This course is project oriented, not fill-in-the-blank or multiple choice. I expect you to code but it is NOT a coding class per se. I will provide samples but not coding assistance on an individual level. Problem descriptions/requirements/specifications will often be derived in class with your input. These are subject to modification or even addition or deletion as the situation warrants.

Office hours: I will have office hours and they will be announced as soon as my schedule and responsibilities are set.

Course Policies for all course sections

1. Late work will not be graded under any circumstance without a written request for such from the student affairs office.
2. Attendance for all lectures is required. The door will be shut 5 minutes after the beginning of class (or my arrival whichever is later) and admission not granted after that.
3. Office hours are not:
   a. An opportunity for me to repeat everything I just said in class.
   b. An opportunity for me to debug your code.
   c. A chance to make up lectures that a student missed. (see #2 above)

Office hours are:

1. An opportunity for the student to ask specific content related questions for additional clarification. To meet that end I am requiring that EACH student question be written on a separate 3x5 card. These are in effect your admission ticket. I will answer ONE question of your choosing (excepting parts a,b,c above). If no one else is waiting I will then answer the next question. If a student is waiting then they will get the opportunity to ask a question. You may get in the back of the line if you so choose. Remember, open ended of “I don’t get it” questions will not be answered. Specific, detailed questions only. This is a strict FIFO data structure.

4. Classroom regulation:
   Students pay a lot of money for courses at ODU. If you are disruptive, interrupt the class flow, intend to use my class room as a place to listen to your music, send text messages or play a game on your iphone you will be asked to leave for that class period. If it happens twice, you should immediately go to the registrars and fill out a drop form. The chances of you successfully passing my course have just reached 0.

5. Readings:
   a. Assigned readings should be completed BEFORE the day the topic is to be covered in class. Periodic, small 5 minute quizzes at the beginning of the class, PRIOR to my discussing the reading should demonstrate how serious I am about this.
b. If you find a topic confusing, for example “toggles”, then you should
   i. Go back and read any assigned material
   ii. Check the index of your text book, find “toggles” and go to those pages
       and read that material as well
   iii. Search the web for reliable content/explanations
   iv. Go to the library and find other text books that deal with the topic and
       read those.
   v. Then if you still have issues then see #3 Office Hours, above.

6. Personal Issues or problems: the ODU Student Affairs office can direct you to the appropriate counselor who can
   assist you with any problems of a more personal nature.

Schedule (subject to change)

Week 1 The triply finite nature of computation, finite arithmetic and numerical precision, Eigenvalue problems

Week 2 Direct Methods: basic matrix operations Gaussian Elimination

Week 3 LU decomposition

Week 4 assignment 1 due, Iterative Methods: Jacobi,

Week 5 Gauss Seidel and SOR

Week 6 matrix generation

Week 7 finite differences

Week 8 more finite differences

Midterm Exam

Week 9 Domain Decomposition

Week 10 Parallel programming

Week 11 Marching Methods, hyperbolic and elliptic

Week 12 Krylov methods

Week 13 Review

Final Exam