BUS 210, Business Mathematics

3 credits, 4 hours per week

Course Description

This course provides an overview of business analytics and data visualization. It covers the processes, methodologies, and practices used to transform data into valuable information that provides insight to support business decision-making. Students improve their skills by completing analytics projects that combine data visualization best practices with statistical analysis. This course is taught in a hands-on experiential approach with a major focus on descriptive analytics.

Pre and Co-requisites

A successful completion of BUS111 or STAT151 is required.

Course Learning Outcomes (CLOs)

Upon successful completion of the course, the student shall be able to:

CLO1 Explain fundamental concepts of business analytics, and terminology and their application in the business environment and other real-world context.

The following concepts, skills, and issues are used to support this outcome:

- Define data analytics.
- Describe the importance of business analytics, data privacy, and data ethics.
- Describe the steps in the data analytics process.
- Differentiate between the various types of data analytics (descriptive, diagnostics, predictive, prescriptive analytics) and explain their application in the business environment.
- Discuss the principles of data warehousing.
- Explain the important attributes/characteristics of data that must be contemplated when selecting data for analysis.
- Differentiate between leading business intelligence and data visualization tools.

CLO2 Use business intelligence software and basic data analytics principles to extract, transform, and prepare data for analysis.

The following concepts, skills, and issues are used to support this outcome:

- Connect to various types of data sources, such as spreadsheets, databases, and text files.
- Identify and work with different data types associated with varying data sources.
- Transform data prior to analysis using tools such as pivots, splits, relationships, joins, and unions.

CLO3 Perform descriptive and predictive analytics functions using business intelligence software and statistical techniques to analyze and derive insight from data.

The following concepts, skills, and issues are used to support this outcome:

- Compute and interpret measures of location such as mean, mode, median, and percentiles.
- Compute and interpret measures of dispersion, such as variance and standard deviation
- Compute and interpret correlation coefficient.
- Estimate and interpret a linear regression model.
- Apply custom aggregations.
- Use string, number, date, logical, and type conversion functions to manipulate data.

CLO4 Build data visualizations to convey insights that form the basis of organizational decision making and problem solving.

The following concepts, skills, and issues are used to support this outcome:

- Define data visualization and explain its value as a tool for communicating information.
- Identify design principles for producing effective visualizations.
- Apply appropriate design principles to create visualizations.
- Develop stand-alone visuals such as graphs, charts, and maps.
- Combine various visuals into interactive dashboards to convey insights from analysis or to facilitate dynamic KPI reporting.
- Create and share data story.
- Analyze, critique, and revise data visualizations.

Evaluation

Assessment Type	Percentage
Discussion Forum and Participation	5%
Quizzes and/or Assignments	40%
Mid-term Exam	20%
Final Exam	20%
Term Project	15%
Total	**100%**

Course Completion Requirements

Minimum passing mark of 50% or D is required.

Grading Scale

4.0 Grade Scale	Alpha Grade	Percentage Grade
4.0	A+	93-100
4.0	A	85-92.9
3.7	A-	80-84.9
3.3	B+	77-79.9
3.0	B	74-76.9
2.7	B-	70-73.9
2.3	C+	67-69.9
2.0	C	64-66.9
1.7	C-	60-63.9
1.3	D+	55-59.9
1.0	*D	50-54.9
0.0	F	0-49.9

Land Acknowledgement

We respectfully acknowledge that Keyano College is on Treaty No. 8 Territory, the ancestral and traditional territory of the Cree, Dene, and Métis people.

Review Date: November 26, 2024

Every effort has been made to ensure that information in this course outline is accurate at the time of publication. Keyano College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.

Keyano College reserves the right to modify the syllabus, curriculum, or schedule of any course/program, or to cancel a course/program entirely, at any time and for any reason. Such changes may be necessary due to unforeseen circumstances, regulatory requirements, or to ensure the highest quality of education.

Students will be notified of any significant changes as soon as possible. Keyano College is not responsible for any inconvenience or disruption caused by these changes. It is the responsibility of the students to stay informed about any updates or modifications to their courses.