Instructor: Kostyantyn Zheltukhin (zheltukh [at] metu.edu.tr)

Lectures: The lectures of the course will be given at the scheduled time via ZOOM (synchronized lectures) and lecture notes will be posted to ODTUclass. Attendance of lectures is required.

Schedule of lectures:
   Wednesday: 12:40-13:30
   Friday: 13:40-15:30

Office hours: The office hours will be given by appointment.

Exams

- **Midterm exams**: Each midterm exam will be a take-home exam with a duration of 3 hours.

- **Final exam**: The final exam will be an oral exam via ZOOM. The exam times will be scheduled in advance and will be announced to the students. Each student will be asked to answer one conceptual question (a definition, a theorem formulation,...) and to solve one problem during the oral exam. A list of possible conceptual questions will be announced to the students one week before the exam date. During the oral exam, students are randomly assigned a conceptual question and a problem, and are allowed to work on their answers with pencil and paper only. The student has to explain the answers to the instructor. The instructor may also ask several follow-up questions to better assess the student’s understanding of the material. A reliable internet connection and a webcam (or a smartphone with sufficient specifications), microphone, etc ... will be necessary during the oral exam.

- **Important Note**: If there is a serious mismatch in a student’s oral exam performance and the home work and midterm exams performance, the instructor may decide to increase the weight of the oral exam in the assessment of the student’s letter grade. This decision will be completely upon the instructor’s discretion and is not open to objection, therefore it is of crucial importance for students to get well-prepared to the oral exam and to communicate their knowledge of the material in the clearest possible way.

- **Make-up exam**: In order to enter a make-up exam for a missed examination, a student needs a verifiable, and officially acceptable excuse. A student cannot get make-up examinations for two missed exams. The make-up examination for all exams will be scheduled after the final exam.

Grading :

- **Final grade**: Homework sets (15%), Midterm 1 Exam (25%), Midterm 2 Exam (25%), Final Exam (35%).

- **NA grade**: A student who misses two exams or the oral exam and the make-up examination for oral exam will receive the NA grade. Attending less that 60% of classes may also result in NA grade.
Tentative Course Outline:

- Gamma and Beta functions.
- Orthogonal Polynomials.
- Bessel function.
- Hypergeometric functions.
- Generalized hypergeometric functions.

References:
E.D. Rainville, ”Special functions”, the Macmillan Company (1965).