DALHOUSIE UNIVERSITY

Faculty of Science Course Syllabus
Department of *Mathematics and Statistics*
MATH 3080--Introduction to Complex Variables
Winter 2019

Instructor(s): Lin Jiu Lin.Jiu@dal.ca Chase 316

Lectures: Mondays, Wednesdays, Fridays 11:35 AM–12:25 PM LSC C244

Office hours: MWF 9:00—10:00 am (subject to change), or by appointment

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Course Description

An introduction to the basic elements of complex analysis. Topics include: complex numbers, functions, differentiation and integration in the complex plane, some special mappings, series in general, Taylor and Laurent Series, residues, some principles of conformal mapping theory.

Course Prerequisites

MATH 2002 or Instructor's permission.

Course Objectives/Learning Outcomes

Students will gain a solid understanding of functions, especially analytic functions, of one complex variable, of power series, and complex contour integration with applications. This course will provide the necessary prerequisite for MATH 4020/5020: Analytic Function Theory.

Course Content

1. Introduction
2. Complex Numbers
3. Complex Functions
4. Integration
5. Consequence of Cauchy's Theorem
6. Laurent Series and Singularities
7. *Residues*

Course Materials

- Course Notes: "Introduction to Complex Variables"; available in class.
- Textbook: Stephen D. Fisher, "Complex Variables", 2nd Ed., Dover Publications, 1999. (not required; a copy is on reserve in the Killam Library)

Course Assessment

Component	Weight (% of final grade)	Date
Midterm test	***30%***	*Feb. 13th (Wed.) (Tentative)*
Final exam	***40%***	*(Scheduled by Registrar)*
Assignments	***30%***	*weekly*

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Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (<50)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies

Late assignments will normally not be accepted. However, reasonable accommodations will be made in the case of special circumstances. Detailed guidelines and instructions concerning assignments will be posted on BrightSpace.

Smartphone policy

I request that you refrain from the use of your smartphone during class. The main reasons are:

- It is distracting to those sitting near you.
- "Multitasking" doesn't work, as studies have shown; you'll do poorly at both tasks.
- Concentration is absolutely essential in mathematics. Without the ability to concentrate you will not be able to go beyond a certain relatively low level.
- Please consider your classes (not just this one) as opportunities to practice concentrating on just one task.

Thank you for your consideration.