

IE 3315 – 001, Fall 2014
Operations Research I
MWF 1:00 – 1:50 pm, Room 229 NH

Instructor: Aera Kim LeBoulluec, Ph.D.

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Office: 325B Woolf Hall **Phone:** 817-272-3120

Office Hours: W/F 1:50 – 3:50 pm, by appointment.

Faculty Profile: <https://www.uta.edu/profiles/Leboulluec-aera>

Teaching Assistant: Kin Ming Puk (kinming.puk@mavs.uta.edu)
Office Hours: M/Tu 2:00 – 4:00 pm.

Required Text: *Operations Research, 9th Edition*, by Taha, Prentice Hall, 2011.

Course Description: An introduction to the major deterministic techniques of operations research and their application to decision problems. These techniques include linear programming, integer programming, network analysis, dynamic programming.

Student Learning Outcomes: At the end of this course students should be able to

- (1) Understand the basic concepts of deterministic techniques of operations research,
- (2) Develop modeling skills, and
- (3) An ability to apply deterministic quantitative optimization methods to the decision-making process.

Tentative Course Schedule:

- Linear programming modeling
- Simplex algorithm
- Duality
- Dual simplex
- **Test #1:** Monday, September 29th (Subject to change)
- Transportation / Inventory
- Network analysis
- Goal programming
- **Test #2:** Monday, October 27th (Subject to change)
- Integer programming, including 0-1 problems
- Dynamic programming
- **Test #3 :** Monday, December 8th, 11:00 pm (not comprehensive).

Key Assignments: During the semester one or more assignments will be designated as *key assignments*. To pass this class you must successfully complete all key assignment requirements by the end of the semester or receive an I (incomplete). The key assignments are as follows.

- Certain problems on the first two tests will be designated as key assignments. If a student makes less than two-thirds of full credit on any such problem, he/she must rework the problem correctly and submit it to complete this key assignment. This reworking will not result in a change of the test score.
- Computer assignments: 10 problems will be assigned on for computer solution using the book's software. These are to be submitted **November 24th**.
- A copy of an applied journal article using an operations research model must also be submitted **November 24th** with an explanation in the student's own words.

Grading (tentative):

(25%) Test #1

(30%) Test #2

(30%) Test #3

(8%) Computer assignments (Key)

(7%) Journal article review (Key)

Letter grades correspond to the following score system:

A = 90-100; B = 80-89; C = 70-79; D = 60-69; F = below 60

Homework: Homework will not be assigned for this class, however problems will be posted on the blackboard for your own benefit.

Course Policies / Expectations:

- **Expectations for Out-of-Class Study:** Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 6 hours per week of their own time in course-related activities, including reviewing lecture content, reading required materials, completing assignments, etc.
- **Test Policy:** For each exam, you may bring in one 8.5x11 inch size sheet of paper written on both sides. Please bring your UTA ID card to all tests. Come prepared for exams since there is no sharing of anything, especially during exams. Cell phones calculators **CANNOT** be used during an exam.
- **Makeup Policy:** **There will be no make-up test**, unless the student provides legitimate written documentation proving an illness or emergency. If necessary, I may request additional information to verify the validity of your documentation. Any make-up exam may be given on the second to last or last week of class and may be comprehensive. If an exam is missed without reason, the student will get 0 for the exam.
- If you require an accommodation based on disability, please meet with me in the privacy of my office during the first week of the semester to make sure you are properly accommodated.
- All cell phones must be off or silenced (not on vibrate) when class begins.
- Be on time; when you are tardy you will disturb the class when you enter. Let's avoid this entirely.

- Remain in class until you have been dismissed.

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. –Aera K LeBoulluec.

Attendance: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have decided that attendance at class meetings is not required but strongly encouraged.
(<http://www.tgslc.org/pdf/Program-integrity-R2T4-Taking-Attendance.pdf>.)

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located down the stairs across the hall from the classroom. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities. <https://www.uta.edu/policy/procedure/7-6>).

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources

Inclement Weather Policy: If the University is closed, this class will not meet. Any scheduled assignments or examinations will be rescheduled to the next class period that the class meets. You can get information by dialing 972-601-2049 or checking the main website at www.uta.edu.

<p>Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911.</p>
