IE 313 Industrial Operations Research II

Section 01

COURSE SYLLABUS: SPRING 2024

Instructor: Burchan Aydin, Ph.D.

Office Location: AG/IT 213-D (*Engineering and Technology Building 2nd floor*)
Office Hours: Tuesday and Thursday **10:30 a.m. to 11:30 a.m.**
Monday and Wednesday **8:30 a.m to 10:30 a.m**

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Preferred Form of Communication: e-mail

COURSE INFORMATION

Course Schedule*:* Mon, Wed, Fri 11:00a-11:50a   Location: AGIT211.
Course Location: AGIT 211 (Engineering and Technology Building, 2nd floor, next to the student lounge)

Materials – Textbooks

Textbook Required
OPERATIONS RESEARCH: an Introduction
Author: TAHA
Edition: 10TH 17
Published Date: 2017
ISBN: 9780134444017
Publisher: PEARSON

The syllabus/schedule are subject to change.

Course Description

This course focuses on the application of linear programming techniques. The models included in this course are Transportation, Assignment and Transshipment. The network models (Shortest Path; Maximum-Flow; and Minimum-Cost) are included. The course includes formulating integer programming problems. Prerequisites: IE 312.

Student Learning Outcomes

- The student must be able to understand how linear programming can be used to solve certain integer problems.
- The student must be able to understand and solve transportation models
- The student must be able to formulate and solve network problems
- The student must be able to set up and solve integer linear programming problems

ABET Student Outcomes:

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

COURSE REQUIREMENTS

Point Distribution

Assessment Type	%
Quiz	15
Exam 1	20
Exam 2	20
Exam 3	20
Participation/Attendance	5
Term Project	20
Total	**100**

Based on the points received, the grades will be determined according to the criteria below.

Grade Criteria

A	B	C	D	F
100 - 90	89 - 80	79 - 70	69 - 60	59 – 0

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Important Notes:

- Make up for exams are only allowed if the student informs the instructor on his/her excuse in advance. The instructor evaluates the excuse and decides case by case.
- No make up for quizzes.
- Term project topic and guidelines will be announced later in the semester.
- Participation and attendance: No point deduction up to 2 absences. Any absence above 2, will cause deductions in this grade category. Lateness to the class sessions causes ½ absence.
- Any student who has more than 7 unexcused absences, will receive an "F" from this course. Instructor records attendance for each class session.

Brief Explanation of Course Assessments

Quiz: There will be 5 quizzes. Each quiz is designed to help students understand the topic and have practice on solving operations research problems.

Extra Credits: I will announce extra credit opportunities during lectures. These extra credits are stored in an external spreadsheet by the instructor. The extra credits will be reflected on students' overall grade points at the end of the semester.

Exams: Instructions and dates will be announced at least one week in advance. The calendar in this syllabus shows tentative dates.

Term Project: The topic will be announced later. The students will apply their knowledge from this course to a practical operations research case. The students will submit a written report, and an oral presentation.

TECHNOLOGY REQUIREMENTS

Browser support

D2L is committed to performing key application testing when new browser versions are released. New and updated functionality is also tested against the latest version of supported browsers. However, due to the frequency of some browser releases, D2L cannot guarantee that each browser version will perform as expected. If you encounter any issues with any of the browser versions listed in the tables below, contact D2L Support, who will determine the best course of action for resolution. Reported issues are prioritized by supported browsers and then maintenance browsers.

Supported browsers are the latest or most recent browser versions that are tested against new versions of D2L products. Customers can report problems and receive support for issues. For an optimal experience, D2L recommends using supported browsers with D2L products.

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Maintenance browsers are older browser versions that are not tested extensively against new versions of D2L products. Customers can still report problems and receive support for critical issues; however, D2L does not guarantee all issues will be addressed. A maintenance browser becomes officially unsupported after one year.

Note the following:

- Ensure that your browser has JavaScript and Cookies enabled.
- For desktop systems, you must have Adobe Flash Player 10.1 or greater.
- The Brightspace Support features are now optimized for production environments when using the Google Chrome browser, Apple Safari browser, Microsoft Edge browser, Microsoft Internet Explorer browser, and Mozilla Firefox browsers.

Desktop Support

Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Microsoft® Edge	Latest	N/A
Microsoft® Internet Explorer®	N/A	11
Mozilla® Firefox®	Latest, ESR	N/A
Google® Chrome™	Latest	N/A
Apple® Safari®	Latest	N/A

Tablet and Mobile Support

Device	Operating System	Browser	Supported Browser Version(s)
Android™	Android 4.4+	Chrome	Latest
Apple	iOS®	Safari, Chrome	The current major version of iOS (the latest minor or **point** release of that major version)

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Device	Operating System	Browser	Supported Browser Version(s)
			and the previous major version of iOS (the latest minor or **point** release of that major version). For example, as of June 7, 2017, D2Lsupports iOS 10.3.2 and iOS 9.3.5, but not iOS 10.2.1, 9.0.2, or any other version. Chrome: Latest version for the iOS browser.
Windows	Windows 10	Edge, Chrome, Firefox	Latest of all browsers, and Firefox ESR.

- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
  - 512 MB of RAM, 1 GB or more preferred
  - Broadband connection required courses are heavily video intensive
  - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution

- **For YouSeeU Sync Meeting sessions _8 Mbps_ is required.** Additional system requirements found here: https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements

- You must have a:
  - Sound card, which is usually integrated into your desktop or laptop computer
  - Speakers or headphones.
  - *For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required.

- Both versions of Java (32 bit and 64 bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most current version of Java can be downloaded at: JAVA web site http://www.java.com/en/download/manual.jsp

- Current anti-virus software must be installed and kept up to date.

Running the browser check will ensure your internet browser is supported.

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Pop-ups are allowed.
JavaScript is enabled.
Cookies are enabled.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
  - Adobe Reader   https://get.adobe.com/reader/
  - Adobe Flash Player *(version 17 or later)* https://get.adobe.com/flashplayer/
  - Adobe Shockwave Player   https://get.adobe.com/shockwave/
  - Apple Quick Time   http://www.apple.com/quicktime/download/

- At a minimum, you must have Microsoft Office 2013, 2010, 2007 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.

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.

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.

COMMUNICATION AND SUPPORT

Brightspace Support

Need Help?

Student Support

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

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Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778 or click on the **Live Chat** or click on the words "click here" to submit an issue via email.

System Maintenance

D2L runs monthly updates during the last week of the month, usually on Wednesday. The system should remain up during this time unless otherwise specified in an announcement. You may experience minimal impacts to performance and/or look and feel of the environment.

Interaction with Instructor Statement

The instructor will response to your questions on D2L tools within 24 hours. For urgent questions, and for questions that are not answered within 24 hours, please prefer e-mail correspondence.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

- Make up for exams are only allowed if the student informs the instructor on his/her excuse in advance. The instructor evaluates the excuse and decides case by case.
- No make up for quizzes.
- Term project topic and guidelines will be announced later in the semester.
- Participation and attendance: No point deduction up to 2 absences. Any absence above 2, will cause deductions in this grade category. Lateness to the class sessions causes ½ absence.
- Any student who has more than 7 unexcused absences, will receive an "F" from this course. Instructor records attendance for each class session.

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.

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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.
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: Netiquette
http://www.albion.com/netiquette/corerules.html

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

ADA Statement

Students with Disabilities

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

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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

Website: Office of Student Disability Resources and Services
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.

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COURSE OUTLINE / CALENDAR

Week #	Dates	Topic	Assessment (specific dates, and instructions will be provided in advance)
1	Jan 10 – Jan 12	Introduction to the Course Review of Linear Programming Ch.9 Integer Programming	
2	Jan 15 – Jan 19	Ch.9 Integer Programming	Quiz 1
3	Jan 22 – Jan 26	Ch.9 Integer Programming	
4	Jan 29 – Feb 2	Ch.9 Integer Programming	Quiz 2
5	Feb 5 – Feb 9	**EXAM 1** Ch.5 Transportation Model	
6	Feb 12 – Feb 16	Ch.5 Transportation Model	
7	Feb 19 – Feb 23	Ch.5 Transportation Model	Quiz 3
8	Feb 26 – Mar 1	Ch.5 Transportation Model	
9	Mar 4 – Mar 8	Ch.5 Transportation Model	Quiz 4
10	Mar 11 – Mar 15	SPRINGBREAK – No Classes	
11	Mar 18 - Mar 22	**EXAM 2** Ch. 6 Network Model	
12	Mar 25 – Mar 29	Ch. 6 Network Model	
13	Apr 1 – Apr 5	Ch. 6 Network Model	Quiz 5
14	Apr 8 – Apr 12	Ch. 6 Network Model	
15	Apr 15 – Apr 19		
16	Apr 22 – Apr 26	**EXAM 3** Term Project Execution **May 1-2-3 Study Days (No class)**	
17	Apr 29 –May 3		**April 30**, Tuesday Term Project Due, Project Presentations
18	May 4 – May 10		**May 8**, Wednesday, Final Exam

- Specific dates for Homework and Exams will be announced in advance based on the class progress.
- This schedule is tentative. It is subject to change.

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