COURSE TITLE: Differential Geometry of Curves and Surfaces
Lecture time and location: TR 11:00-12:20, SAB 336
Instructor: Xi Chen
Phone: 780-492-1704
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Office and Office Hours: CAB 479, TR 12:30-2 or by appointment

PREREQUISITE: One of MATH 102, 125 or 127 and one of MATH 209, 215 or 217.


TOPICS: curves in the plane and in 3-space, examples; local theory of surfaces in 3-space: first and second fundamental forms, Gauss map and Gauss curvature, geodesics and parallel transport, Gauss’ Remarkable Theorem, isometries, conformal maps, minimal surfaces. We will roughly cover Chap. 1-4 in MPDC.

HOMEWORK ASSIGNMENTS: There will be 9 weekly assignments. Assignments are to be placed in the slots that are labeled for each section on the assignment boxes on the third floor of CAB before 4pm on the due day. Late assignments cannot be accepted since the solutions to the assignments will be posted on the course web site shortly after the assignments are due. Your assignment will be returned to you as soon as possible after grading. If you do not understand or agree with the grading for a particular problem, please check the posted solutions on the web. After checking the solutions, if you think an error has been made in grading, please write a note on your assignment pointing out the error and pass it in again with next week’s assignment. If you still think it has been graded improperly after it is returned to you again, please see your instructor.

EXAMS: There will be one midterm and final. No CACULATORS, FORMULA SHEETS, NOTES or BOOKS are allowed in exams. You should bring a photo ID to all exams.

Note that the reading week is Nov. 9-13 and the last day of class is Dec. 3, 2015.

GRADING: I use the following formula to compute your total score

\[ 15\% \text{ homework} + 30\% \text{ midterm} + 55\% \text{ final}. \]

Your lowest homework score will be dropped. Your letter grade is determined by a curve, roughly, 20\% A, 25\% B and 30\% C (this ratio is subject to change). In addition, you are guaranteed an A- or above if your total score is at least 90\% and you are guaranteed a D or above if your total score is at least 50\%.

MISSED MIDTERM: A student who cannot write a midterm due to religious conviction, incapacitating illness, severe domestic affliction or other compelling reasons may apply for an excused absence. To apply for an excused absence, the student must present supporting documentation pertaining to the absence to the instructor within two working days following the scheduled date of the missed term work, or as soon as the student is able. In the case of religious conviction, the student must inform the instructor by the end of the second week of classes. In the case of an incapacitating illness, either a medical note or a statutory declaration (which can be obtained at the student’s Faculty Office) will be accepted.

An excused absence is a privilege and not a right; there is no guarantee that an absence will be excused. Misrepresentation of facts to gain an excused absence is a serious breach of the Code of Student Behavior.

If an excused absence is granted, the weight of the midterm will be added to the final exam.

MISSED FINAL: A student who cannot write the final examination due to incapacitating illness, severe domestic affliction or other compelling reasons may apply for a deferred final examination. Such an application must be made to the student’s Faculty office within 48 hours of the missed examination and must be supported by a Statutory Declaration (in lieu of a medical statement form) or other appropriate documentation (Calendar section 23.5.6).

Deferred examinations are a privilege and not a right; there is no guarantee that a deferred examination will be granted. Misrepresentation of facts to gain a deferred examination is a serious breach of the Code of Student Behavior.
The deferred final examination is scheduled as follows:
Date: Saturday January 9th, 2016
Time: 9:00 am (register at 8:30 am)
Location: CAB 357

RE-EXAMINATION: A student who writes the final examination and fails the course may apply for a re-examination. Re-examinations are rarely granted in the Faculty of Science. These exams are governed by University (Calendar section 23.5.5) and Faculty of Science Regulations (Calendar section 192.5.9). Misrepresentation of facts to gain a re-examination is a serious breach of the Code of Student Behavior.

STUDENTS ELIGIBLE FOR ACCESSIBILITY-RELATED ACCOMMODATIONS (students registered with Student Accessibility Services - SAS): Eligible students have both rights and responsibilities with regard to accessibility-related accommodations. Consequently, scheduling exam accommodations in accordance with SAS deadlines and procedures is essential. Please note adherence to procedures and deadlines is required for U of A to provide accommodations. Contact SAS (www.ssds.ualberta.ca) for further information.

ACADEMIC INTEGRITY: UOA is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behavior and avoid any behavior which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and participation in an offense. Academic dishonesty is a serious offense and can result in suspension or expulsion from the university.

WEBSITE: All lecture notes, homework assignments and other course-related materials will be available at eClass and the course homepage http://www.math.ualberta.ca/~xichen/math34815f. To save time and environment, I wont make hard copies of these handouts anymore. Please go to eClass and download/print them out yourself.