



## **MKTG3530 Big Data Marketing**

**Semester 2, 2022-23**

<b>GENERAL INFORMATION</b>
<p>Instructor: Dr. Jingcun Cao</p> <p>Email: jcao@hku.hk Office: KK 718 Phone: 39171121 Consultation times: By appointment</p> <p>Tutor: Pre-requisites: MKTG2501 Introduction to Marketing Co-requisites: Mutually exclusive:</p> <p>Course Website: Other important details:</p>
<b>COURSE DESCRIPTION</b>
<p>With marketers poised to be the largest users of data within an organization, there is a need to make sense of the variety of consumer data that the organization collects, especially in the era of big data. This course exposes students to essential tools including data visualization, exploratory data analysis, as well as regression methods that can be used to convert raw data into marketing insights. For example, these tools will be used to investigate the impact of marketing activity on aggregate data (e.g., sales) and on individual-level choice data (e.g., brand choices). The course also includes a set of assignments conducted using Tableau and Microsoft Excel, ensuring that students will acquire the needed capabilities and skills to extract information from the big data available to them.</p>
<b>COURSE OBJECTIVES</b>
<ol style="list-style-type: none"><li>1. To build a conceptual understanding of big data used in business.</li><li>2. To learn hands-on, working knowledge of data visualization and analysis methods used by business intelligence analysts.</li><li>3. To identify and critically evaluate implications of business decisions for organizational stakeholders and the natural environment.</li><li>4. To apply the knowledge and tools of quantitative analysis and modeling to make recommendations and business decisions.</li><li>5. To learn to communicate marketing insights derived from big data effectively by employing multiple media.</li></ol>
<b>FACULTY LEARNING GOALS (FLGs)</b>
<p><b>FLG1:</b> Acquisition and internalization of knowledge of the programme discipline</p> <p><b>FLG2:</b> Application and integration of knowledge</p> <p><b>FLG3:</b> Inculcating professionalism</p> <p><b>FLG4:</b> Developing global outlook</p> <p><b>FLG5:</b> Mastering communication skills</p> <p><b>FLG6:</b> Cultivating leadership</p>

<b>COURSE LEARNING OUTCOMES (CLOs)</b>			
<b>Course Learning Outcomes</b>		<b>Aligned Faculty Learning Goals (FLGs)</b>	
CLO1: Understand data structures and types of variables		FLG 1, 2	
CLO2: Visualize and communicate key information of the available marketing data with Tableau		FLG 1, 2, 3	
CLO3: Identify relevant statistical tools for a given marketing problem based on the available marketing data		FLG 1, 2, 3	
CLO4: Implement the statistical analysis using the Excel		FLG 1, 2, 3	
CLO5: Understand how to interpret the statistical software package's output for the implemented statistical tool in solving the marketing problem		FLG 1, 2, 3, 4, 5, 6	
CLO6: Communicate the results of the data analysis to aid business stakeholders in making marketing decisions		FLG 1, 2, 3, 4, 5, 6	
<b>COURSE TEACHING AND LEARNING ACTIVITIES</b>			
<b>Course Teaching and Learning Activities</b>		<b>Expected Study Hours</b>	<b>Study Load (% of study)</b>
T&L1: Interactive lectures with exercises/discussions		36 hours	30%
T&L2: Data visualization and analysis assignments		12 hours	10%
T&L3: Group meeting and discussions		12 hours	10%
T&L4: Final Project—presentation and written Report		40 hours	33%
T&L5: Self-study		20 hours	17%
Total		120 hours	100%
<b>Assessment Methods</b>	<b>Brief Description (Optional)</b>	<b>Weight</b>	<b>Aligned Course Learning Outcomes</b>
A1: Participation	Attendance and participation	10%	CLO 1, 5
A2: Individual Assignments	2 individual assignments	20%	CLO 1, 2, 3, 4
A3: Group Project	Presentation (15%) Written Report (15%)	30%	CLO 1, 2, 3, 4, 5, 6
A4: Final Test	Closed-book format	40%	CLO 1, 2, 3, 4
Total		100%	
<b>Coursework / Final Test Ratio:    60 % / 40 %</b>			
<b>STANDARDS FOR ASSESSMENT</b>			
<b>Course Grade Descriptors</b>			
A+, A, A-	<p><i>Outstanding performance on all (or almost all) learning outcomes.</i></p> <p><i>Demonstrates the ability to synthesize and apply the principles or subject matter learnt in the course, to novel situations and/or in novel ways, in a manner that would surpass the normal expectation at this level, and typical of standards that may be common at higher levels of study or research. Has the ability to express the synthesis of ideas or application in a clear and cogent manner.</i></p>		
B+, B, B-	<p><i>Substantial performance on all learning outcomes, OR high performance on some learning outcomes which compensates for less satisfactory performance on others, resulting in overall substantial performance.</i></p>		

	<i>Demonstrates the ability to state and apply the principles or subject matter learnt in the course to familiar and standard situations in a manner that is logical and comprehensive. Has the ability to express the knowledge or application with clarity.</i>
C+, C, C-	<i>Satisfactory performance on the majority of learning outcomes, possibly with a few weaknesses.</i>  <i>Demonstrates the ability to state and partially apply the principles or subject matter learnt in the course to most (but not all) familiar and standard situations in a manner that is usually logically persuasive. Has the ability to express the knowledge or application in a satisfactory and unambiguous way.</i>
D+, D	<i>Barely satisfactory performance on a number of learning outcomes.</i>  <i>Demonstrates the ability to state and sometimes apply the principles or subject matter learnt in the course to some simple and familiar situations in a manner that is broadly correct in its essentials Has the ability to state the knowledge or application in simple terms.</i>
F	<i>Unsatisfactory performance on a number of learning outcomes, OR failure to meet specified assessment requirements.</i>  <i>Candidate demonstrated little evidence of basic familiarity with the assignment questions and relevant course materials. All the responses are not well organized, unclear or with insufficient elaboration.</i>

#### **Assessment Rubrics for Each Assessment**

Please see attached document

#### **COURSE CONTENT AND TENTATIVE TEACHING SCHEDULE**

<b>Week</b>	<b>Modules</b>	<b>Topics</b>
1	Course introduction and overview	Syllabus & Course Requirement
2	Key uses of big data in business	
3	Data sourcing & collection	Structured data vs. unstructured data Internal data vs. external data
4	Data exploration with descriptive statistics	Univariate analysis Bivariate analysis
5	Data exploration with visualization I	Introduction to data visualization Intro to Tableau Working with Tableau interface
6	Data exploration with visualization II	Aggregation functions Table calculations Filters
7	Reading/ Field Trip Week	
8	Data exploration with visualization III	Sorting Details Worksheet options Geographical maps Time series analysis Clustering
9	Data analysis for continuous demand data	Linear Regression
10	Data analysis for individual choice data I	Logistic Regression

11	Data analysis for individual choice data II	Logistic Regression
12	Artificial intelligence in marketing	Invited Talk
13	Course review and final project consultation	
14	Final project presentation	
Assessment Period	Final Test (in class 2 hours)	

**REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS** (e.g. journals, textbooks, website addresses etc.)

There is no required textbook.  
 Data visualization software: Tableau  
 Data analysis software: Microsoft Excel

**MEANS/PROCESSES FOR STUDENT FEEDBACK ON COURSE**

- conducting mid-term survey in addition to SETL around the end of the semester  
 Online response via Moodle site  
 Others: \_\_\_\_\_ (please specify)

**COURSE POLICY** (e.g. plagiarism, academic honesty, attendance, etc.)

**HKU Regulations on Academic Dishonesty:**

We are serious in students' ethical conducts. The University Regulations on academic dishonesty will be strictly enforced.

- We do not tolerate students engaging in academic dishonesty which includes, but is not necessarily limited to, plagiarism, paraphrasing of someone else's ideas, unauthorized collaboration on out-of-class projects, cheating on in-class exams, and unauthorized advance access to an exam
- Students are expected to be aware of what plagiarism is and how to avoid it. Please refer to the HKU policies on plagiarism.
- Students should also be familiar with the HKU regulations and policies particularly on attendance, absence, examination, and copyright. Please refer to the HKU Undergraduate Student Handbook and HKU Examination Unit webpage.

**Special Accommodations:** If you have any condition, such as a physical or learning disability, which will require academic accommodations, please notify me within the first week of the class and I will strive to accommodate your needs.

**Deadlines:** All deadlines in the course are to be strictly adhered to. If you must turn work in late, I will deduct 10% for late submission penalty.

**Technology:** As a courtesy to both the instructor and your fellow students, all pagers, cell phones, electronic games, radios, CD/MP3 players, or other devices that generate sound must be turned OFF during class. Set phones to vibrate mode if you must use the phone in the extreme conditions (that are notified to me before class). During exam periods, cell phones MUST BE TURNED OFF and stored in your bag, purse, etc. It is also our department policy that laptops are NOT allowed in the classroom.

**ADDITIONAL COURSE INFORMATION** (e.g. e-learning platforms & materials, penalty for late assignments, etc.)

**Moodle Course Web Site:**

- Students are expected to access the Moodle course frequently for learning supports and new announcements.

**Turnitin Check:**

- Students should avoid plagiarism and have proper citations