

Math 6240: Riemannian Geometry

Syllabus Fall 2018

Instructor

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office hours: TBA

Class times & location

MWF 11:00-11:50 ECCR 108

Textbook

Jack Lee, Riemannian Manifolds: Introduction to Curvature

Course Description

The purpose of this course is to introduce fundamental topics in Riemannian Geometry such as tensors, vector bundles, Riemannian metric, Levi-Civita connection, Riemann Curvature tensor, geodesics and geodesic distance. Additional topics might be chosen based on students' interests.

Determining Course Grade

A letter grade for the course will be determined by: HW 55%, Lecture Notes 40%, Commenting 5%

If a student is taking the course Pass/Fail:

Option 1: to receive Pass need 65% or more from the above letter grade breakdown.

Option 2: Type three lectures and participate at a successful level (4-5 grade for presentation, see below) in three problem sessions OR type two lectures and participate at a successful level (4-5 grade for presentation) in four problem sessions.

Homework/Problem Sessions

Homework will be posted in the shared folder and discussed in class during a Problem Session, which will usually be on Mondays, every two weeks.

A student will be randomly picked to present a problem, but for some problems we will allow volunteers. Everyone will have to present at least three times during the semester with a possibility of presenting up to 8 times. The presentation will be graded on a scale from 0 to 5.

During the presentation, everyone is encouraged to ask questions and make comments. In addition, one student will be chosen to "officially" comment on the solution. There will be no grade for the commenting: just Pass/Fail. Each student will be chosen to comment between 1-8 times.

When chosen to present or comment, but absent from class, a student will receive a grade of 0. One lowest grade will be dropped for both presenting and commenting.

Lecture Notes

We will follow an alphabetical order. Students will type notes for each lecture. The student will have a week to type and submit the notes by 5pm to a shared folder. The notes will be graded on a scale from 0 to 10. One point will be subtracted for each day the notes are late. The student can use whichever template they like, but the notes must include the lecture's number and date. If the due date falls on a day of a Problem Session, the due date will be moved to the next lecture day, still by 5pm.

Accommodation for Disabilities: If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed (for exam accommodations provide your letter at least one week prior to the exam). Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website.

Classroom Behavior: Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteranstatus, political affiliation or political philosophy. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. For more information, see the policies on classroom behavior and the Student Code of Conduct.

Students are expected to be on time for class and stay for the entire class period. A proper classroom behavior is expected including but not limited to: having a phone on silent, no talking, no speaking out of turn, no texting, browsing on your phone, etc. Finally, no laptops, iPads, etc. are allowed without the prior permission of the instructor. A failure to behave properly will result in the student being removed from the classroom and/or the course.

Honor Code: I have zero tolerance for academic misconduct. All incidents of academic misconduct will be reported to the Honor Code Council (honor@colorado.edu).

Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550).

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation: The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (including sexual assault, exploitation, harassment, dating or domestic violence, and stalking), discrimination, and harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website. Please know that faculty and

instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

Religious Holidays: Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, quizzes, assignments or required attendance.

In this class, whenever possible, students should notify faculty at least one week in advance of the conflict to request special accommodation.

See the campus policy regarding religious observances for full details.