



BOSTON COLLEGE

MATH 8809: GT II, Differential Topology (3 credits) Spring 2020

MWF 3:00pm - 3:50pm Gasson Hall 201

Instructor

Patrick Orson

Office: Maloney 564

Office hours: Monday 1pm, and by appointment

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Course description: We'll cover topics including smooth manifolds, Lie groups, tangent spaces and the derivative map, partitions of unity, vector bundles, the Whitney embedding theorem, exterior algebra of forms, integration on manifolds, de Rham cohomology, and the De Rham Theorem.

Prerequisites: I will assume you have a solid background in point-set topology and algebraic topology as given by GT I.

Textbook: *Introduction to Smooth Manifolds*, version 3.0, by John Lee.

Course website: I will give you access to a dropbox folder containing homeworks and other resources.

Homework: Weekly homework will (usually) be assigned on Wednesday and due the following Wednesday. Collaboration on homework is highly encouraged, but each student must write up their own solutions. I do not accept late homework unless there are exceptional circumstances. Your lowest homework score will be dropped from your homework average at the end of the semester.

Exams: There will be one in-class midterm and one final exam.

Midterm Friday February 28th, 3pm

Final exam Friday May 8th, 12:30pm

Grading: Homework 30%, Midterm 30%, Final 40%.

Special accommodations: If you are a student with a documented disability seeking reasonable accommodations in this course, please contact Kathy Duggan, (617) 552-8093, dugganka@bc.edu, at the Connors Family Learning Center (CFLC) regarding learning disabilities and ADHD, or the Disability Services Office (DSO) regarding all other types of disabilities, including temporary disabilities. Advance notice and appropriate documentation are required for accommodations, and it is your responsibility to obtain this from the CFLC or the DSO, as appropriate.