0. Class Meeting Times/Places

1. Lecture: Tuesday/Thursday 3:00 – 4:15 pm; Classroom Building 103

1. General Information

<table>
<thead>
<tr>
<th>Instructor: H. K. Dai</th>
<th>Teaching Assistant: P. Ishola</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Location: Room 209</td>
<td>Mathematics, Statistics, and Computer Science Building</td>
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<tr>
<td>Room 116</td>
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<tr>
<td>Office Hours: Tuesday/Thursday 4:30 – 5:30 pm</td>
<td>Monday/Wednesday 12:00 – 1:00 pm</td>
</tr>
<tr>
<td>Office Phone:</td>
<td>744-7207</td>
</tr>
<tr>
<td>email Address: <a href="mailto:dai@cs.okstate.edu">dai@cs.okstate.edu</a></td>
<td><a href="mailto:peace.o.ishola@okstate.edu">peace.o.ishola@okstate.edu</a></td>
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</tbody>
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2. Course Description in Current University Catalog

CS 3513: Numerical Methods for Digital Computers. Prerequisites: MATH 2153 (Calculus II); MATH 3013 (Linear Algebra) or concurrent enrollment; or MATH 3263 (Linear Algebra and Differential Equations) and knowledge of programming. Errors, floating point numbers and operations, interpolation and approximation, solution of nonlinear equations and linear systems, condition and stability, acceleration methods, numerical differentiation and integration.

3. Course Materials and References


2. References and Supplementary Materials (suggested in previous offerings by J. P. Chandler):

Software available from:
- http://gams.nist.gov/
- http://www.netlib.org/
- http://archives.math.utk.edu:80/

4. Course Website and Lecture Notes

Our course Website is maintained on the campus-wide online learning system Canvas, which can be accessed through “https://canvas.okstate.edu”.

Since the information in our class pages will be constantly updated, please check in Canvas regularly (Announcements, Assignments, Modules, etc.).

General notes:

1. All class materials (announcements, lecture notes, assignments, etc.) will be disseminated on Canvas.

5. Homework and Examinations

There will be about 6 homework/programming assignments, 1 test, and 1 final examination.

6. Course Grade

The course grade is based on the homework (40%), test (25%), and final examination (35%). The passing letter-grade is determined by the following partition of the course grades:
7. Miscellaneous

1. Lectures: Lectures are not mandatory, but historically, students with active attendance/coursework have done significantly better on examinations than their less frequently attending classmates.

2. Homework: Problem sets form an important part of the learning in the course, and thus, you are required to do them in order to pass.

3. Collaboration and Sharing: You are encouraged to discuss approaches with other students on solutions of assigned coursework, but you must write up solutions on your own independently and acknowledge your source in the write-up for each problem. If you obtain a solution with help (e.g., through library or publicly available work, or academic work by other students — whether in this or previous semesters), acknowledge your source, and write up the solution on your own.

   Notes: Read relevant documents/guidelines about academic integrity at Oklahoma State University in Academic Integrity Resources at the following URL:
   https://academicaffairs.okstate.edu/academic-integrity/index.html

8. Student Disability Services

Student Disability Services and other Student Services are committed to providing support services to students with physical and learning disabilities. Please advise the instructor of desired academic accommodations, and notify Student Disability Services.

9. Academic Dishonesty or Misconduct

Refer to the section in “University Academic Regulations” in current “University Catalog” (http://registrar.okstate.edu/)

10. Adding/Dropping/Withdrawing, Important Dates, and Syllabus Attachment

1. Test and Final Examination: Tentative date for the test is October 5 (Tuesday), 2021.
   Adopting “Fall 2021 Final Exam Schedule”, the firm time/date for final examination is 2:00 – 3:50 pm, December 9 (Thursday), 2021 in regular class meeting place.
   Refer to the section in “Fall 2021 Final Exams”:
   https://registrar.okstate.edu/class_schedule_short_courses/exams.html

2. Adding/Dropping/Withdrawing and Important Dates: Refer to the section in “Academic Calendar”:
   http://registrar.okstate.edu/

3. Syllabus Attachment: Refer to:
   https://academicaffairs.okstate.edu/student-support/index.html
1. Errors

2. Floating Point Numbers and Arithmetic

3. Taylor Series and Numerical Differentiation

4. Roots of Nonlinear Equations

5. Accelerating Convergence

6. Condition and Stability

7. Systems of Linear Equations

8. Interpolation and Extrapolation

9. Approximation and Definite Integrals