GEORGE MASON UNIVERSITY

Department of Mathematical Sciences

# SYLLABUS
## Summer 2020

# Differential Geometry (Math 494)

**Instructor:** Sean Lawton
**Office Hours:** By appointment (the hour before or after class via Zoom).
**Email:** slawton3@gmu.edu

**Lectures:** 1:30 pm - 4:10 pm TuTh (ON LINE), Jun 01, 2020 - Jul 25, 2020

**Required Technology:**

1. You will need a webcam.
2. You will need a computer with reliable internet access (for Zoom lectures, and to access Blackboard).
3. You will need to upload PDFs of Exams and HW to Gradescope (use CAMSCANNER app or equivalent on phone or tablet).
4. You will need LaTeX on a computer to prepare HW solutions.
5. You will need access to your GMU email. That is the only email I will respond to and the only email to be used with the above software.

**Format:** We will be using Zoom for live lecture. Please see Blackboard for the link and password. I will be recording lectures and posting them on Blackboard along with a PDF of the lecture notes written during class. These materials are **not** to be shared online. *They are for your use only.* If I find them shared publicly, then I will stop making them available.

**Required Text:** *Lecture Notes on Elementary Topology and Geometry*, by I.M. Singer & J.A. Thorpe, ISBN: 9780387902029

**Recommended Prerequisites:** Grade of C or better in MATH 290 & 6 hours of MATH 3XX or 4XX.

**Course Description:** This course will be a "mash-up" of topics in geometry. We will begin with some point-set topology, then homotopy and covering spaces. After that we will discuss simplicial complexes, manifolds, and homology. Lastly, we will discuss some Riemannian geometry in low dimensions. We will not be covering all details in class. Students will be expected to devote time to reading the textbook and filling in details on their own.

**Homework:** Every class there will be HW assigned. Every week you are required to turn in some of the assigned problems (written in LaTeX) **using your GMU email account to Gradescope** (details of that process will be announced on Blackboard). *Late assignments will not be accepted.*

**Exams:** There will be a midterm (**June 25**) and a final exam (**July 23**). Both exams will be base on the HW. They will be during class time. You will be required to have your webcam on during the exam so I can see you. After the exam, you will use CAMSCANNER (or the like) to take pictures of your exam with your phone (or tablet) and upload a single PDF file (showing all your work) **to Gradescope using your GMU email**. *There will not be make-up exams and any exam uploaded from an email account that is not your GMU email will not be graded.*

**Grading:** Your grade for the course will be calculated based on the HW (70%) and the Exams (15% each).

The grading scale will be: A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: below 60% .

**Online Class Behavior:** Please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class (and DO NOT give others the password to the course). It is preferred that you keep your camera on. Please keep your mic off until and unless you would like to speak (and raise your hand or use the chat to get my attention first if possible). Disruptions show a lack of professionalism and respect, and may result *penalties.*

**Disabilities:** Disability Services at George Mason University is committed to upholding the letter and spirit of the laws that ensure equal treatment of people with disabilities. Under the administration of University Life, Disability Services implements and coordinates reasonable accommodations and disability-related services that afford equal access to university programs and activities. Students can begin the registration process with Disability Services at any time during their enrollment at George Mason University.

*All academic accommodations must be arranged through that office. It is the student's responsibility to get exam accommodation forms signed and turned in at least one week before the exams.*

If you are seeking accommodations, please visit https://ds.gmu.edu/ for detailed information, or email: ods@gmu.edu.

**Academic Integrity:** It is expected that students adhere to the George Mason University Honor Code as it relates to integrity regarding coursework and grades. The Honor Code reads as follows:

*To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the University Community have set forth this: Student members of the George Mason University community pledge not to cheat, plagiarize, steal and/or lie in matters related to academic work.*

More information about the Honor Code, including definitions of cheating, lying, and plagiarism, can be found at the Office of Academic Integrity website at: https://oai.gmu.edu.

**Diversity:** In this course, we seek to create a learning environment that fosters respect for people across identities. We welcome and value individuals and their differences, including gender expression and identity, race, economic status, sex, sexuality, ethnicity, national origin, first language, religion, age and ability. We encourage all members of the learning environment to engage with the material personally, but to also be open to exploring and learning from experiences different than their own.

See the following URL for more information:

https://stearnscenter.gmu.edu/knowledge-center/general-teaching-resources/mason-diversity-statement/

**Privacy:** Students must use their GMU email account to receive important University information, including messages related to this class. See https://masonlive.gmu.edu for more information. *I will not correspond to anyone in this course over email if they do not use their official GMU email.*