# Math 3321-04, Advanced Engineering Mathematics

**Course times:** Lecture times are Tuesday and Thursday 11:30pm-1:00pm, D3 E223

**Office hours:** My office hours are 10.00am -11.00am Tuesday, 10-11am Thursday or by appointment.

The TA for this course, Aanchal Aggarwal, will hold office hours in PGH Room 625, on Monday 3-4pm and on Wednesday 2-3pm. Her email is aanchal@math.uh.edu

**Contact Details:** Dr Matthew Nicol , Office PGH Room 665, Extn: 6181.
Email: nicol@math.uh.edu

**Course Description:** Here is a brief outline of the course syllabus. The lectures will be roughly based on "Differential Equations" by Polking, Boggess and Arnold (Second Edition) and "Introduction to ordinary differential equations" by E. Coddington (any edition). Lecture notes will be comprehensive and the books do not need to be purchased but the book by Coddington is in a Dover edition and quite cheap on Amazon.

- First order equations and linear differential equations.
- Systems of equations and matrix exponentiation.
- Variation of parameters and other techniques.
- Power series techniques.
- Laplace transforms.
- Applications to engineering, physics and chemistry.

**Recommended Texts:** "Introduction to ordinary differential equations" by E. Coddington.

"Differential Equations" by Polking, Boggess and Arnold. Second Edition.

Other good references are "Advanced Engineering Mathematics" by E. Kreyszig.

**Assessment:** Your final grade will be based on:

(75) 25 points from each of three in-class exams.
(15) 15 points in total of in-lab quizzes (announced a week ahead of time).
(10) 10 points for homeworks.

There will be no final exam.