade, Dean School of Information Technology	
Approval Date:	Friday, June 2, 2023	
Approved for Academic Year:	2023-2024	
Credit Weight:	3.00	

Course Description

In this course, the student is introduced to understanding, organizing, and presenting data in useful visual formats to able to interpret, analyze and make decisions on a project. The student is presented with a number of techniques and tools within MS Excel and MS Project to aid with data analysis. Upon completion, the student will be able to use a number of advanced features within Excel as well as create a complete MS Project Schedule. The student will have the knowledge to monitor the progress of the project using Earned Value Management and utilize several reporting tools within MS Project.

Course Learning Outcomes/Course Objectives

1. **Outline how data is used in the decision making and change management processes.**

    1.1   Describe data and the data analysis cycle to support decision-making and change management processes

    1.2   Identify common formats and potential sources of data in a project management information system

    1.3   Describe the concept of fields, tables, and databases.

2. **Introduce a number of techniques used in Excel to assist in data analysis.**

    2.1   Demonstrate concepts such as:
    - Structuring Excel data for analyzing.
    - Converting lists to tables and using formulas
    - Sorting and creating advanced filters data using slicers with table data.
    - Creating Subtotals
    - Using a number of data analysis tools such as: SUMIF, COUNTIF, DSUM, DAVERAGE, DMAX, VLOOKUP
    - Creating, Chart and Graphs

    2.2   Properly inspect, cleanse, transform, and model data providing detailed conclusions.

3. Produce Excel reports using built-in data analytical tools to consolidate data in an easy to understand format.

    3.1   Describe the importance of Key Performance Indicators (KPI's) to measure business performance

    3.2   Create a KPI Excel Dashboard using conditional formatting with rules and rulesets

    3.3   Produce summarized data using Excel's built in pivot tables and Charts

4. Assign resources and manipulate working calendars using Microsoft Project

    4.1   Create a resource pool for the project including work, material and cost

    4.2   Assign specific resources calendars

    4.3   Assign resources to tasks as required and adjust task types and durations accordingly

5. Create a project Gantt chart showing tasks, durations and relationships between tasks using Microsoft Project

    5.1   Create task dependencies including leads and lags

    5.2   Enter task duration estimates

    5.3   Calculate the project's critical path

    5.4   Prepare both a Gantt Chart and Precedence Network Diagram (PND)

    5.5   Analyze and correct for resource over-allocation and overloads (resource leveling)

    5.6   Set a project baseline and demonstrate views on the project's critical path

    5.7   Produce Microsoft Project built-in reports

    5.8   Create custom tables producing custom reports based on those tables

    5.9   Generate Project data exports for further data manipulation in Excel

6. Execute a Microsoft Project plan measuring and reporting on progress and overall performance.

    6.1   Describe Earned Value Management (EVM) and its overall value in monitoring and controlling a project

    6.2   Create an Earned Value Management system to forecast and report on a project's progress

    6.3   Generate reports on Earned Value to view project schedule and budget status as well as forecasts

Relationship to Vocational Learning Outcomes

This course provides the opportunity for you to achieve the following Program Vocational Learning Outcomes (VLO's), which will be taught and evaluated at a taught (T), assessed (A) or culminating performance (CP) level:

PMIT - Advanced Project Management - Information Technology

VLO 1   Manage project goals, constraints, deliverables, performance criteria, quality control needs, communication, negotiation, collaboration and resource requirements with all stakeholders to ensure the successful completion of information technology projects. (T, A)

VLO 2   Align management and leadership strategies when working on projects according to internal organizational culture in the information technology industry. (T, A)

VLO 7   Apply systematic information technology development methodologies and principles to successfully manage projects and team collaborations in the information technology development and operations space. (T, A)

Learning Resources

Resources and Supplies

Note: Resources listed below are used in other courses of the project management program and are not exclusive to this course.

Required

- Project Management Institute (2021). A Guide to the Project Management Body of Knowledge (PMBOK® Guide), (7th Edition), Project Management Institute.

Student Evaluation

Reflective Journal (5%)
Quizzes (20%)
Assignments (50%)
- Microsoft Excel (25%)
- Microsoft Project (25%)

Final Assignment (25%)

Grade Scheme

The round off mathematical principle will be used. Percentages are converted to letter grades and grade points as follows:

Mark (%)	Grade	Grade Point	Mark (%)	Grade	Grade Point
94-100	A+	4.0	67-69	C+	2.3
87-93	A	3.7	63-66	C	2.0
80-86	A-	3.5	60-62	C-	1.7
77-79	B+	3.2	50-59	D	1.0
73-76	B	3.0	0-49	F	0.0
70-72	B-	2.7			

Prior Learning Assessment and Recognition

Students who wish to apply for prior learning assessment and recognition (PLAR) need to demonstrate competency at a post-secondary level in all of the course learning requirements outlined above. Evidence of learning achievement for PLAR candidates includes:

- Not Applicable: Post-graduate course

Course Related Information

This course is delivered in the laboratory environment using several approaches to learning including traditional instructor-led instruction, discussions, individual, group assignments, and projects. The student is required to do reading, assignments, and study preparation for testing. MS Project is available through the virtual desktop.

College Related Information

Note: It is the student's responsibility to retain course outlines for possible future use to support applications for transfer of credit to other educational institutions.
Academic Integrity

Lambton College is committed to high ethical standards in all academic activities within the College, including research, reporting and learning assessment (e.g. tests, lab reports, essays).
The cornerstone of academic integrity and professional reputation is principled conduct. All scholastic and academic activity must be free of all forms of academic dishonesty, including copying, plagiarism and cheating.

Lambton College will not tolerate any academic dishonesty, a position reflected in Lambton College policies. Students should be familiar with the Students Rights and Responsibilities Policy, located at lambtoncollege.ca. The policy states details concerning academic dishonesty and the penalties for dishonesty and unethical conduct.

Questions regarding this policy, or requests for additional clarification, should be directed to the Lambton College Student Success Department.

Students with Disabilities
If you are a student with a disability please identify your needs to the professor and/or the Accessibility Centre so that support services can be arranged for you. You can do this by making an appointment at the Accessibility Centre or by arranging a personal interview with the professor to discuss your needs.
Lambton College in Toronto at Cestar College Campus and Lambton College in Mississauga at Queen's College Campus, please identify your needs to the professor and/or student services.

Student Rights and Responsibility Policy
Acceptable behaviour in class is established by the instructor and is expected of all students. Any form of misbehaviour, harassment or violence will not be tolerated. Action will be taken as outlined in Lambton College policy.

Date of Withdrawal without Academic Penalty
Please consult the Academic Regulations and Registrar's published dates.

Waiver of Responsibility
Every attempt has been made to ensure the accuracy of this information as of the date of publication. The content may be modified, without notice, as deemed appropriate by the College.

Students should note policies may differ depending on the location of course offering. Please refer to your study location specific policies:

LAMBTON COLLEGE POLICIES - applicable to all Lambton College students:
- Student Rights & Responsibilities & Discipline policy (2000-5-1)

- Test & Exam Writing Protocol (2000-1-6)
- Evaluation of Students (2000-1-3)
- Policy Link - https://www.lambtoncollege.ca/custom/Pages/Policies/Policies.aspx

CESTAR COLLEGE:

- www.lambtoncollege.ca/policies-tor

QUEENS COLLEGE:

- www.lambtoncollege.ca/policies-miss