[Mathematics 301, Section 201](#)

Applied Analysis

[Department of Mathematics](#), [Undergraduate Math courses](#), [University of British Columbia](#)

Course Description: MATH 301 (3) Applied Analysis: Integrals involving multi-valued functions, conformal mapping and applications, analytic continuation, Laplace and Fourier transforms. [3-0-0] **Prerequisite**: One of MATH 300, MATH 305 and one of MATH 215, MATH 255, MATH 256, MATH 265. **Corequisite**: One of MATH 256, MATH 257, MATH 316.

Instructor

Lauchie MacDonald

E-mail	[mailto: johnm@math.ubc.ca](mailto:johnm@math.ubc.ca)
Office	Math Annex 1216
Phone	604 822-5004
Home page	http://www.math.ubc.ca/~johnm/

Text

- **Saff and Snider, Fundamentals of Complex Analysis, Third Edition**

- **Some topics are not covered by the text. For these sections we will use online notes.**

I will post all assignments and their due dates, as well as dates of midterms and notes on the web [here](#).

Topics

1. **Complex Integration**
2. **Multi-Valued Functions**
3. **Integrals Involving Multi-Valued Functions**

4. **Conformal Mapping and Applications**
5. **Nyquist Criterion: Poles and Zeroes of Complex Functions**
6. **Laplace Transform**
7. **Fourier Analysis**

Grading

- There will be two midterms accounting for 30% of the final mark.
- There will be homework assignments. The homework problems will account for 20% of the final mark.
- The final exam will account for 50% of the final mark.