Mathematics 424 & 524
Introduction to Complex Analysis
&
Complex Analysis
Winter 2022

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Goals of the Course

- To learn the core facts of Complex Analysis.
- To develop further mathematical writing and problem solving skills.

Text: *Complex Analysis, (3rd ed.)*, Bak and Newman, Springer, 2010.

Class Organization, Policies etc.

The class will be run in a lecture/discussion format. Required work will include reading assignments, problem sets and quizzes. Some problem sets will be done in groups.

There will be one midterm test and a final. These may have a take home component. The final is cumulative. The weights for the homeworks (and quizzes), midterm and final are given in the table below.

Problem Sets and Quizzes	65%
Midterm	15%
Final	20%

The dates of the midterm and the final are:

Miterm	23 February
Final	25 April

The student should pay special attention to the suggested problems lists that will be given out regularly. These problems will not be picked up to be graded but are just as essential to mastery as the problem sets.

Finally, the course has both graduate and undergraduate students. Problems marked with a † are optional for the undergraduates while those marked with a ‡ are optional for everybody.

Topic Outline

Chaters 1–14 of the text with the exception of Sections 1.3 and 12.2 See table of contents for a detailed list of topics.

About the Problem Sets

Write up your solutions on loose leaf paper using every other line. This will make it easier for me to write comments.

Always turn in your second draft. This practice clarifies thoughts and often catches errors.

The evaluation of a problem solution by a numerical scale is at best a blunt instrument. Nevertheless most problems will be graded on a five point scale[1]. The approximate meaning of the numeric score is given in the following table:

- 5 points

  Tears of joy (ToJ) are running down my face.

- 4 points

  Minor inaccuracies.

- 3 points

  Strong evidence that the problem has been understood and the basic solution idea works. However key ideas are missing and/or serious logical errors have been made.

- 1 to 2 points

  Weak evidence that the problem has been understood or an *unworkable* solution strategy. Serious logical errors have been made.

- 0 points

  "The sun will come out tomorrow, tomorrow ..."

[1]Extended problems will be graded on a larger scale. In this case the scale below should be multiplied by the common sense constant.

Messages From The Borg ...

UNIVERSITY COURSE POLICIES

In addition to the articulated course specific policies and expectations, students are responsible for understanding all applicable University guidelines, policies, and procedures. The EMU Student Handbook is the primary resource provided to students to ensure that they have access to all university policies, support resources, and student's rights and responsibilities. Changes may be made to the EMU Student Handbook whenever necessary, and shall be effective immediately, and/or as of the date on which a policy is formally adopted, and/or on the date specified in the amendment. Please note: Electing not to access the link provided below does not absolve a student of responsibility. For questions about any university policy, procedure, practice, or resource, please contact the Office of the Ombuds: 248 Student Center, tel. 734.487.0074, email emu_ombuds@emich.edu, or visit the website: `www.emich.edu/ombuds`.

The Graduate School policies can be found here.

UNIVERSITY CATALOG COURSE DESCRIPTION

Introduction to fields, polynomial rings, field extensions, Galois groups, Galois correspondence, solvaibility by radicals, and, if time permits, an introduction to algebraic number theory. Completion of a first course in abstract algebra is assumed.