

Course Math 300.101, Winter 2013, Term 1

Introduction to Complex Variables

Course details

Time: MWF 8:00-9:00, Building: Geography, Room: 200

class homepage: <http://www.math.ubc.ca/~csadel/m300/>

INSTRUCTOR:

Christian Sadel

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office hours: Wednesday and Friday, 9:00 - 11:00 am in **LSK 303D**

Text

Script available at the class homepage and the textbook: E.B. Saff and A.D. Snider, Fundamentals of Complex Analysis with Applications to Engineering and Science, Pearson, Third Edition, 2003. ISBN-13: 9780139078743.

The material from the script will be the material tested, the textbook offers additional explanations and sketches.

The script will be very dense and I do not give a guarantee on correctness of every formula in the script. **It is the students responsibility to clarify possible discrepancies between text and lecture with the instructor and to make sure that the contents and aspects of the lectures are understood. Students are always welcome to ask questions, go to office hours and make appointments.**

If you only want to use the script then it is highly recommended to visit all lectures and make notes on additional explanations and sketches which are missing in the script.

TOPICS (paragraphs correspond to textbook)

1. Complex Numbers (§1.1-1.6)
2. Analytic Functions (§2.1-2.5)
3. Elementary Functions (§3.1-3.3, 3.5)
4. Complex Integration (§4.1-4.6)
5. Series Representations for Analytic Functions (§5.1-5.3, 5.5, 5.6)
6. Residue Theory (§6.1-6.3)
7. More Residue Theory (§6.4-6.7) if time permits.

TESTS

- There will be two midterms, weekly homework problems to be turned in on Mondays, and a final exam.
- Midterm 1 is on Friday, October 4th, 8:00 am to 8:50 am in classroom.
- Midterm 2 is on Friday, November 8th, 8:00 am to 8:50 am in the classroom.
- midterms are non-cumulative, but the final exam will be about the whole term

GRADE

- There are two grade schemes:
- scheme 1:

Homework	10%	(worst homework will be dropped)
midterms	2 x 20% =	40%
Final	50%	
- scheme 2:

Homework	10%	(worst homework will be dropped)
best midterm	25%	(worst midterm will be dropped)
Final	65%	
- The grade will be based on the maximum of scheme 1 and scheme 2. In other words, with a good final you get the chance to annihilate your worst midterm and replace it by part of the other midterm and the final. This way, it is recognized when a student catches up for the final. **BUT BE WARNED:** The final is typically harder than the midterms. Past statistics reveal that performances on final exams are typically worse than on midterms.
- Extra credit will not be given!
- Grades might be scaled if the statistics reveal that the exams were too hard. Any curving will be only applied to the final marks, individual tests will not be curved.

POLICIES

Missing a homework or midterm normally results in a mark of 0. Exceptions may be granted in two cases: prior consent of the instructor or a medical emergency. In the latter case, the instructor must be notified within 48 hours of the missed test, and presented with a doctor's note immediately upon the student's return to UBC. Failure to comply also results in a 0 mark.

If a homework was missed for legitimed reason, the homework grade will be based on all other homeworks, if a midterm was missed, there will be a make up midterm for the particular student(s), except in exceptional cases with long illness.

In any circumstance, the grade will not be based on the homework and the final alone! There has to be at least one midterm grade.