Intro to Marketing Analytics

Course No.
MKT3330 (27409-001)

Prerequisite
MKT3300

Course Overview
This course prepares you to think analytically about data to meet the demands of the new big data world. Specifically, the course examines statistical methods (regression, causal inference strategies, classification algorithms), and utilizes programming with Python to turn data into relevant and actionable managerial insights. While the nature of data analytics is highly mathematical, this course focuses on practical applications of various data science and machine learning techniques you can use in marketing.

Class Times
10:30 AM to 11:50 AM
Monday / Wednesday

Course Location
COBA 331

Learning Objectives
▪ Explain the terminology and tools of data analytics
▪ Understand the processes and techniques of data mining, analysis, and visualization
▪ Apply the practical tools and techniques of data analytics
▪ Evaluate the output of data mining for decisions and practical applications
▪ Build a foundation for learning programming for data analytics using Python

Instructor
Dr. Yoonsun Jeong

Required Textbook

*Data Mining for Business Analytics: Concepts, Techniques and Applications in Python*
by Galit Shmueli, Peter C. Bruce, Peter Gedeck, and Nitin R. Patel  (ISBN: 978-1-119-54984-0)

Email
vjeong@utep.edu

Office Location
COBA 222

Required Software
▪ Microsoft Excel
▪ Jupyter Notebook (Installation instructions will be given in the first week of class.)
Required Material
1. Access to email – make sure that the email listed in Blackboard is one you actually check. All announcements will be posted on Blackboard and sent via email. You are responsible for checking for updates and your emails for announcements.
2. Access to computer to develop and test Python programs.

Course Requirements / Graded Items

Coding Assignments
- There will be 12 coding assignments. The assignments will require you to write programs by applying course concepts learned during the semester. More specific instructions about the assignments will be mentioned on each assignment.
- All coding assignments are due at the end of each class unless informed otherwise. Late submissions will not be accepted. A missed assignment cannot be made up.
- You may miss a maximum of 4 assignments, additional missed assignments result in automatic F for the course. If you must miss an assignment for a required university activity such as participation in athletic competitions, the appropriate department must inform me 7 days in advance in writing and you will submit the assignment within one week from the scheduled due date.
- You must follow the class programming standards on every assignment. You will lose points if you fail to follow instructions carefully. Small details matter in programming, and therefore matter in your assignment.
- All coding assignments will be graded “pass” or “fail”.

Coding Assignment Turn in Format
1. You are required to submit your assignment electronically through Blackboard.
2. Only assignments submitted through Blackboard will be graded. Assignments submitted via email will not be accepted.
3. Do not upload compressed files (such as .zip or .rar files).
4. All .ipynb files must be converted to .html and display as a complete notebook document with spacing and formatting as our standards indicate.
5. Make sure to write your full name as a comment at the very beginning of each .html file submitted for grading.

Exams
- There will be three exams. All exams will take place in the regular class meeting place unless other arrangements are made. The chapters to be covered in the exams are specified in the Schedule (p.5) and in case we need to make any changes, will be posted via Blackboard announcement.
- You have to do exams on your own. No cheating, sharing, emailing, posting or collaborating during exams. This is very easy to detect online through your digital footprints, so don’t try anything of the sort. Any such activity on your part will result in an F in the course or worse (see p.4, Scholastic Integrity).
- There will be NO makeup exams under any circumstances. If you miss an exam and have a valid, legitimate, documented, non-academic reason, you must contact me by email BEFORE the exam starts. If you contact me AFTER the exam, it is considered missing the exam.
- Exams include coding problems and possibly some short questions, multiple-choice questions, or case studies.
Policy on Regrading of Assignments and Exams
All grades will be reported on Blackboard. It is your responsibility to check the site to confirm that your grade is correct. However, you must do so within one week of the day the assignment is returned or grade is posted on Blackboard. After the one-week window, your grade for that assignment (or exam) is permanent.

Grading Policy
All the total points you earn will get converted to percent, using the weights: coding assignments: 20%, Exams 1 and 2: 25% each, and Exam 3: 30%. Course grading scale is shown below. All exams should be completed and submitted as required to be eligible for a final passing grade. Incompletes will be dealt as per university polices attached. A grade of ‘F’ will be given when the university police on incompletes is not satisfied. Decimal points for all exams are carried over and cumulated. To calculate final grades, 0.49 and under are rounded down, and 0.50 above are rounded up.

Course Breakdown

<table>
<thead>
<tr>
<th></th>
<th>MKT3330</th>
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</thead>
<tbody>
<tr>
<td>Coding assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Exam 1</td>
<td>25%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>25%</td>
</tr>
<tr>
<td>Exam 3</td>
<td>30%</td>
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</tbody>
</table>

Grading Scale

<table>
<thead>
<tr>
<th>Course Grade</th>
<th>% Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>&gt;=90%</td>
</tr>
<tr>
<td>B</td>
<td>&gt;=80% but &lt;90%</td>
</tr>
<tr>
<td>C</td>
<td>&gt;=70% but &lt;80%</td>
</tr>
<tr>
<td>D</td>
<td>&gt;=60% but &lt;70%</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60%</td>
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Expectations

- Please email me ASAP if you’re having any difficulty that hampers your progress in the course. If you have doubts or questions pertaining to the course, you can always email me.
- Lateness is disrespectful and disruptive. Chronic lateness will not be tolerated. Please be punctual for class.
- No makeup will be allowed for any student who does not show up in class for a scheduled exam or other assigned activity without prior notification to and approval of the Instructor. In such a case, the student will receive a grade of 0 for that assignment.
- If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!
- Academic dishonesty (e.g., plagiarism, cheating on exams) will be dealt with very harshly. You will automatically get an F in the class, at the least.
Scholastic Integrity
Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student or possessing unauthorized materials during a test. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as one's own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit HOOP: Student Conduct and Discipline.

Statement on Disability
If you feel that you may have a disability that requires accommodations, contact the Center for Accommodations and Support Services office at 915-747-5148, or email them at cass@utep.edu, or apply for accommodations online via the CASS portal.

Incomplete Grade Policy
Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Please email me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

Copyright Statement for Course Materials
All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

COVID-19 Precautions
- If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. It is important to follow all instructions that you receive as part of the diagnosis, including isolation and staying at home until a negative test is produced.
- If you experience COVID-19 symptoms, please follow the isolation protocol by staying at home and getting tested as soon as possible. If the test is negative but you are still seeking accommodations, please contact the Dean of Students Office for guidance in a timely manner. Your instructor will work with the Dean of Students Office to determine the extent of any such accommodations.
- We strongly encourage you to think and act proactively in all matters related to COVID-19 and your academic endeavors. The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.
Combined Course Schedule (subject to change at the discretion of the Instructor)

<table>
<thead>
<tr>
<th>Week</th>
<th>Beginning</th>
<th>Lecture Topics</th>
<th>Readings / Coding Assignments / Exams</th>
</tr>
</thead>
</table>
| 1    | Jan. 18<sup>th</sup> (Wed) | Syllabus Overview  
Introduction to Course | Chapter 1  
Install Jupyter Notebook  
Coding Assignment 1 |
| 2    | Jan. 23<sup>rd</sup> (Mon) | Overview of the Data Mining Process (Part I) | Chapter 2  
Coding Assignment 2 |
| 3    | Jan. 30<sup>th</sup> | Overview of the Data Mining Process (Part II)  
Data Visualization (Part I) | Chapters 2 and 3  
Coding Assignment 3 |
| 4    | Feb. 6<sup>th</sup> | Data Visualization (Part II) | Chapter 3  
Coding Assignment 4 |
| 5    | Feb. 13<sup>th</sup> | Dimension Reduction | Chapter 4  
Coding Assignment 5 |
| 6    | Feb. 20<sup>th</sup> | Exam 1 Revision | Mid-Term Exam 1 (Chapters 1, 2, 3, and 4)  
Begins: 10:30 AM, Wednesday Feb. 22<sup>nd</sup>  
Ends: 11:50 AM, Wednesday Feb. 22<sup>nd</sup> |
| 7    | Feb. 27<sup>th</sup> | Evaluating Predictive Performance | Chapter 5  
Coding Assignment 6 |
| 8    | Mar. 6<sup>th</sup> | Multiple Linear Regression | Chapter 6  
Coding Assignment 7 |
|      | Mar. 13<sup>th</sup> | Spring Recess — No Class | |
| 9    | Mar. 20<sup>th</sup> | k-Nearest Neighbors (k-NN) | Chapter 7  
Coding Assignment 8 |
| 10   | Mar. 27<sup>th</sup> | Exam 2 Revision | Mid-Term Exam 2 (Chapters 5, 6, and 7)  
Begins: 10:30 AM, Wednesday Mar. 29<sup>th</sup>  
Ends: 11:50 AM, Wednesday Mar. 29<sup>th</sup> |
| 11   | Apr. 3<sup>rd</sup> | The Naïve Bayes Classifier | Chapter 8  
Coding Assignment 9 |
| 12   | Apr. 10<sup>th</sup> | Classification and Regression Trees (Part I) | Chapter 9  
Coding Assignment 10 |
| 13   | Apr. 17<sup>th</sup> | Classification and Regression Trees (Part II) | Chapter 9  
Coding Assignment 11 |
| 14   | Apr. 24<sup>th</sup> | Logistic Regression | Chapter 10  
Coding Assignment 12 |
| 15   | May 1<sup>st</sup> | Exam 3 Revision | Exam 3 (Chapters 8, 9, and 10)  
Begins: 10:30 AM, Wednesday May 3<sup>rd</sup>  
Ends: 11:50 AM, Wednesday May 3<sup>rd</sup> |

* All times are Mountain Time.