

University of Washington  
Math 442  
Winter 2019  
General Information

**Instructor:**

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**Office hours:** Monday and Wednesday 4:15–5:15, and by appointment.

**Text:** *Differential Geometry of Curves and Surfaces*, revised and updated second edition, by Manfredo P. do Carmo. This book is available at the University Bookstore.

**About the course and prerequisites:** This course, along with Math 443, is intended to be a concrete introduction to differential geometry. The emphasis will be on curves and surfaces in  $\mathbb{R}^3$ , although more abstract situations may be considered. You will need a working knowledge of multivariable calculus and a good knowledge of linear algebra, including vector spaces and linear transformations, to have a chance of success in this course. Math 441 is a prerequisite: You will need to have a good understanding of the point-set topology of  $\mathbb{R}^n$ , and I will assume that you have had experience in reading and writing proofs.

**Homework:** Homework will be assigned regularly and will require you to write careful proofs. It is expected to be demanding. Most of your homework will consist of problems from your text, but I may also write additional problems. Although you are encouraged to share ideas on homework problems with your classmates, I expect you to actually write your homework on your own. If you use sources other than the assigned text and your lecture notes to do the homework, you must reference them; otherwise you are committing academic fraud. *I am well aware that solutions to many of the assigned problems can be found on the Internet. You are not permitted to use these to do the homework. In addition, you may not make use of any sort of discussion boards involving people outside the class for homework assistance. If you violate these rules on any homework assignment, you will receive a 0 on that assignment. I may also refer your case to the appropriate University committee on academic dishonesty.* In principle, late homework will not be accepted.

**Exams:** There will be a midterm and a final exam. The midterm will be given in class and is tentatively scheduled for Wednesday, February 13. The final exam will be on Thursday, March 21 from 8:30–10:20. Absences from the midterm will be dealt with on a case by case basis. Only under unavoidable emergencies (e.g.,

illness, death in family) will you be allowed to miss an exam without penalty. Such emergencies should be documented if at all possible. Note, however, that if you take an exam you cannot claim illness as an excuse for doing poorly. In certain other situations (e.g., athletic meets, family obligations), you may arrange to take an exam early. This must, however, be set up well in advance and does not apply to the final. (*Do not make any arrangements to leave town before March 21.*) I will follow the procedures outlined in the Final Examination Guidelines (look under Academic Calendar and Final Exam Schedule) in dealing with final exam absences.

**Grading:**

Graded Homework: 20%

Midterm: 30%

Final: 50%

The grade of I (incomplete) will be given only under the conditions in the *University of Washington General Catalog* (under "Grading Systems").