

Algebraic Geometry II (Math 629)

Instructor: Sean Lawton

Office Hours: TuTh 4-5pm, EXPL 4413

Email: slawton3@gmu.edu

Lectures: 12:00 pm - 1:15 pm, TR, Exploratory Hall 4106, Jan 24, 2022 - May 18, 2022

Textbook: Basic Algebraic Geometry 2, Schemes and Complex Manifolds, 3rd Edition, by Igor Shafarevich, ISBN: 978-3-642-38009-9

Prerequisites: MATH 725 (Algebraic Geometry) & MATH 724 (Commutative Algebra)

Course Description: This is a continuation of Algebraic Geometry I from Fall 2021. Students who have taken Math 725 (or equivalent) with another professor are welcome to join. We will cover: Spec of a Ring, Sheaves, Schemes, Products, Vector Bundles, Abstract Varieties, & Coherent Sheaves.

Presentations: Students will give presentations on topics from our text throughout the semester. We will share in the development of the theory.

Course Philosophy: I am your learning *advocate*. We are a *community*. Together we will learn about a fascinating and powerful subject in mathematics: *algebraic geometry*.

Assessment: As this is an advanced graduate course, there will be no formal *quantitative* assessments. Instead, students' marks will be determined *qualitatively* by how they contribute to the learning environment. Examples of such contributions include, but are not limited to, coming to class engaged for lecture, asking and/or answering questions in and outside of class, contributing well-prepared student presentations, and/or solving exercises from our text book.

COVID: Students are required to follow the university's public health and safety precautions (<https://www2.gmu.edu/safe-return-campus>). This includes completing the Mason COVID Health Check daily (only students who receive a "green" notification are permitted in F2F courses) and wearing a facemask in all indoor settings (an appropriate facemask must cover your nose and mouth at all times).

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.

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.*