

IE 5309 – 001, 002, 003
Stochastic Processes
Spring 2016
MW 7:00 - 8:20 p.m.
108 Nedderman Hall

Instructor: Dr. Bill Corley

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Faculty Profile: <https://www.uta.edu/profiles/herbert-corley>

Office Hours: M 11 a.m. -12 p.m., W 1 - 4 p.m.

GTAs: Antonio Alanis

GTA Office Hours: TBA

Course Description: A survey of topics in stochastic processes to prepare the graduate student to read journal articles in this area. There is no text. References will be given as needed.

Schedule:

- Review of recurrence relations, generating functions, and Laplace transforms.
- Discrete Markov Chains
- Branching processes
- Quiz 1 - Take-home test
- Continuous Markov chains
- Queueing theory
- Renewal Processes
- Project presentation with reports due.
- Quiz 2 - Take-home test due Wednesday, May 11, at noon along with the project.

Course Policies:

- Students are responsible for checking MavMail.
- Course materials will be posted on Blackboard.
- All University drop policies will be followed as described below..
- The class GTA will set up office hours by the second week of class.
- Quizzes will be open book and open note.
- No makeups will be given for missed quizzes without written documentation or prior permission.
- All quizzes will be graded by the next period after the quiz.
- Quizzes will not be returned outside of class.
- Turn cell phones off in class.
- Cheating will be described in class for each assignment with a grade. Academic Dishonesty and its consequences are described in the Academic Integrity section below.
- The instructor reserves the right to modify this syllabus as needed during the semester in class and by email. Students are responsible for such changes.

Course Project:

- Form groups of 2 -3 students. Find a realistic but doable applied problem involving stochastic modeling. Textbook examples are not acceptable. One group can do a presentation on software for stochastic modeling.
- Write a short proposal for submission due 7 p.m., March 2, 2016.
- Model your problem using any stochastic methods either from the course or not.
- Use available software as needed.
- Write a professional-level report describing the problem, developing the model, analyzing the problem numerically, and then discussing your results.
- Prepare a professional-level PowerPoint presentation to be presented in class, Wednesday, May 4.

Course Evaluation & Final Grade:

- Typical Grading: A = 90, B = 80, C = 70, D = 60, F = below 60.
- The two exams will count 1/3 of your grade. The remaining 1/3 will come from your course project.

Attendance:

Any in-class student's attendance will not be taken after the student comes to class once to verify that he/she is enrolled. An in-class student is required to come to class to present his/her group project and turn in the report.

Online Education Policy:

- Information about distance learning may be found at <http://www.uta.edu/engineering/future-students/engineering-online/current-students.php>.
- Online students are required to communicate with the faculty before the second class period and let the instructor know that you are viewing the lectures.
- For any problems viewing ClassRev (Echo360) recordings, contact classroomsupport@uta.edu.
- Students enrolled in the distance sections may submit their tests, Powerpoint presentations, and reports via email by the designated time.

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 withdraw officially 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/>).

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>.

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: UTA expects all students, whether in-class or distance, to abide by the following Honor Code posted at <http://www.uta.edu/engineering/current-students/academic-honesty.php>:

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.

Note: Take-home quizzes and project reports will be scrutinized for collaboration. Collaboration will be punished to the full extent possible.

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.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a 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 across the hallway through the double doors on the right. 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 handicapped individuals.

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.