

Math 505 - Abstract Algebra -Fall 2021

Instructor: Sheng-Chi Liu

Office: Neill 207

Email: scliu@math.wsu.edu

Phone number: (509)335-8648

Webpage: <http://www.math.wsu.edu/faculty/scliu>

Time: Tu,Th 12:05 - 1:20 pm

Office Hours: Tu, Th 10:00am-11:00am and by appointment

Textbook: *Introduction To Commutative Algebra* by M.F. Atiyah and I.G. MacDonald.

Number of credits: 3

Prerequisites: Math 421 or equivalent.

Course Description: We will cover the basic structures of rings and modules and their applications to algebraic number theory and algebraic geometry.

Weekly Schedule:

Week 1-2: Rings and Ideals

Week 3-4: Modules

Week 5-6: Localization

Week 7: Primary Decomposition

Week 8-9: Integral Dependence and Valuations

Week 10: Noetherian Rings

Week 11: Artinian Rings

Week 12-13: Discrete Valuation Rings and Dedekind Domains

Week 14: Completions

Week 15: Dimension theory

Grading Policy: Your grades will base on the attendance, class participation and presentations.

COVID-19 Students are expected to abide by all current COVID-19 related university policies and public health directives. These directives may be adjusted to respond to the evolving COVID-19 pandemic. Directives may include, but are not limited to, compliance with WSU's COVID-19 vaccination policy, wearing a cloth face covering, physically distancing, and sanitizing common use spaces. All current COVID-19 related university policies and public health directives are located at <https://wsu.edu/covid-19/>. Students who do not comply with these directives may be required to leave the classroom; in egregious or repetitive cases, student noncompliance may be referred to the Center for Community Standards for action under the Standards of Conduct for Students.

WSU Disability Statement: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations **MUST** be approved through the Access Center. For more information contact a Disability Specialist at 509-335-3417, Access.Center@wsu.edu or visit the website <http://accesscenter.wsu.edu>.

Academic integrity: Academic integrity will be strongly enforced in this course. Any student caught cheating on any assignment will be given an F grade for the course and will be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that you read and understand these definitions.

WSU Safety and Emergency: Washington State University is committed to enhancing the safety of the students, faculty, staff, and visitors. It is highly recommended that you review the Campus Safety Plan (<http://safetyplan.wsu.edu/>) and visit the Office of Emergency Management web site (<http://oem.wsu.edu/>) for a comprehensive listing of university policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community.