



## **BUSA 421 – Data Mining**

Summer 2020

### **INSTRUCTOR INFORMATION**

<b>Instructor:</b>	Son Bui
<b>Office Location:</b>	virtual office
<b>Office Hours:</b>	virtual office
<b>Office Phone:</b>	virtual office
<b>Office Fax:</b>	virtual office
<b>University Email Address:</b>	<a href="mailto:son.bui@tamuc.edu">son.bui@tamuc.edu</a>
<b>Preferred Form of Communication:</b>	email
<b>Communication Response Time:</b>	within 24 hours

### **COURSE INFORMATION**

**ISBN:** 978 – 1118879368 – Data Mining for Business Analytics: Concepts, Techniques, and Applications in R (18th Edition).

**ISBN:** 978 – 0470908747 – Discovering Knowledge in Data: An Introduction to Data Mining (2th Edition).

**ISBN:** 978 – 0735643369 – Microsoft Excel 2010: Data Analysis and Business Modeling (11th Edition).

**Access to Analytic Solver.** The software has 15-day trial window with full features, and students are required to purchase the software after trial license is expired. Codes to purchase software with discounted price are provided in D2L.

## Course Description

This course provides students with a foundation in basic data mining, data analysis, and predictive modeling concepts. Using practical business cases and projects, students will learn data analysis and data mining implementation techniques for business knowledge insights through a process of inference, model fitting, and learning from examples. The goal of the course is to teach students fundamental data mining techniques that are commonly used in practice. Data mining topics include linear classifiers, clustering, dimension reduction, classification and prediction methods, decision trees, time series analysis, optimization analysis, simulation methods, regression models, and model training/testing/evaluation.

Students will learn data mining from two perspectives: First, how to use an information technology tool (eg: Analytic Solver) to analyze data sets. Second, determine what the analysis results mean to business organizations. The two collections of knowledge will introduce students to data mining practices and data driven decision making in business operations and process management.

At the end of this course, students will not only understand fundamental data mining techniques, but will also understand the implications of the analysis result set to the business organization.

## Learning Outcomes

1. To provide students with an understanding of data mining techniques and use of these techniques to perform appropriate data analysis in deriving an optimal knowledge base in meeting business goals/strategies
2. To equip the students with a strong statistical foundation in which to employ in solving problems
3. Prepare the students to understand the results from the data analysis and apply those results from a business perspective

## Student Learning Outcomes

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

1. Students will be able to demonstrate knowledge of data mining concepts, processes, and perform data analysis using data mining and statistical techniques
2. Students will be able to interpret results from data analysis and how to apply those results to business problems, goals, and organizational strategies

## COURSE REQUIREMENTS

### Minimal Technical Skills Needed

High school algebra, experience in using Excel spreadsheet, Excel functions and Excel graphics. If you are first time Excel learner, it is recommended to self-learn Excel from Udeemy: <https://www.udemy.com/microsoft-excel-2013-from-beginner-to-advanced-and-beyond/>

Please note that completion the Excel training is optional, and there is no credit assigned for completion the training.

### Instructional Methods

Each week learning materials are opened on Monday at 12:00 am in D2L. Online discussion will be conducted based on class schedule. Recorded video will be provided for students who can't attend the online discussion. Questions can be asked via email or during online discussion.

### Student Responsibilities/Tips for Success in the Course

1. Students are expected to:
  - a. Read text assignments as scheduled
  - b. Watch tutorial videos as scheduled
  - c. Attend online discussions or watch recorded videos as scheduled
  - d. Collaborate with teammate to finish a group project by the end of semester. Submit your group project in each phrase in the appropriate D2L assignment submission folder.
2. This syllabus is tentative for the semester. Certain topics maybe stressed more or less than indicated in schedule. Depend on class progress, certain topics may be omitted or added.
3. **Feedback for each project phrase will be given the next week after its due date. It is highly recommended for all teammates to meet me individually to ask questions.**
4. Feel free to ask questions through email or during online discussion. I am accessible 24/7 through these channels even during weekends or holidays. You can ask any questions related to course topics, group projects, and exams and I try to answer them within few hours (maximum 24 hours). In online discussion, you can also try to answer others' questions. But you are expected to maintain etiquette and decency in your responses.
5. Behavior: "All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See Student's Guide Book). During your collaboration with me and your fellow students online or in class, professionalism and respect will be expected. I

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encourage you to assist one another, but always respect one another's opinion and communicate professionally with each other and with me.

6. **Any form of cheating – copying, sharing files, submitting the work of another as your own – is not permitted.** Students who participate (as givers/receivers) in any form of cheating will fail the course.
7. Attendance Policy: regular attendance will be taken. There is no penalty for absence but opportunity for any grace points based on class participation will be lost if there is too much absence. You are yourself responsible for getting class notes from friends for missed classes due to unavoidable circumstances. **However, exams have corresponding due dates which will not be extended for your personal excuses or software issues.**

## GRADING

Final grades in this course will be based on the following scale:

- A = 90%-100%
- B = 80%-89%
- C = 70%-79%
- D = 60%-69%
- F = 59% or Below

Assignments/Projects	Percentage
Application Assignment	60%
Midterm Exam	20%
Final Exam	20%

## Assessments

**Exams:** There will be 2 exams during the semester. The exams will be counted as 40% of your final grade. **These exams will be open-book, open-note, and open-internet. However, they are not open-neighbor, and you can't discuss with your friends including people who are and aren't taking the class. No late exams will be accepted.**

**Application Assignments:** You will have 9 assignments that help you to master materials in class. Each assignment will be graded separately, but only the best 8

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assignment scores will be used to calculate for your final grade. These application assignments will be counted as 60% of your final grade. **Late assignments are highly discouraged. For each day an assignment is late it will be deducted 10%. Under NO circumstances will I accept an assignment more than a week late.**

## TECHNOLOGY REQUIREMENTS

### LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

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## COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

### Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

### Interaction with Instructor Statement

I generally response to students' questions in a few hours (maximum 24 hours), and feedback on assignments is provided bi-weekly.

## COURSE AND UNIVERSITY PROCEDURES/POLICIES

### Course Specific Procedures/Policies

**Missing the exams and non-participated group project will results in grade 'F'. There will be no make-up exam, or make-up group project.** No late exam and group project will be accepted.

Regular attendance will be taken. There is no penalty for absence but opportunity for any grace points based on class participation will lost if there is too much absence. You are yourself responsible for getting class notes from friends for missed classes due to unavoidable circumstances. However, exams have corresponding due dates which will not be extended for your personal excuses.

### Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### University Specific Procedures

#### Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

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<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

### **TAMUC Attendance**

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

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<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.