Instructor(s): Karl Dilcher, dilcher@mathstat.dal.ca, Chase 325

Lectures: Mondays, Wednesdays, Fridays, 1:35—2:25 pm, Dunn 302

Office Hours: MWF 10:00—11:00 am (subject to change), or by appointment

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 Outcome

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.

Required Course Materials

- Course Notes: “Introduction to Complex Variables” (available in the Dalhousie Bookstore).

Course Assessment

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<thead>
<tr>
<th>Component</th>
<th>Weight (% of final grade)</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td>Midterm Test</td>
<td>30%</td>
<td>TBA</td>
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<tr>
<td>Final exam</td>
<td>40%</td>
<td>(scheduled by Registrar’s Office)</td>
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<tr>
<td>Assignments</td>
<td>30%</td>
<td>weekly</td>
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Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale
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.

Course Content

Course Content
1. Introduction
2. Complex Numbers
3. Complex Functions
4. Integration
5. Consequences of Cauchy’s Theorem
6. Laurent Series and Singularities
7. Residues