



## SYLLABUS Summer 2023

Department of Mathematical Sciences

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### Mostly Surfaces (Math 494)

**Instructor:** Sean Lawton  
**Office:** Exploratory Hall 4413  
**Office Hours:** By Appointment  
**Phone:** 703 - 993 - 4269  
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**Lectures:** 1:30 pm - 3:35 pm , MTWR Horizon Hall 1007

**Required Text:** *Mostly Surfaces*, by Richard Schwartz

**Prerequisites:** Math 300 with a C or better. Math 321 and Math 315 are recommended.

**Course Description:** We will survey topics in geometry and topology with a view towards modern mathematics. We will explore ideas from the point-of-view of a surface (2-manifold). Our end goal is to define and understand moduli spaces of surfaces and/or structures on them.

**Topics Include:** Topology on surfaces (Euler characteristic, fundamental group, deck transformations), Geometry on surfaces (Euclidean, spherical, hyperbolic, Riemannian), Complex analysis on surfaces (surfaces as complex curves), Flat cone structures on surfaces (translation structures, Veech group), Moduli spaces of surfaces and surface structures (Teichmüller space, mapping class group).

**Grading:** The course will be taught as an advanced seminar course. Students will be required to attend lectures, participate and engage with the material. There will be no written exams. Assessment will be determined qualitatively in class (so attendance is mandatory). Students will be presenting at the board throughout the term.

**Electronic Devices** (such as laptops, cell phones, etc.): Please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism 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](mailto: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. *I will not correspond to anyone in this course over email if they do not use their official GMU email.*