

QUA1212

Data Analysis for Quantitative Research II

Course Outline

2023-2024

Pre-requisite(s)

MKT1201 and QUA1206

Co-requisite(s)

N/A

Prepared by

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Approved by

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Normative hours

56.00

Grading system

A+ Through F

	Applicable Program(s)	Level	Core/EL
1303X01FWO - Marketing Research and Analysis		2	Core
1303X03FWO - Marketing Research and Analysis		2	Core

Course Description

Intermediate and advanced statistical techniques provide a much wider understanding of the relationships in survey data and enable the researcher to provide higher calibre solutions to marketing objectives. Building on existing knowledge of quantitative analysis techniques, students explore multivariate analysis including factor and cluster analysis, perceptual mapping, and various types of non-linear regression. Students also enhance their analytical skills through the use of statistical analysis software. Through assignments, presentations and data analysis exercises, students develop the ability to identify appropriate statistical techniques to obtain evidence-based conclusions and achieve marketing objectives. Prerequisites: MKT1201, QUA1206

Vocational Learning Outcomes

This course provides the opportunity for you to achieve the following outcomes:

1303X01FWO - Marketing Research and Analysis

- VLO 1** Collect and process marketing research information to support the analysis and presentation of data. (T, A, CP)
- VLO 2** Conduct marketing, consumer behaviour, and public opinion research to inform major business decisions. (T, A)
- VLO 4** Interpret qualitative and quantitative research through the analysis and presentation of data, to meet the needs and objectives of the client. (T, A)
- VLO 5** Analyze and manipulate numerical and text data in a manner consistent with the appropriate principles of statistics and related techniques. (T, A, CP)

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Assessment Levels —T: Taught A: Assessed CP: Culminating Performance

Course Learning Requirements / Embedded Knowledge and Skills

When you have earned credit for this course, you will have demonstrated the ability to:

1. Interpret non-linear forms of regression analysis to identify the statistical significance of results and issues of interpretation

- Discuss and describe the concepts related to binary logistic regression, as well as its similarities to and differences from linear regression
- Apply ordinal regression techniques to appropriate data when the specific research problems and variables call for it
- Understand the unique data structure and scenarios associated with multinomial regression (aka discrete choice modelling) and how the analysis differs from both binary and ordinal regression
- Apply the above techniques using SPSS

2. Describe the importance of factor and cluster analysis and the strategies associated to conduct these models

- Describe the concept of factor analysis and the procedure for conducting this procedure
- Describe the concept of cluster analysis and the statistics associated with this technique
- Describe the procedure for conducting cluster analysis
- Describe the purpose and methods for evaluating the quality of clustering results and assessing reliability and validity
- Understand discriminant analysis and how it compares to / compliments other clustering techniques
- Apply the above techniques using SPSS

3. Conduct conjoint analysis using orthogonal designs

- Describe the concept of conjoint analysis and how to use basic steps involved in the procedure
- Describe how to use orthogonal design to create product attributes and combine them into cards for data collection
- Assess appropriate sample sizes and data collection methods
- Apply SPSS syntax to conduct conjoint analysis
- Describe appropriate and inappropriate uses of conjoint analysis

4. Statistically evaluate questionnaire/survey tools from a validity and reliability perspective

- Understand the theory behind survey scaling
- Conduct various reliability analyses to evaluate the internal consistency of diverse survey scales
- Take appropriate steps to deal with survey scales that may show to be either too reliable, or not reliable enough

5. Apply the above and other statistical techniques to analyze and solve some of the most common quantitative research questions in marketing

- Conduct brand mapping analyses to understand how your target market is segmented, and their relative affinity to various brand attributes
- Assess the reach and frequency of product options using TURF analysis – a technique developed specifically for marketing

- Enhance client/customer engagement with k-nearest neighbours analysis – a technique used to identify like-cases based on key variables

Learning Resources

Required textbook:

IBM SPSS for Intermediate Statistics: Use and Interpretatio (5th Ed.)

Leech, Nancy L., Barrett, Karen C., Morgan, George A.

ISBN: 9781138578210

(Routledge (Taylor and Francis Group))

SPSS Statistics for Data Analysis and Visualization

McCormick, K; Salcedo, J; Peck, J; Wheeler, A.; Verlen, J

ISBN: 9781119003557

John Wiley and Sons

- Other resources
- Internet resources
- Algonquin College Learning Resource Centre electronic and print resources
- SPSS Software

Learning Activities

Samples of learning activities may include:

- Lectures
- Guest speakers
- In-class and online discussions
- Case studies
- Textbook readings
- SPSS workshops

NOTE: This course has a TARGETED PASS. Students must have BOTH 50% on the final exam AND 50% overall to pass this course.

Pre-defined Evaluation / Earning Credit

The following list provides evidence of this course's learning achievements and the outcomes they validate:

Workshop(s) (36%)

Validates Outcomes: CLR 1, CLR 2, CLR 3, CLR 4, CLR 5

Midterm Exam(s) (25%)

Validates Outcomes: CLR 1, CLR 2, CLR 3

Participation (4%)

Validates Outcomes: CLR 1, CLR 3, CLR 4

Final Exam (35%)

Validates Outcomes: CLR 1, CLR 2, CLR 3, CLR 4, CLR 5

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 outlined course learning requirements. Evidence of learning achievement for PLAR candidates includes:

- Other: QUA 1206 must be passed in Semester 1.