

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 480-02/MAT 380, Geometry, Spring 2021

Instructor: Christian Yankov

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Time and Place: MWF 1:00-1:50 pm, ONLINE on Webex (see more explanation below). However, since this is officially an Independent Study, we may discuss modifying these hours.

Text: *Kiselev's Geometry, Book I. Planimetry*, adapted by Alexander Givental.

Technology: We will use Geometer's Sketchpad and/or GeoGebra software in the labs.

Office hours: M 11:00-12:00 noon, and 2:00-3:00 pm, W 8:00-9:00 am, and 2:00-3:00 pm, F 11:00-12:00 noon. The Office hours will be held also virtually, on Webex.

Prerequisites: MAT 230.

Course topics: Axioms of Euclidean geometry, basic figures in two- and three- dimensions and their classification, congruence criteria for triangles, relationships between sides and angles in a triangle, parallel lines, the parallel postulate and its implications, basic properties of non-Euclidean geometry in two dimensions (hyperbolic and spherical), basic constructions in the plane, similarity, right triangles and trigonometry, the Pythagorean theorem and other algebraic relationships in triangles, plane transformations and symmetry, area and volume of two and three dimensional figures.

Goals and Objectives: By the end of the class you should:

- Understand the essence of the axiomatic approach to building a mathematical discipline on the example of geometry;
- Get both theoretical knowledge and practical experience with important basic concepts of Euclidean and non-Euclidean geometry (the topics listed above);
- Achieve further mastery of constructing rigorous mathematical proofs through extensive problem solving;
- Get certain level or proficiency with at least one package of Geometry software as a technology tool for visualization and exploration in the plane.

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: After each class you will get a homework assignment. It will not be collected and graded, but must be completed and should prepare you for the quizzes. I cannot stress enough

the importance of doing the homework. It is a critical factor in building and reinforcing your knowledge, as well as helping you identify your week points.

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 two longer exams throughout the semester. Their dates will be announced at least a week in advance.

Final Exam: There will be a cumulative final on **Wednesday, May 12, 2021, 2:00-4:00pm.**

Assignment Submission Rules: Each assignment will be allotted a time frame within which it will have to be completed and submitted to Blackboard as a **PDF** file. 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. You should make sure that the final outcome is complete, clear and readable. Then you must rename your file according to the following template: ***Lastname-Firstname-assignmentname.pdf***. For example, if I am to submit Quiz 3, it will be titled ***yankov-christian-quiz-3.pdf***. Finally, 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: The quizzes and lab assignments will account for 15% of your grade, the two longer exams will account for 25% each and the final exam will account for the remaining 35%.

Grades: The ranges for the grades are the following:

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

How to get help: You should log in to my personal room on Webex during my office hours, if you have difficulties with the subject matter.

MAC Tutoring: The Mathematics Achievement Center (MAC) will provide both in-person and virtual tutoring for the Spring 2021 semester. In-person tutoring will take place Monday through Friday 9-5pm on the first floor of the J. E. Smith Library, Room 107. The MAC has a Covid cap of 8 students. No appointment is needed for in person tutoring. Virtual tutoring will take place using Webex. Please check the posted schedule on the MAC website

<https://www.easternct.edu/mathematical-sciences/mathematics-achievement-center.html> for available virtual tutoring. Instructions for virtual tutoring are included on the schedule.

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

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:

<https://www.easternct.edu/academic-misconduct/index.html>

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.*