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**Instructor:** Dr. Yunrong Zhu    **Office:** PS 328B    **Phone:** 282-3819    **E-Mail:** [zhuyunr@isu.edu](mailto:zhuyunr@isu.edu)

**Course Website:** [MOODLE](#)                      **Office Hours:** MW 4:00 pm - 5:00 pm, or by appointment

**Textbook:** *Numerical Analysis*, Second edition, by Walter Gautschi, Birkhäuser, 2012. We will cover Chapters 1-4.

**References:**

- A. Quarteroni, F. Saleri, and P. Gervasio, *Scientific Computing with MATLAB and Octave*, 4th Edition, Springer 2014.
- C. M. Moler, *Numerical Computing with MATLAB*, SIAM, 2004.
- W. Cheney and D. Kincaid, *Numerical Analysis: Mathematics of Scientific Computing*, 3rd Edition, Brooks Cole, 2001.
- R. Kress, *Numerical Analysis*, Springer-Verlag, 1998.
- R. L. Burden and J. D. Faires, *Numerical Analysis*, 9th Edition, Cengage Learning, 2010.

**Prerequisites:** MATH 2240, MATH 3326, and MATH 3360.

**Course Objectives:** The primary objective of the course is to develop understanding of numerical algorithms and skills for solving mathematical problems such as nonlinear equations, differential equations, interpolation, numerical integration and differentiation; to explain how, why, and when these techniques can be expected to work; and to provide a foundation for further study of numerical analysis and scientific computing. The course also emphasizes on algorithms and their implementations.

**Homework:** The homework assignments and due dates will be announced in class, and posted on MOODLE. Show all work and include complete, clear explanations and justifications. Please staple your homework together to avoid missing pages. Each assignment will consist of both mathematical analysis problems and algorithm implementation (using MATLAB, or the language you prefer) for problem solving. **NO later homework** is accepted for any reason, and any missing assignment will be 0.

**Exams:** There will be two in-class exams and one two-hour cumulative final exam with the tentative schedule as follows:

**Exam #1:**        **Wednesday, Oct. 2**  
**Exam #2:**        **Wednesday, Nov. 13**  
**Final Exam:**    **Wednesday, Dec. 11, 12:30-2:30 p.m.**

All these exams will be held in the classroom PS 324.

**Makeup Exams:** Students who have a valid documented reason, such as a unavoidable emergency, illness, or university commitments during regular examination times are permitted to schedule a makeup examination with no penalty. In such case, you must contact me or has somebody else contact me **before the exam** if possible, but **no later than the next class meeting**. To take the makeup exam, you must present the documentation, **with detailed description of the problem** for the emergency. Any missed exam will be 0.

**Grading:** : Student's course grade will be based EXCLUSIVELY on HW, two in-class midterm exams, and the final exam. There will be NO "extra credit" work. The weights are distributed as follows:

**30% HW + 40% Exams + 30% Final.**

A+	93% and above	C	73%–76%
A-	90%–92%	C-	70%–72%
B+	87%–89%	D+	67%–69%
B	83%–86%	D	63%–66%
B-	80%–82%	D-	60%–62%
C+	77%–79%	F	59% and below

**Academic Integrity and Dishonesty:** Academic integrity is expected of all students. Academic dishonesty, including cheating or plagiarism, is unacceptable. The Idaho State University academic dishonesty policy allows an instructor to impose one of several penalties for cheating that range from a warning up to assigning a failing grade for the course or dismissal from the University. ANY use of an electronic device or other form of unauthorized materials during an exam or other assessment will be considered cheating. For more information, see: [http://coursecat.isu.edu/undergraduate/academic\\_integrity\\_and\\_dishonesty\\_policy/](http://coursecat.isu.edu/undergraduate/academic_integrity_and_dishonesty_policy/).

**Extra Help:** Do not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course. Free tutoring is available from the Math Center in the Student Success Center, Rendezvous 327 in Pocatello and CHE Room 220 in Idaho Falls. Information is available at <https://www.isu.edu/tutoring/math-center/>.

**ADA Policy:** Idaho State University is committed to providing equal opportunity in education for all students. If you have a diagnosed disability or if you believe you have a disability (physical, learning, hearing, vision, psychiatric) that might require reasonable accommodation in this course, please contact the Disability Services Center, Rendezvous Building, Room 125 (282-3599) <http://www.isu.edu/disabilityservices> as early as possible.

**Concerns:** Please feel free report any complaints or concerns about the class to our department chair, Dr. Derryberry (derrdewa@isu.edu, 208-282-4474, PS 318B).