

M440 - Numerical Analysis

M540 - Numerical Methods for Computational & Data Science

Instructor Information:

Instructor: Javier Pérez Álvaro

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Office hours: See <http://www.umt.edu/people/perezalvaro> for up-to-date OH.

Time and place: Monday, Wednesday, Friday 2:00-2:50 p.m., Math 306.

Learning Goals: By the end of the course you should:

1. be able to compute by hand, and using the computer, the LU, Cholesky, eigenvalue, SVD, and QR factorizations of a matrix, where applicable;
2. be able to write your own MATLAB code for doing matrix computations;
3. be able to implement iterative methods for solving linear systems of equations, least squares problems, and nonlinear equations;
4. understand some of the important applications large-scale computations in applied mathematics.;

Textbook: Fundamental of Matrix Computations, David S. Watkins

Homework: Homework exercises emphasizing applications of the algorithms and/or theory will be assigned weekly.

Grading policy: Your course grade will be determined by your performance on the homework and two take-home exams

Item	Percentage
Homework	40%
Exams	60%

Student Conduct: All students need to be familiar with the Student Conduct Code. You can find in the "A to Z Index" on the UM home page. All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

Accommodation: The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors and Disability Services for Students (DSS). If you think that you may have a disability adversely affecting your academic performance, and you have not already

registered with DSS, please contact DSS in Lommasson Center 154 or call 406.243.2243. I will work with you and DSS to provide an appropriate accommodation.

Important note: Announcements made in class are considered addenda to this syllabus. Make sure you stay informed as the progress of the class.