Information for Students in Math 70330, Fall 2018
Intermediate Geometry and Topology

Instructor: Christopher Schommer-Pries, cschomme@nd.edu. Office: Hayes-Healy 202.
Office Hours: By appointment.

Class Times: MWF 12:50–1:40, Hayes Healy Center 125.

Course Webpage: TBD

Course Description: The topics covered in the course very widely and are highly dependent on the interests of the students enrolled in the course. We will begin with some more basic topics that any mathematician in geometry or topology should know (e.g. characteristic classes, bordism, K-theory). The remainder will be lectures on topics of interest to the students. This course will be taught in a variant of the "Kan seminar" style, where many (but not all) of the lectures will be given by students.

Some possibilities from the past include:

- Exotic smooth structures,
- Index theory,
- Homotopy theory,
- cohomology operations,
- Pontryagin-Thom theory,
- Morse theory,
- Spin manifolds,
- Kahler geometry,
- Spaces with bounded curvature,
- topological quantum field theory,
- obstruction theory,
- sheaves (and sheaf cohomology),
- Quillen model categories,

etc.

Text: There is no single textbook for this course. Often we will work directly with classic papers and primary sources. An ongoing list will be provided on the website. These are merely suggestions. I would love for you to find and select papers outside of this list, as long as you are consulting me.

Class Attendance: Class attendance is mandatory. Of course, there are legitimate reasons to miss a class - i.e. sickness, religious holiday, travel...

Responses: For each topic being presented all class participants (except the speaker) are required to skim the paper or source material and write a response to the mathematical content therein. This should be one or two paragraphs due before the topic is presented. Your response should not consist of a summary of the paper or source material, but rather your reaction to it. What did you think of the methods, what confused you, what do you suppose the author's motivations were? How does this impact your understanding of the subject? What points do you think the speaker will emphasize?