

**The University of Texas at Dallas
Jindal School of Management
Course Syllabus**

Course Information

Course Prefix, Number, Section *BUAN/OPRE 6398.501*
Course Title *Prescriptive Analytics*
Term *Spring 2023*
Days & Times *Thursday 7 – 9:45pm*
 JSOM 1.217

Instructor Contact Information

Instructor *Hien Nguyen*
Email Address *Hien.Nguyen7@utdallas.edu*
Office Location *JSOM 3.617*
Office Hours *M&W 10am-12pm, Fri:11:30am-12:30pm and*
 by appointment
Contact through *MS Teams, Email*

Instructor Contact Information

TA *Bhupesh Kumar Srivastava*
Email Address *bhupesh.srivastava@utdallas.edu*
Office Hours *M 5-7 pm through Teams or by appointment*

TA *Shiva Prasad Reddy Julakanti*
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Office Hours *Thurs 1:30-3:30 pm through Teams or by appointment*

Classroom Safety and COVID-19

To help preserve the University’s in-person learning environment, UT Dallas recommends the following:

- Adhere to the University’s [CDC Updated Guidelines](#) issued on July 30, 2021. All Comets are strongly encouraged to wear face coverings indoors regardless of vaccination status.

Accommodations for Students Who Must Isolate or Quarantine Due to COVID-19

To keep the UT Dallas community as safe as possible, the University requires students who test positive for COVID-19 or who are close contacts as determined by the campus contact tracing program to isolate or quarantine as applicable. Faculty will be notified by the Dean of Students' Office if a student in their class has been required to isolate (positive case) or quarantine (exposed).

Recorded lectures will be made available for those students during the period that they must isolate or quarantine via MS Teams.

Verifying COVID-19 Isolations or Quarantines

Students need to self-report COVID-19 positive results or exposures via an online form so that university campus tracers can verify, record, and take necessary campus precautions.

When faculty are notified by students rather than by the Dean of Students' Office that the students are isolating or *Course syllabus* Page 2 of 8

quarantining, the faculty should remind students to self-report via the form; students should not attend class until cleared by campus tracers.

Vaccinations are widely available, free and not billed to health insurance. The vaccine will help protect against the transmission of the virus to others and reduce serious symptoms in those who are vaccinated. You are encouraged to [get a COVID-19 vaccine](#) and register your vaccination status through the [voluntary vaccine report form](#). If you have received your COVID-19 booster, you may register your status through the [voluntary COVID-19 booster reporting form](#).

Proactive Community Testing remains an important part of the university's efforts to protect our community. Tests are fast and free. Please check the [Comets United](#) webpage for additional information.

[Student Safety](#) remains an important part of the UT Dallas' efforts to protect our community. All students will adhere to the Comet Commitment. Unvaccinated Comets will be expected to complete the mandatory [Required Daily Health Screening](#). Those students who do not comply will be referred to the Office of Community Standards and Conduct for disciplinary action under the [Student Code of Conduct – UTSP5003](#). All students are encouraged to read the [Recommendations for Students Returning to Campus](#) issued on August 2, 2021.

Visit [Comets United webpage](#) to obtain the latest information on the University's guidance and resources for campus health and safety.

Class Attendance and Participation

Regular class participation and attendance are expected. Indeed, students are still strongly encouraged to engage in class lecture and discussion to have better chance studying the materials and have questions answered.

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student Access Ability has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student Access Ability accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

The instructor may record meetings of this course. Any recordings will be available to all students registered for this class as they are intended to supplement the classroom experience. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student Access Ability has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student Access Ability accommodation. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior

to such use unless an exception is allowed by law. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Materials

- Required Textbook: Cliff Ragsdale (2017). Spreadsheet modeling & decision analysis: A practical introduction to business analytics (8th edition). Stamford, CT: Cengage Learning.
- Recommended Textbook: Anderson et al. (2012). An Introduction to Management Science Quantitative Approaches to Decision Making (12th edition). CT: Cengage Learning → Helpful for more mathematical and statistical knowledge
- Required Software: Analytic Solver Platform

This is an Excel add-in and run on Microsoft Excel 2007 or higher.

- For installation steps, follow “Analytic Solver Student Installation Guide.pdf” uploaded on eLearning.
- For activation, in addition to the access code that must be purchased by students, students will also need the course code and book code. These two codes will be posted on eLearning at the beginning of the semester.

Course Pre-requisites, Co-requisites, and/or Other Restrictions

OPRE 6301: Quantitative Introduction to Risk and Uncertainty in Business

Course Description

This course provides more applicable analytical tools to make better decisions and improve the efficiency of a system. Topics covered include linear programming, integer programming, network models, time series forecasting, queuing theory, decision analysis, and project management. The course will equip students with useful concepts, theories, and solution methods in predictive analytics. The course will contain multiple practical applications of the models being discussed in the lecture.

Student Learning Objectives/Outcomes

Upon successful completion of the course, the student should become familiar with the Excel-based software required for the class and develop skills in formulating problems, identifying solution methods, solving problems manually or by computer and interpreting the results. In addition, the students should be able to:

- Use Analytic Solver Platform efficiently
- Formulate real-world problems as analytical or optimization models
- Identify appropriate program(s) in Analytic Solver Platform for solving models formulated
- Apply programs identified to solve problems manually or by computer
- Interpret the obtained results and implement them in practice

Tentative Assignments & Academic Calendar (All the dates are the Monday of the week)

Week 1	Jan 16	Syllabus review Introduction to Optimization and Linear Programming
Week 2	Jan 23	Modeling and Solving LP Problems in a Spreadsheet
Week 3	Jan 30	Sensitivity Analysis
Week 4	Feb 6	Sensitivity Analysis (continue)
Week 5	Feb 13	Network Modeling
Week 6	Feb 20	Exam 1
Week 7	Feb 27	Integer Linear Programming
Week 8	Mar 6	Goal Programming and Multiple Objective Optimization
Week 9	Mar 13	No class
Week 10	Mar 20	Exam 2
Week 11	Mar 27	Regression Analysis
Week 12	April 3	Time Series Forecasting
Week 13	April 10	Time Series Forecasting (continue) Queuing Theory
Week 14	April 17	Decision Analysis
Week 15	April 24	Decision Analysis (continue)
Week 16	May 1	Exam 3

Grading Policy

Homework: 25%

Quizzes: 15%

Exam 1: 20%

Exam 2: 20%

Exam 3: 20%

Final grades will be assigned as follow:

>91 A

89-91 A-

86-89 B+

83-86 B

79-83 B-

75-79 C+

70-75 C

<70 F

Course Policies

Homework Assignments

- Homework is given after each topic is finished. You would have at least one week to work on the assignment.
- Students are allowed to work in groups of up to **three** on homework assignments.

- Only one submission per group is required. Solutions must be submitted into eLearning through the Assignment tab.
- Group's member names must be clearly typed on the solution's cover page. Otherwise, the missing name would not receive any credits.
- All **typed** solutions along with the Excel files used for HWs must be submitted via eLearning. Hand-written submissions will not be graded.
- Solutions must be converted to a pdf before submission. Otherwise, points will be deducted.
- For questions answered in Solver, the excel file **Must** be uploaded. Missing excel files result in a loss of 50 percent of the points.
- No late submissions will be accepted, no matter what. Don't wait until the last minute!
- You may choose to replace your lowest non-zero assignment with the highest of your assignment grade.

Quizzes

- Three quizzes will be given.
- Quizzes will be given online in eLearning.
- Quizzes will cover material from the textbook, instructor's lectures, handouts, and homework.
- If you miss a quiz without a properly documented excuse conforming to university policy, your grade will be zero for the missed exam(s).
- Make-up quizzes are offered only for legitimate and documented reasons, such as documented illness or family emergencies.

Exams

- Three noncumulative exams will be given.
- Exams will be given online in eLearning.
- Exams will cover material from the textbook, instructor's lectures, handouts, and homework.
- If you miss an exam without a properly documented excuse conforming to university policy, your grade will be zero for the missed exam(s).
- Make-up exams are offered only for legitimate and documented reasons, such as documented illness or family emergencies.

Extra Credit

There are no extra credits. However, I might consider extra credit opportunity depending on the grade of the class as a whole.

University Policies

For information on a host of UTD course policies, see <http://go.utdallas.edu/syllabus-policies>. Several, but not all, of these policies are addressed in more detail below.

Nondiscrimination

UTD's Nondiscrimination Policy states that, "The University of Texas at Dallas is committed to providing an educational, living and working environment that is welcoming, respectful and inclusive of all members of the university community. An environment that is free of discrimination and harassment allows members of the university community to excel in their academic and professional careers. To that end, to the extent provided by applicable federal and state law, the University prohibits unlawful discrimination against a person because of their race, color, religion, sex (including pregnancy), national origin, age, disability, genetic information, or veteran status. The University's commitment to equal opportunity extends its nondiscrimination protections to include sexual orientation, gender expression and gender identity.

"Retaliation against a person who files a claim of discrimination, participates in a discrimination investigation or proceeding, or otherwise opposes an unlawful employment practice is prohibited.

"A person who believes that he or she has been subjected to discrimination or harassment in violation of this policy and seeks to take action may use either the informal resolution process or the formal complaint process, or both. The informal resolution and formal complaint process described in this policy are not mutually exclusive and neither is required as a pre-condition for choosing the other; however, they cannot both be used at the same time."

For the full policy statement, see <https://policy.utdallas.edu/utdbp3090>.

Accessibility Services

It is the policy and practice of The University of Texas at Dallas to make reasonable disability-related accommodations and/or services for students with documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required (see <http://www.utdallas.edu/studentaccess>). If you are eligible to receive disability-related accommodations and/or services and to ensure accommodations will be in place when the academic semester begins, students are encouraged to submit documentation four to six weeks in advance. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion.

The Office of Student AccessAbility provides:

- a) Academic accommodations for eligible students with a documented permanent physical, mental or sensory disability
- b) Facilitation of non-academic and environmental accommodations and services
- c) Resources and referral information, and advocacy support as necessary and appropriate.

OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at 972-883-2098, or by email at studentaccess@utdallas.edu. *Course syllabus* Page 7 of 8

Academic Integrity

Students are expected to adhere to UTD's Student Code of Conduct:

Because the value of an academic degree depends on the absolute integrity and character of the student the university expects all students to maintain a high level of responsibility with respect to their behavior. As a member of the university community, it is imperative that a student maintain a high standard of individual responsibility and civility.

The dean may initiate disciplinary proceedings under Subchapter D against a student accused of a violation of the Code of Conduct upon complaint by a faculty member, a student or other source.

Academic dishonesty could result in disciplinary action from the university. Penalties could include receiving a grade of "F" for this course, expulsion or even the revocation of a degree. With respect to academic dishonesty, see Section 49.10 from the Student Code of Conduct (<http://policy.utdallas.edu/utdsp5003>), which includes:

- a) **Plagiarism:** The adoption or reproduction of ideas, words, statements, images or works of another person as one's own without proper acknowledgement.
- b) **Cheating:** Using or attempting to use unauthorized materials, information, or study aids in any academic exercise. Academic exercise includes all forms of work submitted for credit or hours.
- c) **Fabrication:** Falsification or creation of any information, data or citation in an academic exercise.
- d) **Collaboration and/or Collusion:** Seeking or providing aid to another student in completion of any assignment submitted for academic credit without permission from the faculty member.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.