

Math 3X3 / Complex Analysis

Course Information Sheet

<https://ms.mcmaster.ca/courses/20162017/term2/math3x03/>

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Office hours: TBA

Lectures: MoTh 09:30 - 10:20, Tu 10:30 - 11:20, in HH109

Tutorial: Tut 01 Mo 16:30 - 17:20 HH/217
Tut 02 Tu 08:30 - 09:20 HH/217

Text:

Complex Variables and Applications
James Ward Brown, Ruel V. Churchill
9th edition, or the 8th edition
ISBN: 978-0-07-305194-9
McGraw Hill Publishers

The 8th edition of the text is also fine for both the content and the assigned and practice problems. (Any earlier edition should cover the same material, but I cannot guarantee that the page and problem numbers would be the same.)

There is also a student solution manual, which may be helpful.

Objectives and Topics to be Covered:

In this course you will learn the fundamental ideas and surprising results in the study of functions of a complex variable, in particular what happens to the concepts of differentiation and integration in the case of a complex-valued function defined on the complex numbers.

Explicit topics include: Complex numbers (chap 1), analytic functions (chap 2),

elementary functions (chap 3), integrals (chap 4), series (chap 5); residue and pole theorems (chap 6), applications of residue (chap 7); and linear fractional transformation and conformal maps (chap 8) (if time permits.) This is a general outline of topics. The actual material and the order may differ slightly according to the pace of the course. A selection of the material in these chapters of the text will be covered.

Homework and Preparedness:

In addition to three homework assignments, practice problems will be assigned each week. You are expected to be able to solve them yourselves, as the only way to master mathematics is by doing enough examples and exercises that you feel comfortable with the material. Solutions will not be posted. The test and exam questions will resemble the practice problems and the assigned problems.

Tests and Exam:

There will be two **tests** during the lecture period whose **tentative** dates are below; the dates will be confirmed in class one week prior to the test:

Test I : **February 9 , 2017** from 9:30 – 10:20 (in class)

Test II: **March 21 , 2017** from 10:30 -- 11:20 (in class)

The topics covered in the tests will be announced in class and posted on the course web-page one week prior to the test.

Students who need to take the tests at the *Centre for Student Development* must identify themselves to the instructor by January 16, 2017.

A **written final exam** will be held during exam period in April.

Only the **Casio fx 991 calculator** may be used during the tests and the final exam. Students must bring their **McMaster ID** cards to the tests and final exam for inspection.

Evaluation:

Three (3) homework assignments. Questions and due dates will be announced in class and on the course web page.

Two (2) tests during the semester. The test dates will be confirmed at least one week prior to each.

Cumulative final exam.

Grading Scheme:

The formula for the course grade is as follows:

2 in-class tests @ 20% each =40%

3 Homework assignments =10%

Final Exam =50%

Other formulae may be considered; your final grade will not be less than the result of the scheme given above.

Your final mark will then be converted to a letter grade using a scheme similar in spirit to that published in the Undergraduate Calendar. See section (a) below for the adjusted grading scheme in cases of illness and other exemptions.

The instructor and University reserve the right to modify elements of the course during the term. The University may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on the changes. It is the responsibility of all students to check their McMaster email accounts and course webpages weekly during the term and to note any changes.

Policy re Homework and Tests:

(a) Missed Assignments or Tests, Exemptions, Redistribution

Occasionally, students have to miss assignments or tests because of illness or family tragedy. The official policies are as follows:

Requests for Relief for Missed Academic Term Work for absences from classes lasting up to 3 days: Using the McMaster student absence form (MSAF) on-line, self-reporting tool, undergraduate students may report absences lasting up to 3 days and may also request relief for missed academic work. The submission of medical or other types of supporting documentation is normally not required. Students may use this tool to submit a maximum of one request for relief of missed academic work per term. Students must immediately follow up with their course instructors regarding the nature of the relief. Failure to do so may negate the opportunity for relief. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.

Students who are absent more than three days cannot use the on-line, self-reporting tool to request relief. They MUST report to their Faculty Office to discuss their situation and may be required to provide appropriate supporting documentation. If warranted, students will be approved to use a discretionary version of the MSAF on-line, self-reporting tool.

See:

<http://academiccalendars.romcmaster.ca/content.php?catoid=13&navoid=2208#Requests for Relief for Missed Academic Term Work>
<https://www.mcmaster.ca/msaf/index.html>

For Math 3X3, the composition of computation (a) for your final mark will then be changed as follows. The percentage of an excused test will be transferred to the other tests and to that of the final exam.

(b) Academic Ethics

Your attention is drawn to the documents "Senate Statement on Academic Ethics" and "Senate Resolutions on Academic Dishonesty" which you have received during registration and which can be obtained from the Senate Office. Infringements on the rules and principles in these documents will be dealt with in the manner stated therein.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g., the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For official information on what constitutes academic dishonesty please refer to the written copy of the document Academic Integrity Policy, an electronic copy of which can be found at the url:

<http://www.mcmaster.ca/univsec/policy/AcademicIntegrity.pdf>.

The following illustrates only three forms of academic dishonesty:

- (i) Plagiarism, e.g., the submission of work that is not one's own or for which other credit has been obtained.
- (ii) Improper collaboration in group work.
- (iii) Copying or using unauthorized aids in tests and examinations.

(c) Collaboration in Homework Assignments

Discussions about homework assignments are allowed and are generally beneficial. However, you must write up the solutions of the assignment problems **by yourself and in your own words**. Copying with minor changes (e.g. with symbols changed,

or with slightly different wording) from solutions prepared by another person, publication, or website, in whatever format, will be dealt with as an act of plagiarism.