Math 411 / Complex Analysis / Erich Friedman / Spring 2016

About the course: We will meet MWF at 11:00 in Elizabeth 209. This course will cover material from chapters 1–7 of the text, the third edition of *Fundamentals of Complex Analysis* by Saff and Snider. Topics of the course include complex numbers, complex functions, differentiation and integration of complex functions, series expansions of complex functions, transformations of regions in the complex plane, and two applications: solving hard integrals of real functions, and solving steady state problems in physics. We will be generalizing what you know about the calculus of real functions to complex functions. The results are similar but are sometimes surprising.

About me: My e-mail address is efriedma@stetson.edu. My office phone is x7552. My web page can be found at http://www2.stetson.edu/∼efriedma/. My office hours this semester are MWF 10:00–11:00, W 12:00–1:00, and by appointment.

About you: You should have credit for Math 243 (Multivariable Calculus) and Math 221 (Logic and Proof). You should remember the fundamental theorems from calculus, how to find limits, how to take derivatives and integrals, and how to structure and do simple proofs.

About calculations versus proofs: Roughly half your grade will be determined by calculations and half by proofs. Sometimes it will be hard to tell the difference, since most of the proofs in the course are calculational, and many of the calculations are long and involve multiple steps.

About your grade:

•**Homework**, given on the syllabus, will not be collected or graded. But I will grade anything you turn in for your feedback, and I encourage you to do this. I will hand out answers to all the homework questions, and we will spend the first part of every class period answering questions on the homework. Make sure you ask about homework problems that you are unable to do. If I don't have time in class for all your questions, please see me outside of class, or send me an e-mail. You are welcome to work together on the homework, but make sure you can do it by yourself on the tests.

•**Quizzes** will be given after each of the 7 chapters, as indicated by the syllabus. They will be approximately 30 minutes long, and will cover recent material. They are each worth 40 points.

•**Take-Home Tests** will be given out at the end of quiz days. Each test will be one side of one page, and you should expect to spend a few hours on each. Stetson has an honor code, so if you cheat, you will earn a zero. Each test is worth 60 points. The format rules for take-home tests are:

1. The work should be done neatly, with no visible corrections.

2. The work should be on only one side of the paper, with no jagged edges.

3. The problems should be submitted in order, and stapled.

4. If the problem is a calculation and not a proof, draw a box around the answer.

5. Justify each step of a proof, and list by name or page number any major results used.

6. At the end of a proof, draw an "end of proof" symbol, typically "QED" or a box.

7. Be honest. If something is missing, or if something looks wrong, tell me.

8. You are only allowed to use your mind, book, notes, calculator, and Mathematica.

9. You are NOT allowed to use other books, other notes, other people, or the internet.

10. The take home test is due at the beginning of the next class period.

•**An Optional Oral Final Exam** would be 1 hour long, and be worth 200 points. These would be scheduled individually with me at your convenience, once you know your grade in the class.

•**Grading Scale:** 92% for an A, 90% for an A−, 88% for a B+, 82% for a B, 80% for a B−, etc.