Mathematical Modeling – Spring 2020

Course: Math 3850 Section 001  
Place: Language Bld 113  
Instructor: Giordano Tierra Chica  
Email: gtierra@unt.edu  
Office: General Academic Building 471A  
Office Hours: Tue, Thur 10:00AM-11:00AM  
Wed 10:00AM-11:30AM

Time: TR 3:30PM-4:50PM

Prerequisites: Math 1720 and Math 2700 (may be taken concurrently)

Textbook: A First Course in Mathematical Modeling by Giordano et al., 5th Ed.

Course Goals: Mathematical Modeling serves as a bridge between the study of mathematics and the applications of mathematics to various fields. The aim of the course is to develop a practical understanding of basic aspects of mathematical modeling using a variety of tools, to understand how the pieces of an applied problem fit together.

Topics Covered: We will discuss material related to the following topics as time permits: difference equations, dynamical systems, proportionality, model fitting, experimental modeling, simulation modeling, probabilistic modeling, optimization, dimensional analysis, graph theory and differential equations.

Exam Dates:  
Midterm I: Tuesday 18th February  
Midterm II: Tuesday 7th April  
Final Exam: Tuesday 5th May 1:30AM-3:30PM.

Course Grading: Homework/Quizzes - 20%, Midterm I- 25%, Midterm II- 25%, Final - 30%.

Letter Grades: A = [100,90], B = (90,80], C = (80,70], D = (70,60], F = (60, 0].

Homework: "Naked numbers are not acceptable." Solutions must include a short write-up describing the problem, your solution technique, and procedural details. All things must be clearly labeled with your name and the problem number or statement. Hand written work must include the steps for solution presented in a neat orderly fashion and in a fairly large size.
**Quizzes:** Depending on need and on how much time is available, we might have quizzes once in a while. I will announce quiz dates in advance. Each quiz will count as one homework assignment and be included in your homework average.

**Attendance Policy:** Attendance is strongly recommended. Students will need the lecture notes in order to prepare for the exams. The textbook by itself is not a suitable resource for exam preparation, since the lecture notes are not exactly the same as the material in the textbook, and the textbook contains much more material than is need for exam preparation. Important information and announcements are oftentimes made during class time, and students are responsible for that information. Students who miss class have the responsibility to ask another student to copy their lecture notes and learn about any class announcements. I will not repeat a lecture for an individual student during office hours if they missed class.

**Policies:** Late work is unacceptable. No make-ups. No cell phones, No texting, No ear buds/head phones, ETC. in class.

**Class Etiquette:** All cell phones are to be turned OFF and kept in your backpack or pocket. Do not have them on the desk. NO CELL PHONE USE OR TEXTING PERMITTED IN CLASS. If you bring a laptop to class do not access your email or communicate with others by email.

**Canvas:** The important information and announcements made during class time will be also posted in Canvas. Please go there regularly to see important announcements.

**Extra credit:** Do not expect to be able to do some extra work to help your grade either before or after the final exam. Your best bet to help your grade is to do the required work at the time it is assigned.

**Disabilities:** The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact them by phone at 940.565.4323.

**Cheating:** No cheating will be tolerated. Anyone caught cheating will be subject to any penalty the instructor deems appropriate, up to and including an automatic F for the course. Furthermore, a letter will be sent to the appropriate dean.