

Repetitio est mater studiorum
(Repetition Is the Mother of Learning)
Latin wisdom

*Interest increases as a result of success,
and success is the outcome of hard work.*
Professor Yaroslav Tagamlizki

Eastern Connecticut State University
MAT 421-01, Real Analysis II, Fall 2020

Instructor: Christian Yankov

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Web Page: www.easternct.edu/yankovc

Time and Place: MWF 9:00-9:50 am, ONLINE on Webex (see more explanation below).

Text: *Analysis with an Introduction to Proof*, Fifth edition, Steven R. Lay.

Office hours: M and W 11:00-12:00 noon, and 2:00-3:00 pm, F 11:00-12:00 noon. The Office hours will take place also virtually, on Webex.

Prerequisites: MAT 420.

Course topics: These are continuation of the topics discussed in MAT 420 and include differentiation and integration of functions; infinite number series; sequences and series of functions, uniform convergence.

Goals and Objectives: There are several important outcomes to achieve by the end of this course:

- Completion of a year-long comprehensive study of the field of real numbers, number sequences and series, and the fundamental characteristics of functions of one real variable and the operations on them;
- Honing the ability to understand abstract mathematical concepts and proofs, and construction of rigorous proofs;
- Read, understand, and apply the American Mathematical Society Ethical Guidelines for mathematical research at www.ams.org/about-us/governance/policy-statements/sec-ethics;
- Demonstration of the ability to conduct independent mathematical inquiry, document it, and report it, according to the Tier III LAC requirements (see item below).

Class format: This will be an online class held in *synchronous mode*. This means that at the scheduled class times you will have to be logged into *Christian Yankov's Personal Webex Room*: <https://easternct.webex.com/meet/yankovc>

You may choose to download the Webex App, or join from your browser. The class meeting will consist of a lecture and include related problem solving, just like a regular on-ground class. You will hear my voice and see what is being written on your screen. You will also have a chance to ask questions. Occasionally, I will call on someone with a question, which he/she is supposed to answer. This will also serve to check for your presence behind the screen. I will make an effort by the end of each day to post the class notes in pdf format on Blackboard.

Attendance: It is expected that you be there on time for each and every class. If for some reason you should miss a class, then it is your responsibility to find out from a friend what has been covered and assigned and make it up.

Homework: Homework should be written neatly on standard letter format paper on one side of the sheet only. By now I believe you understand the importance of doing the homework as a critical factor in building and reinforcing your knowledge, as well as helping you identify your weak points and also as a valuable source of in-class discussion.

Binder: As in the previous semester, you must collect all your homework assignments in a binder. Put a separator to mark the end of the fall assignments and start adding the spring ones. At the end of the semester you should have a complete set of these for both semesters. This is a requirement to pass.

Quizzes: Quite often at the beginning of class time there will be a short quiz. This should keep you alert and following the material regularly, carefully, and closely.

Exams: There will be a midterm exam the date of which will be announced at least a week in advance.

Make-ups: There will be no make-ups for quizzes, since I will drop the lowest one. Make-ups for the midterm exam are strongly discouraged and might be allowed for truly exceptional reasons only, and with my prior permission.

LAC Tier III Papers: This class is designated as a Tier III, Independent Inquiry, course. At the beginning of the semester the class will be divided in groups of 3-5 people. Each group has to write 2 common papers 4 to 5 pages long. Each paper should have a title page with a title reflecting the corresponding content, and list of authors. These papers will primarily be an exposition of the chosen topics, supported by examples, and/or applications. You will be assigned a topic of the first paper within the first 2 weeks of the semester. At the end of Week 4 you will have to be ready for a discussion on the progress of the paper. The submission of the first paper and presentations will take place in Week 7. Around the end of Week 10 you will have to be ready for a discussion on the progress of the second paper. This paper should also be accompanied by 2-3 page individual appendix essays by each member of the group, addressing the individual experiences in preparing and writing the two papers in the context of Mathematics as one of the original Liberal Arts, and/or the setting of Liberal Arts as a whole. The submission and presentations of the second paper will be in Week 14.

Final Exam: A cumulative final will take place on **Friday, Dec. 11, 2020, 8:00-10:00 am.**

Assignment Submission Rules: Each assignment will be allotted a time frame within which it will have to be completed and submitted to Blackboard. The submission should be a **PDF** file titled ***Lastname-Firstname-assignmentname.pdf***. For example, if I am to submit Quiz 3, it will be titled ***yankov-christian-quiz-3.pdf***. To produce a pdf file you may use various methods. If you own a scanner, then you can scan your work straight as a pdf file. Alternatively, you may take a picture of your work with a smart-phone. This will typically produce a jpg, or some other format picture file. There are apps both for Android and iOS, which convert picture formats into pdf. This requires some practice. Then you should make sure that the final outcome is what it is supposed to be, and is readable, and then you should submit it to Blackboard. I will not accept other file formats, so please invest the time and effort to comply with these rules.

Evaluation: Your work in this course will be weighted as follows. The quizzes will account for 10% of your grade, the common Tier III papers will account for 5% of your grade each, the individual reflection essay for 5%, the oral presentations together for 5%, the homework will account for 20%, the midterm exam will account for 25% and the final exam will account for the remaining 25%.

Grades: The ranges for the grades are the following:

A-, A	90% and above	B-, B, B+	80% - 89%
C-, C, C+	70% - 79%	D, D+	60% - 69%

How to get help: You are encouraged to come see me during office hours, if you have difficulties with the subject matter.

Students with disabilities: Eastern Connecticut State University is committed to following the requirements of the Americans with Disabilities Act and Section 504 of the Rehabilitation

Act. If you are a student with a disability (or think you may have a disability), and require adaptations or accommodations, or assistance evacuating a building in the case of an emergency, please contact the Office of AccessAbility Services (OAS) at 860-465-0189 to discuss your request further. Any student registered with the OAS should contact the instructor as soon as possible for assistance with classroom accommodations. Please note that accommodations are not retroactive, and must be communicated through a Letter of Accommodation which is drafted by the OAS.

Academic Misconduct: Students should read and understand Eastern's Academic Misconduct Policy, which can be found in the student handbook or at the following website:

www.easternct.edu/academicmisconduct/

All violations will be handled under the procedures established in this policy.

Disclaimer: *The instructor reserves the right to make changes to this syllabus during the semester as necessary.*