

Instructor:	Eduardo Corona
Office Hours:	Mon and Wed, 10:30-11:30 am or by appointment virtually
Contacting me:	eduardo.corona@colorado.edu
TA:	Sachin Natesh
Office hours:	TBD

Lectures: Class : MWF from 9:05–9:55 am in ECCR 1B55 (Corona)
 Recitation : T from 9:05–9:55 am in ECES 1B12 (Natesh)

Course description: Focuses on numerical solution of nonlinear equations, interpolation, approximation techniques, methods in numerical integration, numerical solution of linear systems, and matrix eigenvalue problems. Stresses significant computer applications and software.

Text: “Numerical Analysis”, 9th ed.
 Burden, R. L. and Faires, J. D.
 Brooks/Cole Publ. Co., 2011,
 or the 10th ed., 2016

Important Dates:

Jan. 19	Tuesday	Classes begin
Feb. 14		Mid-term 1, 6:00–7:30 pm, location TBD
Mar. 21		Mid-term 2, 6:00–7:30 pm, location TBD
Mar. 27-31	Mon. - Fri.	Fall and Thanksgiving break
May. 3	Wednesday	Last day of classes
May. 9	1:30-4pm	Final exam time slot

Grading Distribution:

25% Homework
 30% Midterms
 30% Final Project
 15% Labs

Exams: There will be two “in-class” midterms and a final. Let me know ASAP before Jan 30 if you will have a conflict with either of the Mid-term exams.

Homework Policy: Homework will be assigned on a regular basis. Generally the problems will be based on the text and lecture, but occasionally they will require you to fill in details from class discussions, or further explore a topic outside of class. Problems assigned during any given week will be due the following Friday in class. No late homework will be accepted. The lowest homework score will be dropped. The solutions should include the following:

- Clear, brief restatement of the problem or question.
- Statement of important assumptions.
- Neat, detailed, step-by-step solution including sufficient comments to make the solution “read” well.
- Statement of the significant “physics” of the problem. What does the answer mean? Is it reasonable? If you don’t know, say so, but don’t bluff.

You are encouraged to work together on the assignments, however, the major portion should be done on your own. In all cases your submission should demonstrate that *you* understand the problem and its solution.

Final project: There will be a final project due on the day of the final exam. This will be a group project. Groups will be randomly generated. The project will consist of a 10 minute presentation and a report that is at about 8 page long (without figures and tables). Documents detailing the requirements of the presentation and the report are provided separately. The final project grade is determined by your ability to work well in the group, the clarity of the presentation, the content of the project and the quality of the report.

Course outline: Given time, we will cover the following topics (roughly the first 6 chapters):

Root finding
 Interpolation (by polynomials)
 Approximation

Integration (quadrature)
Linear algebra
Scientific computing

Academic honesty: Work on projects, homework, programming assignments etc., is generally done on an individual basis. I realize that students frequently help each other over hurdles while developing programs and solving problems, and I encourage this. However, using another person's work or allowing another student to use your work, will be considered a dishonest act. Violation of the CU Student Honor Code (<https://www.colorado.edu/sccr/honor-code>Links to an external site.) or the College of Engineering's Academic Honesty Advising Guidelines (<https://www.colorado.edu/engineering-advising/>Links to an external site.) will result in a final course grade of F and a report to the College of Engineering or Arts and Sciences, a copy of which will be placed in the student's permanent file.

Accommodation for Disabilities: If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

Religious Holidays: Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance.

See the campus policy regarding religious observances for full details.

Classroom Behavior: Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the classroom behaviorLinks to an external site. policy, the Student Code of Conduct, and the Office of Institutional Equity and Compliance.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation: CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, protected-class discrimination and harassment, and related retaliation by or against members of our community on- and off-campus. These behaviors harm individuals and our community. The Office of Institutional Equity and Compliance (OIEC) addresses these policies, and individuals who believe they have been subjected to misconduct can contact OIEC at 303-492-2127 or email cureport@colorado.edu. Information about university policies, reporting options, and support resources can be found on the OIEC website.

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of any issues related to these policies regardless of when or where they occurred to ensure that individuals impacted receive information about their rights, support resources, and resolution options. To learn more about reporting and support options for a variety of concerns, visit Don't Ignore It.

Honor Code: All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include, but are not limited to: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution (honor@colorado.edu); 303-492-5550). Students found responsible for violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found on the Honor Code website.

COVID Policies: As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. CU Boulder currently requires COVID-19 vaccination and boosters for all faculty, staff and students. Students, faculty and staff must upload proof of vaccination and boosters or file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.

The CU Boulder campus is currently mask-optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the “Accommodation for Disabilities” statement on this syllabus.

If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office (contacttracing@colorado.edu).