

MATH-3050 NUMERICAL ANALYSIS & COMPUTING
MATH-3351 APPLIED NUMERICAL METHODS
WINTER 2025

Instructor: Prof. Xin Yang LU

Class Times: MW 5.30-7pm in RB1042

Labs: F 10.30-11.30am in AT4019, and F 3.30-4.30pm in AT4019

Email: xlu8@lakeheadu.ca

Office Hours: MW 4.30-5.30pm in RB2015. However, before coming to office hours, please confirm via email. To accommodate schedule conflicts, office hours can be delivered either in person, or via Zoom.

DESCRIPTION

- **Textbook:** *Applied Numerical Methods with Matlab for Engineers and Scientists* by Steven C. Chapra. Cost: 70 dollars (new) - prices are subject to market fluctuations. Any version, or second hand copy, would work. Not required.
- **Content:**
 - Numerical techniques for finding roots of nonlinear equations in one variable.
 - Approximating functions.
 - Approximating integrals and solving differential equations.
 - Euler's method.
 - Heun's method.
 - Runge-Kutta methods.
 - Solving systems of linear equations.
- **Assignments:** 3 assignments during the semester, each of which worth 15%. You will have approximately two weeks to do each assignment.
- **Final Exam:** There will be a 3 hours final exam, worth 55%.
- **Policies:**
 - Important announcements will be made through MyCourseLink to registered students via MyCourseLink. You are responsible for reading the info posted on MyCourseLink.
 - I attempt to reply to e-mail in a timely fashion, but do not expect immediate responses.
- **Academic Dishonesty:** All cases of academic dishonesty will be dealt with according to the university's Code of Student Behavior and Disciplinary Procedures, copies of which are available from the university's web-site.
- **Accommodations:** Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit: <http://studentaccessibility.lakeheadu.ca>