

Applied Complex Analysis
MATH 114-A
Summer Session I - 2002
Course # 44325

Instructor: Edriss S. Titi

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Office Hours: Mondays and Wednesdays 10:30am-11:30AM

Classroom : RH 184

Time: MTWTH 9:00-10:20am.

Grading Policy: There will be one midterm, on Thursday July 11, 2002, during the discussion session, i.e. 8:00-9:00am. The midterm will be worth 30% of the grade of the course. There will be a comprehensive final exam, on Wednesday, July 31, 2002 between 8:00-10:00am, which forms 40% of the grade of the course.

Homework and Quizzes: Homework will be assigned each lecture. The homework will not be collected. However, each Tuesday and Thursday there will be a quiz based on the assigned homework problems from few days ago. The Quizzes will form 30% of the total grade of the course.

Text Book: J. W. Brown and R. V. Churchill, *Complex Variables and Applications*, Sixth Edition, 'McGraw-Hill, Inc., 1996.

Suggested Sections to be covered:

Week 1: Complex numbers and functions 1,2,3,4,5,6,7,8,9

Week 1: Limits Continuity and Derivatives 11,12,13,14,15,16

Week 2: Cauchy-Riemann equations and Analytic Functions 17, 18, 20

Week 2: Exponential, Logarithmic and Trigonometric functions 23,24,25,26,27

Week 3: Integral, Contour Integrals 30-35

Week 4: Cauchy-Goursat Theorem 36,37

Week 4: Cauchy Integral Formula 39, 40

Week 5: Taylor and Laurent Series 43,44,45,46,47

Week 5: Residue Theorem and Real Integrals 53,54,60,61,62

Week 6: Catching up and Review.

Other Suggested References:

Murray R. Spiegel, *Theory and Problems of Complex Variables*, Schaum's outline. (On reserve for two hours in the Science Library).