CS: 3513
Numerical Methods for Digital Computers

Instructor: Dr. J. Cecil (j.cecil@okstate.edu)

Office Hours:
Instructor Office hours:
Mon 01:00pm – 02:00pm. All other meeting times with students by appointment. Meetings during office hours with students will be via zoom.
TA Office hours:
For MATLAB questions, please contact TA Ali Milani ali.sadeghi_milani@okstate.edu
For other topics, please contact TA Abhi Kumar abkumar@okstate.edu

NOTE: To make this productive, each student who wants to talk to instructor must send their specific questions at least a day before the zoom appointment. Instructor occasionally has to go on work related travel (within US and sometimes outside US). On such occasions, instructor will try his best to propose zoom appointment times. Students are requested to have some flexibility.

WHENEVER EMAILING INSTRUCTOR: Always copy both the TAs (Ali Milani, Abhishek Kumar) on any questions to the instructor. To get help from the TAs, please email both of them. One of them will respond.
WHEN EMAILING TAs, always copy Dr. Cecil.
DIRECT ALL HOMEWORK QUESTIONS TO TA.
MATLAB QUESTIONS NEED TO BE DIRECTED TO TA Ali (but copy Dr. Cecil and Abhi as well).
AVOID LAST MINUTE EMAILS AS TAs also have courses they are enrolled in.

ONLINE COURSE
This is an online course. All lectures, resources, assignments, and correspondence are accessed entirely online through Canvas at canvas.okstate.edu. You must use your campus email and password to access the course.

Prerequisites
MATH 2153 (Calculus II); MATH 3013 (Linear Algebra) or concurrent enrollment; or MATH 3263 (Linear Algebra and Differential Equations) and knowledge of programming.

TEXTBOOK
The instructor may allow students to use the free electronic version (of the 3rd edition). This will be discussed in the first week of class.
Grading Policy
Assignments: 50%
Presentations: 10%
Mid-term Exam (1): 10%
Mid-term Exam (2): 10%
Final Exam: 20%

Grades for course will be given on a 90, 80, 70, 60 basis (corresponding to A, B, C, D). Scoring less than 60 % will result in a Fail or F grade. The instructor reserves the right to curve the grades

Some deliverables require students to work on teams. For team-based deliverables, all students are expected to contribute to ensure fairness. Note that peer evaluations will be used to get feedback on contribution and roles of each student in a team. Students who have not contributed to their fair share of work will be given a lower grade point that the grade points given to the overall team.

Due Dates & Assignment Logistics
The due date and time for each assignment is specified on its assignment handout posted on the course Canvas site. Solutions must be submitted via drop boxes on the same site. Solutions that consist of multiple files must be zipped into a single file for submission. (NOTE: zip is the only form of aggregation/compression accepted)

Late Work Policy
Individual assignments may be turned in late, but they lose a percentage of their graded point values for each class day that they are late, according to the following schedule:
On time: 0%
Up to 1 class day late: 10%
Up to 2 class days late: 30%
Up to 3 class days late: 60%
More than 3 class days late: 100%
All other types of assignments are worth zero points if turned in late.

Please do not ask instructor for additional time because you fall sick on the day of the deliverable or deadline. Students are expected to start working on their homework and other deliverables well before the assigned deadlines.

If a student falls sick on the day of the online exam or the day before, it is the students responsibility to obtain a signed letter from a medical doctor that the student was seen for a medical illness and send this electronic document to the instructor and copy the TAs. Submitting a nurse’s note will not be sufficient.
TENTATIVE TOPIC SCHEDULE
This schedule may change depending on student progress and other factors. Student presentations as part of homework assignments may also result in some schedule changes given below.

Aug 22 – 26: Intro to course and Intro to MATLAB
Aug 29 – Sept 2: MATLAB programming
Sept 6 – 9: MATLAB
Sep 12 – 16: Error Analysis
Sep 19 – 23: Roots of Equations: Bracketing
Sep 26 – 30: Roots of Equations: Open methods
Oct 3 – 7: Linear Algebraic equations and matrices
Oct 10 -14: Prep for Exam 1 and Exam 1 (tentative dates)
Oct 17 – 21: Matrix inversion/systems of equations
Oct 24- 28: Curve fitting and regression, Generalized regression
Oct 31 – 4: Eigen Values
Nov 7 -11: Prep for Exam 2 and Exam 2 (tentative dates)
Nov 14-18: Fourier Transform / Polynomial Interpolation
Nov 21-25: FALL BREAK AND THANKSGIVING HOLIDAYS
Nov 28- Dec 2: Polynomial Interpolation
Dec 5 – 9: Pre finals week (Exam Prep)
Dec 12-16: Final Exam week

Software/Hardware requirements
• Any computer capable of allowing you to install MATLAB and for doing your various homework and other course work including your exam.
• Internet access and an HTML5-compatible Web browser.
• Your laptop needs to have a headset (or speakers) and a microphone

Collaboration policy
Read and understand the OSU Violations of Academic Integrity webpage. Further, we will adhere to the following:
• Individual assignments: Discussion of concepts, ideas, and techniques is acceptable. After discussion, each student must write up his/her own solution. Copying another person’s work, in part or in whole, is not allowed. Giving another student your work, in part or in whole, is considered cheating as well. If you are unsure whether your collaboration is acceptable, speak with the instructor in advance. Take care that your solutions are not exposed to or by other students.
• Team assignments: Sharing of work among students on a project team is acceptable. Inter-team discussion of concepts, ideas, and techniques is acceptable, but inter-team sharing of work is not permitted. If you are unsure whether your collaboration is acceptable, speak with the instructor in advance.
• Examinations: During an examination period, no communication of any kind about the exam is allowed, except with the instructor or proctor.
Students who do not comply with the collaboration policies described here or are involved in any unethical behavior in completing their course work deliverables will be assigned sanctions in accordance with OSU policy 2-0822 (Academic Integrity). Depending on the circumstances of the violation, the sanctions may result in a score of zero on an assignment, a final grade of F! for the course, or dismissal from OSU. In all instances, the violation will be reported to the appropriate institutional officials.

Syllabus attachment
Other useful information, such as important dates throughout the semester, can be found on the OSU-Stillwater syllabus attachment.

Office of Student Accessibility Services
If you think you have a qualifying disability and need accommodations, contact the Office of Student Accessibility Services as soon as possible to start the registration process and to ensure timely implementation of appropriate accommodations. More information can be found in the syllabus attachment.

Other Important Resources
The OSU community is here for you and wants to provide all the tools and resources to best support your mental health. If you or someone close to you is having a difficult time, our mental health resources are available to help. Whether it’s mental or physical health, we have student wellness resources to ease the stress of college life.
Reach out to your advisor or instructor if you need support or help in your courses and utilize the many academic resources available on campus. Our faculty’s goal is to assist you, whatever the circumstances might be.
We are working to ensure that your time at Oklahoma State is both safe and formative, and many times that begins with your mental wellbeing.