DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES
UNIVERSITY OF TORONTO MISSISSAUGA

MAT332H5F LEC0101
Introduction to Nonlinear Dynamics and Chaos
Course Outline - Fall 2019

Class Location & Time	Tue, 05:00 PM - 07:00 PM DH 3000
	Thu, 05:00 PM - 06:00 PM DH 3000
Instructor	Kasun Fernando Akurugodage
Office Location	DH 3097B
Office Hours	Tue, Thu 1-2 pm
E-mail Address	kasun.akurugodage@utoronto.ca
Course Web Site	https://q.utoronto.ca/courses/107052
Teaching Assistant	Kabir Hossein
E-mail Address	hossein.kabir@mail.utoronto.ca

Course Description

Stability in nonlinear systems of differential equations, bifurcation theory, chaos, strange attractors, iteration of nonlinear mappings and fractals. This course will be geared towards students with interest in sciences. [36L, 12T]

Prerequisite: MAT232H5/MAT233H5/MAT257Y5, MAT223H5/MAT240H5, MAT212H5/MAT244H5
Exclusion: MAT335H1,MATC35H3 (SCI)
Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless they have received an explicit waiver from the department. The waiver form can be downloaded from here.

Textbooks and Other Materials

Stephen Lynch - Dynamical Systems with Applications using Python.

Clark Robinson - An Introduction to Dynamical Systems: Continuous and Discrete.

Assessment and Deadlines

Type	Description	Due Date	Weight
Assignment	Bi-weekly homework assignments	On-going	40%
Term Test	Midterm test	2019-10-22	20%
Final Exam		TBA	40%
		Total	100%

More Details for Assessment and Deadlines

There will be six homework assignments. **The lowest score among the first five homework sets will be dropped.**Homework problems sets will be posted in Quercus, and are due at the beginning of the tutorial sessions (Monday at 2 pm) on Sept 16, Sept 30, Oct 21, Nov 04, Nov 18 and Dec 2. Your TA will mark your work and will return it to you in the following week's tutorial. You are encouraged to discuss with your fellow students while working on questions from the problem sets. However, the writing of your assignment must be done without any assistance.

Penalties for Lateness

No late assignments accepted. No make-up tests. A late hand-in will result in zero credit. An undocumented absence from the test will result in zero credit.

Procedures and Rules

Missed Term Work

Students who cannot write the term test due to illness or other serious causes must present original supporting documentation **within 72 hours of the missed test**. If illness is cited as the reason for the missed test, a U of T Medical Certificate must show that you were **examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest**. No late homework assignments will be accepted for any reason.

Missed Final Exam

Students who cannot write a final examination due to illness or other serious causes must file an online petition **within 72 hours of the missed examination**. Original supporting documentation must also be submitted to the Office of the Registrar **within 72 hours of the missed exam**. Late petitions will **NOT** be considered. If illness is cited as the reason for a deferred exam request, a U of T Verification of Student Illness or Injury Form must show that you were **examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest**. Students must also record their absence on ACORN on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of $70 is required for each examination approved.

Academic Integrity

Honesty and fairness are fundamental to the University of Toronto's mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone elses work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

Final Exam Information

Duration: 2 hours
Aids Permitted: None

Additional Information

E-mails related to the course must be sent from a utoronto.ca address and contain the course code MAT332 in the subject line. Please include your full name and student number in your e-mails.

Each student must be registered for the tutorials (on ACORN), and are advised to attend the tutorials every week.

Last Date to drop course from Academic Record and GPA is November 7, 2019.