STUDENT SYLLABUS MAP 3306–01 Summer 07

WEB PAGE: http://www.math.fsu.edu/∼bellenot/class/su07/em2

MEETING TIMES: MWF 11:00-12:00 213 HCB

INSTRUCTOR Dr Steven Bellenot

OFFICE 223 Love

OFFICE HOURS M 2:00-3:00, F 10:00-10:45 or by appointment

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ELIGIBILITY: MAC2313 (Calculus 3) with C- or better and either MAP2302 (ODE) or MAP3305 (E Math 1) with C- or better. The course is not open to students with credit for MAP4341 PDE I.

TEXT: Kreyszog, *Advanced Engineering Mathematics*, 9th Edition, Wiley, 2006.

CALCULATOR: No calculators are allowed on tests or quizzes.

COURSE OBJECTIVES: The purpose of this course is to introduce students to the ideas and techniques for solving partial differential equations. We will emphasize both computational methods of solving the equation and conceptual understanding of the solutions. Our goal is to cover Chapters 11 (Fourier Analysis) and 12 (PDE's of mathematical physics), exposing the students to methods and equations that arise commonly in scientific appplications.

ATTENDANCE: Attendance and class participation will be factors in determining the final grade. No food or drinks are allowed in the classroom. Please turn off cell phones and keep them hiden during class.

COMMUNICATION: It is your responsibility to register for a (free) FSU computer account so that I can send you email, which you are expected to check regularly. If you prefer to read your email elsewhere then you can arrange to have messages forwarded, but you must still obtain an FSU account in the first instance. Please – no cell phones are allowed in class.

GRADING/EXAMS: Every Friday there will be a quiz or a test. Your grade will be based on how well you do on the 3 tests (70%), the homework(15%), and the quizzes(15%). Letter grades will be assigned according to the usual scale (A: 90 and above; B: 80 and above; C: 70 and above; D 60 and above; F below 60). Plus/minus letter grades may be assigned to high/low numberical grades. A grade of I will not be given to avoid a grade of F or to give additional study time. Failure to process a course drop will result in a course grade of F.

EXAM POLICY: No makeup quizzes will be given. Late or unstapled assigments will not be normally be accepted. A missed test may be excused if the student presents sufficient verifiable evidence of extenuation circumstances. And unexcused absence from a test or quiz will be penalized. If a quiz absence is excused, the next test score will be used in its place. If makeup tests is given, it can be written or oral or both at the instructors discretion. An unexcused missed assignment will result in a grade of zero. Absences from tests or quizzes, and missing assignments due to family social events will not be excused. Acceptable medical excuses must state explicitly that the student should be excused from class. Students must bring FSU ID cards to all tests.

HOMEWORK: Most students will find that the amount of assigned homework is too small to provide enough practice to become proficient in the material. Please do additional problems as needed. The class web page has the (tentative) schedule for the semester. The homework will be collected every Monday, due at 3pm. Most problems will not be graded directly.

HELP: Do not hesitate to come to my office hours, or to contact me via email. I check my email often, and give prompt replys to any emailed questions from my students. (Please – no html formated email, send text only.)

Details

- How I grade problems: There are several steps to solving a map3306 problem. One most understand the problem. One must select a method of solution which is not only correct but is efficient. One must execute the method and communicate its execution correctly. Finally the results must checked for reasonableness of your answer. Partial credit is awarded with these factors in mind relative to the difficulty of the problem. Adding $2+2$ and getting 5 in the course of a problem could result in a score of 0/10 if the problem was $2+2=?$, to getting 10/10 if it was a silly mistake at the end of a two page problem solution.

  Incorrect answers that are unreasonable are not given much partial credit. For example, the answer $(y-1) = 2x(x-1)$ to the question what is the equation of the tangent line to $y = x^2$ at $x = 1$ is unreasonable because lines have linear equations. Even though the error is a simple one, it is an error that should have been caught in the "is this answer reasonable phase". What must you check so your answer is reasonable? This is one of the best reasons to attend class, it is not in the text.

  Mathematics provides for many short calculations but correct communication requires sticking to mathematical rules. In particular, equations RHS = LHS should only be used when the RHS and the LHS are equal. For example, the following use of L'Hopital's rule contains two =-signs and neither is used correctly.

$$\lim_{x\to\infty} \frac{x}{e^x} = \frac{1}{e^x} = 0$$

  The answer is wrong because of the missing limit operator for the middle expression. This kind of mistake is often caused by laziness rather than lack of understanding, or is it? It doesn't communicate understanding and so it does not deserve full credit.

  There are many ways to solve most mathematical problems, but there is only so much time on a test. Choosing a correct but slow method may not cost you any points on the given problem but could rob you of time needed on other problems. For example the integral below can be done by several methods but you should pick substition over integration by parts.

$$\int \frac{x}{1+x^2}\,dx$$

  Finally you need to show all your steps. Some calculators (TI-89 for example) will compute the integral above for you – which is a good way to check you answer. But you have to show you can do the calculation too.

- Homework Format. Your **OWN** work, written in clear English. Neatly typed or writtin in ink (or dark pencil) on one side of standard 8.5 by 11 paper. Multiple pages must be stapled and **NOT** dog-eared or paper clipped. **Homework with a paper clip or with dog-eared pages will recieve a zero score.** Discussion about the homework problems with other students or the professor is permissible and even encouraged, but the final output needs to be uniquely yours and not obtained be copying from anothers solution.

- Honor code: A copy of the University Academic Honor Code can be found in the current Student Handbook. You are bound by this in all of your academic work. It is based on the premise that each student has the responsibility 1) to uphold the highest standards of academic integrity in the student's own work, 2) to refuse to tolerate violations of academic integrity in the University community, and 3) to foster a high sense of integrity and social responsibility on the part of the University community. You have successfully completed many mathematics courses and know that on a "test" you may not give or receive any help from a person or written material except as specifically designed acceptable. Out of class you are encouraged to work together on assignments but plagiarizing of the work of others or study manuals is academically dishonest.

- ADA statement: Students with disabilities needing academic accommodations should: 1) register with and provide documentation to the Student Disability Resource Center (SDRC); 2) bring a letter to the instructor from SDRC indicating you need academic accommodations. This should be done within the first week of class. This and other class materials are available in alternative format upon request.