

MA 325
Spring 2019, 12:50 to 1:40 pm, MWF in SAS 2229

An Introduction to Applied Mathematics

by

M. Chu, D. Papp, H. Tran, S. Lubkin and E. Stitzinger

This three-credit course is a survey of applications of mathematics and will be suitable for students who have taken multivariable calculus (basic linear algebra, ODE, basic Matlab experience can help). The course will enable the students to formulate a cohesive plan of study for the third and/or fourth year, which includes 15-27 elective credits related to applied mathematics. Mathematics education majors will find a variety of applications and a sampling of teaching styles to be interesting. Also, perspective majors in pure or applied mathematics will find this to be a good survey of mathematics.

In the spring of 2019 there will be five three-week modules on:

- Module 1.** Nonlinear Least Squares with Its Application to GPS Technology, 01/07 -- 01/25 (M. Chu)
- Module 2.** Optimization, 01/28 -- 02/15 (D. Papp)
- Module 3.** Machine Learning, 02/18 -- 03/08 (H. Tran)
- Module 4.** Introduction to Image Processing, 03/18 -- 04/05 (S. Lubkin)
- Module 5.** Cryptography, 04/08 -- 04/26 (E. Stitzinger)

The modules are motivation for future course work and related academic activities. Some mathematics will have to be developed “as needed”.

Each module will have one or two homework assignments (16 % per module). At the end of the semester, the students will need to write up a short paper (about 2 - 4 pages long) summarizing what they learned throughout the semester, relating to the material learned and incorporating it into their plan of study or future career (20 %).

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http://www.ncsu.edu/policies/academic_affairs/pols_regs/REG205.00.28.php.

Academic Integrity:

http://www.ncsu.edu/provost/academic_regulations/integrity/reg.htm.