Complex Analysis

Spring 2018

MATH-UA.0282-001

Instructor:	Liming PANG	**Time:**	Tue. Thu. 15:30–16:45
Email:	liming@cims.nyu.edu	**Classroom:**	CIWW 202

Course Web Page: https://cims.nyu.edu/~liming/Complex/2018.html

Office Hours: Thursday 10:00–12:00, CIWW Room 720

Textbook: James Brown and Ruel Churchill, *Complex Variables and Applicatons, 9th Edition*, McGraw-Hill Education, 2014

Teaching Assistant: Jiajun TONG (jiajun@cims.nyu.edu)

Grading Policy: Homework (20%), Quiz 1 (5%), Quiz 2 (5%), Midterm (30%), Final (40%).

Exam Schedule:

Quiz 1 ..... Feb.23 2018
Midterm Mar.08 2018
Quiz 2 ..... Apr.19 2018
Final Exam ..... TBA

Class Policy:

- Homework will be released each Thursday or Friday, and due on the following Friday during recitation. Late homework or emailed version shall NOT be accepted.
- You may discuss with your classmates about homework, but you should organize and write your solutions by yourself.
- We will NOT be able to accommodate out-of-sequence exams for purposes of more convenient travel, including already purchased tickets. Please note again the date of the exams and plan your travel accordingly.
- Exams will be close book. Books, paper or electronic material, calculator or electronic devices are NOT allowed during exams.
- The recitation is on Friday 09:30–10:45 at CIWW 202. The TA will discuss about some example exercises, remark on previous homework and review course material.

Tentative Course Outline:

01/23: Complex Numbers
01/25: Exponential Form
01/30: Limits and Continuity
02/01: Derivatives and Differentiation
02/06: Cauchy-Riemann Equations
02/08: Analytic Functions
02/13: Coincidence Principle and Reflection Principle
02/15: The Exponential and Logarithmic Functions
02/20: Branches of Logarithmic Functions
02/22: The Power Functions
02/27: The Trigonometric Functions
03/01: Integral Along Real Line
03/06: Contour Integral
03/08: Midterm
03/20: Contour Integral and Branch Cut
03/22: Antiderivatives
03/27: Cauchy-Goursat Theorem
03/29: Simply Connected and Multiply Connected Domains
04/03: Cauchy Integral Formula
04/05: Consequences of Cauchy Integral Formula
04/10: Series and Taylor Series
04/12: Laurent Series
04/17: Convergence of Power Series
04/19: Isolated Singularities and Residues
04/24: Cauchy's Residue Theorem
04/26: Classifications of Singularities
05/01: Applications of Residue
05/03: Review