

|  |
| --- |
| Department of Marketing and Consumer Studies |
| Marketing Analytics: MCS\*3500, Fall 2021 |
|  |
|  |

**Instructor**: **Dr.** **Towhidul Islam, Professor**

**Office:**  MINS 206B

**Email:** islam@uoguelph.ca

**Office Hours:** Tuesdays 12:00 – 2:00 pm

**Lecture:** **Section 2:** Tuesdays 10:00 – 11:20 am, Room MCKN 120

 **Section 1**: Tuesdays 2:30 – 3:50 pm, Room MCKN 029

**Lab (Data Analysis): Section 2:** Thursdays 10:00 – 11:20 am, Room 120

**Section 1:** Thursdays 2:30 – 3:50 pm, MCKN 029

Graduate Teaching Assistant (GTA): TBA

##### Course Description and Objectives

##### This course teaches methods of analysis that support decision making in the marketing discipline. Topics include reviews of data descriptions and visualization, market response models, perceptual mapping and brand positioning, marketing segmentation and targeting, market basket analysis and new product design and choice analysis. The main objectives are (a) develop your ability to make decisions using analytical tools and sound research; (b) translate analytical findings into strategic decision making; (c) become an intelligent user of available analytical tools and techniques. In this course, you will learn how to analyze marketing data to help make policy and strategic decisions. Specifically, we will use freely available R-Studio to learn how to use different analytical tools and interpret the results.

Suggested Text: Chapman, C. and Feit, E. M. (2015), R for Marketing Research and Analytics, Springer

 Data and R-codes available at: http://r-marketing.r-forge.r-project.org/data.html

 *[You can download selected chapters from University of Guelph Library]*

Software: R-Studio (Freely available).

 https://cran.r-project.org/ and https://www.rstudio.com/

##### Course Learning Objectives

Upon successfully completing this course, you should be able to:

**L01**: develop your ability to make decisions using analytical tools and sound research

**L02:** translate analytical findings into strategic decisions

**L03**: become an intelligent user of available analytical tools and techniques

**L04**: become familiar with R programming

###### Evaluation Procedure (Group Assignments)

You need to form groups (each group should have maximum of two students from the same section) by the end of first week. You can work individually, if willing.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Modules | Topic | Weight**1** | Due Date**2** | Learning Outcomes |
| Module 1 | Understanding Data and Data Visualization  | 25% | September 30th  | LO1 to LO4 |
| Module 2 | Market Response Models | 25% | October 21st | LO1 to LO4 |
| Module 3 | Dimension Reduction: Perceptual Mapping & Brand Positioning | 25% | November 11th | LO1 to LO4 |
| Module 4 | Market Segmentation and Targeting  | 25% | November 30th | LO1 to LO4 |
| Module 5 | New Product Design and Insights | 25% | December 9th | LO1 to LO4 |

1 Best 4 out of 5 will be used for your final grade.Individual mark will be assigned from your group mark after adjusting evaluations from peers and feedback from GTAs.

2 All assignments (hard copy) are due during class hours. There will be penalty for late submissions if prior permission is not taken. All assignments will be made available at last 7 days prior to the due dates.

###### Class Schedule

|  |  |  |
| --- | --- | --- |
| **Weeks & Modules** | **Topics** | **Readings: Lecture Slides** |
| **Module 1**: Data and Data Visualization | * Introduction to R and R Markdown
* Understanding Data
* Introduction to ggplot2 and overview of key graphics libraries
* Understanding additional layers: Geom, Co-ordinates and Scales, Labels, Facet, Color, Texts, Appearance, Theme
* Basic plots: scatter, line, densities, histograms, and box plots
 | Excellent book if you want to develop visualization skills:Data visualization: Healy, K. (2018). *Data visualization: a practical introduction*. Princeton University Press.* Readings: Chapter 3
 |
| **Module 2:** Market Response Models  | * Linear regression, binary logistic, best subset regression
* Multivariate adaptive regression splines (MARS)
* Visualizing model estimates with confidence interval, average marginal effects
 | * Readings: Chapter 7
 |
| **Module 3:** Dimension Reduction: Mapping and Brand Positioning | * Perceptual Mapping with metric, nominal, and mixed data
* Distance Measures: Euclidean, Pearson, Gower, Dissimilarity
* Principal Component, Factor Analysis, and Multidimensional Scaling
* Visualizing perceptual maps
 | * Readings: Chapter 8
 |
| **Module 4:** Market Segmentation and Targeting | * Market segmentation: K-Means and model-based clustering
* Visualization of segments on the key dimensions (i.e., principal components) of the basis or segmentation variables
* Classification trees for targeting; random forest and visualization of decision trees
 | * Readings: Chapter 11
 |
| **Module 5:** Product Design: Experiment, Models, and Insights | * Introduction to discrete experiment
* Design of generic, alternative specific (labelled) experiments
* Data coding and preparation
* Basic Choice Model: Multinomial Logit Model (MNL)
* Marginal rates of substitution (MRS), willingness to pay (WTP), relative importance of product attributes, and their visualization
 | * Readings: Chapter 13
 |

## Grading Policies

Unless you have discussed an extension well ahead of the due date with the instructor, late penalties of 5% of the total grade earned per day (including weekends) will be assigned to any assessment (i.e. deducted from the total mark). Extensions will only be granted on the basis of valid medical or personal reasons and need to be requested via email to the instructor as soon as possible. Late assignments will not be accepted once graded assignments have been returned officially to the class at large, unless circumstances permit, and alternative arrangements have been made.

Students who find themselves unable to meet course requirements by the deadlines or the criteria expected because of medical or personal reasons, should review the regulations on academic consideration in the Academic Calendar and discuss their situation with the instructor, program counselor or other academic counselor as appropriate.

http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-grds.shtml

Missed Assignments

A grade of zero will be assigned if you fail to submit an assignment, unless you are ill or have other compassionate reasons. Please read your Undergraduate Calendar for the regulations regarding illness and compassionate grounds. Please note, vacation travel, moving house, or outside work commitments will not be accepted as valid reasons for missing deadlines.

If you have religious observances which conflict with the course schedule or if you are registered with Student Accessibility Services, please contact the course instructor to make arrangements for your assessment if appropriate.

University Policies

## Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration:

https://www.uoguelph.ca/registrar/calendars/graduate/2018-2019/genreg/sec\_d0e2502.shtml

## Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Graduate Calendar:

https://www.uoguelph.ca/registrar/calendars/graduate/2018-2019/genreg/sec\_d0e2952.shtml

## Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Student Accessibility Services as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email sas@uoguelph.ca or see the website: https://wellness.uoguelph.ca/accessibility/

## Course Evaluation Information

Please refer to the Course and Instructor Evaluation Website

## Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## Drop date

For regulations and procedures for Dropping Courses, see the Academic Calendar:

https://www.uoguelph.ca/registrar/calendars/graduate/2018-2019/sched/sched-dates-f10.shtml

.