MAT 709-1001  COMPLEX FUNCTIONS THEORY I
(COMPLEX ANALYSIS)
FALL SEMESTER 2015 (August 24 - December 5)

Instructor: Dr. A. Muleshkov, Associate Professor of Mathematics

Location: CBC A112  Time: Mo We  1:00 - 2:15 P. M.
Office: CDC-1020  Office Phone: 895-0387 (Voice mail is available.)
Office Hours: Monday and Wednesday  12:00 P.M. – 12:55 P. M.
              Tuesday and Thursday  4:00 P.M. – 4:55 P.M.
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Reading Materials:

Learning Outcomes: 1) Short review of MAT 659 from advanced point of view; 2) Theory (various equivalent definitions, theorems, and proofs with minimal assumptions) and applications of analytic/meromorphic, harmonic, and holomorphic functions; 3) Contour integrals, theory and application to evaluation of various definite integrals correspondent to “unsolvable” indefinite integrals, finding the exact sums of various advanced series and infinite products, etc.

Prerequisite: MAT 659, or MATH 459, or equivalent (minimal grade of B- or minimal grade of C and instructor’s consent.) The obsolete requirement of MATH 457/657 from the 1970s, when UNLV was the two-building College of Southern Nevada, is definitely not sufficient for understanding this course.

Grade: The final grade for the course is obtained from (max. 400) the following:

  -- homework/projects - 80 points
  -- midterm - 120 points
  -- final exam - 160 points
  -- instructor’s discretion - 40 points
The homework/projects will be partially graded. Some of them will be very challenging. Students should start working on the problems as soon as they are assigned.

In this class, the books are only tools rather than self-study texts. Sometimes, easier and more powerful methods are going to be presented in class. These books were chosen by the instructor because of the good choice and order of topics and also because of the quality and relevance of the problems.

The knowledge of undergraduate Complex Analysis is the prerequisite for this class. Even if some review will be done in class, students should have their undergraduate texts/class notes from my MATH 459/MAT 659 course and do extensive review on their own. Accordingly, students should plan to allow sufficient time. Regular attendance, prompt arrival, and taking elaborate class notes are strongly recommended; students who do not maintain these good habits do not usually succeed in this course. Knowledge of a phone number of and keeping in touch with a classmate could be very helpful.

Please keep this syllabus for future reference. If you have any questions about the issues raised here or other issues, please come to my office hours.

P. S. If you have a documented disability that may require assistance, you may need to contact Disability Services (DS) for coordination in your academic accommodations. Disability Services is located within Learning Enhancement Services (LES) in the Reynolds Student Services Complex (SSC), Room 137. The telephone number is 895-0866 / TDD 895-0652.