MATH 723 – COMPLEX FUNCTIONS  
Spring 2109

**Time and Place:** Tu Th 1:05PM - 2:20PM, Gen Richard B Myers Hall 210

**Instructor:** Lizaveta Ihnatsyeva  
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Office Location: 234 Cardwell Hall  
Office Hours: Tu 11:00AM - 11:50AM, or by appointment

The instructor will use her own lecture notes, which will closely follow the corresponding chapters from the **texts recommended for the course:**

- M. Spivak, Calculus on Manifolds, Perseus Books, 1965 (first four weeks of the course)

**Material and Structure:** The course will start with basics of analysis of functions of real several variables, including differentiability, partial differentiability, the inverse function theorem, the implicit function theorem.

The major part of the course will be an introduction to complex analysis. This part, in particular, includes the following topics:

- Complex differentiability, analyticity;
- Contour integrals, Cauchy theorem, Cauchy integral formula with some applications;
- Taylor series, zeros, rigidity/uniqueness;
- Laurent series
- Classification of isolated singular points.

**Homework assignments:** There will be weekly homework assignments. Homework is due on Tuesday. Students are expected to attend lectures. They are strongly urged to read the material in advance and to begin the homework assignments early. Interaction and participation in class are expected, and attendance to office hours is very welcome.

**Grading Policy:** Homework: 40%; Midterm: 20%; Final exam: 40%.
Disabilities: Students with disabilities who need classroom accommodations, access to technology, or information about emergency building/campus evacuation processes should contact the Student Access Center and/or their instructor. Services are available to students with a wide range of disabilities including, but not limited to, physical disabilities, medical conditions, learning disabilities, attention deficit disorder, depression, and anxiety. If you are a student enrolled in campus/online courses through the Manhattan or Olathe campuses, contact the Student Access Center at accesscenter@k-state.edu, 785-532-6441; for Salina campus, contact the Academic and Career Advising Center at acac@k-state.edu, 785-826-2649.

Academic Honesty: Kansas State University has an Honor System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one’s work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor System. The policies and procedures of the Honor System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-campus, and via distance learning. The honor system website can be reached via the following URL: www.k-state.edu/honor. A component vital to the Honor System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

Classroom Conduct: All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Governing Association By Laws, Article V, Section 3, number 2. Students who engage in behavior that disrupts the learning environment may be asked to leave the class.

Changes: The instructor reserves the right to modify the contents in this description if conditions arise during the semester that make such changes desirable. Such changes will be announced in class; it is your responsibility to keep abreast of such changes.