

Math 800 - Complex Analysis I

Spring 2021

January 30, 2021

- **Instructor:** Professor Atanas Stefanov
- **Office:** Snow 514, Phone: 4-3009
- **Class meetings:**
In-person - Tuesday 2:30-3:45, 120, Snow Hall.
Thursday - 2:30-3:45, ZOOM.
Note: The Tuesday lecture will be live broadcast via ZOOM as well. ZOOM links as well as other relevant communications will be sent to the students emails, so make sure that you have your current emails on file.
- **Office Hours** T 10:30-11:30 on ZOOM.
- **Mail:** stefanov@ku./edu
- **Web:** http://stefanov.ku.edu/Math_800_Spring_2021.html
- **Prerequisite:** Math 766 or equivalent or currently taking Math 766
- **Topics: Chapters I-V, VIII, IX. Time permitting Chapters 15, 16.**
Complex numbers and functions; complex differential operators; Cauchy-Riemann equations; analytic and harmonic functions; Cauchy formula; Power series representation of analytic functions; Liouville's theorem; zeros of analytic functions; Laurent series and meromorphic functions; argument principle, the residue theorem and applications; counting zeros and poles of meromorphic functions; maximum modulus principle and Schwartz lemma; Infinite series and products, applications - Blaschke products.
Time permitting: Special functions, Proof of the prime number theorem.
- **Text:** Function Theory of One Complex Variable, by R. Greene and S. Krantz, American Mathematical Society; 3 edition (March 29, 2006), ISBN 0821839624

- **Homework:** There will be five homework assignments covering specific portions of the material, assigned approximately once every two weeks. *Solutions to the homework must be typed in Latex, and will be collected as pdf files, sent to my personal email.*
- **Exams:** There will be one midterm exam and a comprehensive final exam. Exams will be on ZOOM, students will be asked to have clean desks and their cameras and microphones on for the duration of the exam.
Midterm Exam: Thursday, March 25th, 2:30-3:45.
Final exam: Friday, May 14th, 1:30-4:00.
- **Grade:** The grade will consist of the following components:
Homework assignments - 40 %, Midterm exam - 20 %, Final exam - 40 %.
- **Students with disabilities:** The staff of Services for Students with Disabilities (SSD), 135 Strong, 4-2620, coordinates accommodations and services for KU resources. If you have a disability for which you may request accommodation in KU classes and have not contacted them, please do so as soon as possible. Please also see me privately in regard to this course.
- **Religious observances:** Students in this course who plan to observe a religious holiday, which conflicts in any way with the course schedule or requirements, should contact me as soon as possible to discuss alternative accommodations.