

Math 423 (823) Introduction to Complex Variables

Section 001: TuTh 9:30-10:45 Burnett Hall (Burn) 205

Instructor: Mark Brittenham

Office: Avery Hall (AvH) 219

Telephone: (47)2-7222

E-mail: mbrittenham2@math.unl.edu

WWW: <http://www.math.unl.edu/~mbrittenham2/>

WWW pages for this class: <http://www.math.unl.edu/~mbrittenham2/classwk/423s18/>

(There you will find copies of nearly every handout from class, lists of homework problems assigned, dates and review sheets for exams, etc.)

Office Hours: to be determined. Write them in here!

Also, whenever you can find me in my office and I'm not horrendously busy. You are also welcome to make an appointment for any other time; this is easiest to arrange just before or after class.

Prerequisites: Math 221 or Math 325.

Text: *Complex Analysis and Applications*, by James Brown and Ruel Churchill, 9th edition (McGraw-Hill, 2013).

This course, as the text and course titles are meant to imply, is intended to illustrate the theory, techniques, and applications of complex numbers (whatever they are). In essence, we will recreate much of differential and integral calculus, using the complexes rather than (just) the reals as the values for our variables and coefficients. Naturally, being lazy mathematicians, we will rely heavily on our understanding of the situation for real variables, both for our motivation and for understanding how things behave!

Homework will be assigned approximately weekly. It is an essential ingredient to the course - as with almost all of mathematics, we learn best by doing (again and again and ...). Cooperation with other students on these assignments is acceptable, and even encouraged. However, you should make sure you are understanding the process of finding the solution, on your own - after all, you get to bring only one brain to exams (and it can't be someone else's). For the same reason, I also recommend that you try working each problem on your own, first. A small selection of the homework problems will be collected, graded, and returned; this will constitute 50% of your final grade.

In addition, **Midterm exams** will be given during the semester, (**probably**) **in the evening, outside of normal class time**, on a date which will be determined in consultation with the class. The exam will count 25% toward your grade. You can take a make-up exam only if there are compelling reasons (a doctor SAYS you were sick, jury duty, etc.) for you to miss an exam. Make-up exams tend to be harder than the originals (because make-up exams are harder to write!).

Finally, there will be a regularly scheduled **final exam** on **Thursday, May 3, from 10:00am to 12:00noon**. It will cover the entire course, with a slight emphasis on material covered after the last midterm exam. It will count the remaining 25% toward your grade. You must arrange your personal and work schedules to allow you to take the exam at this scheduled time.

Your course grade will be calculated numerically using the above fractions, and will be converted to a letter grade based partly on the overall average of the class. However, a score of 90% or better will guarantee some kind of **A**, 80% or better at least some sort of **B**, 70% or better at least a flavor of **C**, and 60% or better at least a **D**.

Stay current! In mathematics, new concepts continually rely upon the mastery of old ones; it is therefore essential that you thoroughly understand each new topic before moving on. Our classes are an important opportunity for you to ask questions; to make sure that you are understanding concepts correctly. Speak up! It's your education at stake. Every topic has to be gotten through, not around. Try to do some mathematics every single day. **Class attendance** is probably your best way to insure that you will keep up with the material, and make sure that you understand all of the concepts. Even more, **stay ahead!** You are strongly encouraged to read the material to be covered in class prior to its presentation in lecture; this will both improve your ability to follow the lecture and help you to focus your attention on any areas where extra effort on your part will be required.

Cell phones should be silenced for the duration of all classes, and extreme restraint should be exercised in answering a call during class. If you feel that you must answer a call, please excuse yourself from the room before beginning to take the call. In addition, you are not allowed to have on your person during exams any device that can access the internet or communicate in any way. Cellphones, Apple watches, etc. should be put away in backpacks/purses for the duration of the exam.

Departmental Grading Appeals Policy: The Department of Mathematics does not tolerate discrimination or harassment on the basis of race, gender, religion or sexual orientation. If you believe you have been subject to such discrimination or harassment, in this or any math course, please contact the Department. If, for this or any other reason, you believe your grade was assigned incorrectly or capriciously, appeals may be made (in order) to the instructor, the Department Chair, the Departmental Grading Appeals Committee, the College Grading Appeals Committee, and the University Grading Appeals Committee.

ADA Notice: Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office [www.unl.edu], 132 Canfield Administration, 472-3787 voice or TTY.

Course Evaluation: The Department of Mathematics Course Evaluation Form will be available through your Canvas account during the last two weeks of class. You will get an email when the form becomes available. Evaluations are anonymous and instructors do not see any of the responses until after final grades have been submitted. Evaluations are important—the department uses evaluations to improve instruction. Please complete the evaluation and take the time to do so thoughtfully.

Some important academic dates

- Jan. 8** First day of classes.
- Jan. 15** Martin Luther King Day - no classes. [Not that we care...]
- Jan. 16** Last day to add a class.
- Jan. 19** Last day to withdraw from a course without a 'W'.
- Mar. 2** Last day to change to or from P/NP.
- Mar. 18-25** Spring break - no classes.
- Apr. 6** Last day to withdraw from a course.
- Apr. 28** Last day of classes.
- April 30 - May 4** Final exam week.
- May 3** Math 423 final exam.
- May 5** Undergraduate commencement.