**MATH 367 -ABSTRACT ALGEBRA**

**2020-2021 FALL SEMESTER**

**Textbook:** Fundamentals of Abstract Algebra by Malik,Mordeson and Sen

**Lectures:** Tuesday: 10.40-12.30

Thursday: 11.40-12.30

Friday: 10.40-12.30 ( Recitation)

The classes will be done online via Zoom. Before each class, the Zoom link will be sent. These lectures are only for Math 367 students and sharing the link with third parties is strictly forbidden. The video recording and lecture notes of each lecture will be posted on Odtüclass, so that you have a chance to watch it again.

**Exams:**

* There will be 4 online exams (dates and times will be announced later) and an **ORAL** exam. For the oral exam you will need a camera.
* The students will have **the option to take (or not to take) the oral exam** . If you **DO NOT** take the oral exam**, (even if your exam average is 100)** your letter grade will be **AT MOST CB.**

(see the grading policy) .

* The exams will be online.

**Grading Policy:** Grading will be done according to the following scheme:

* Your grade will be determined by your **short exams average and your oral exam.**
* If you **DO NOT** take the oral exam**, (even if your exam average is 100)** your letter grade will be **AT MOST CB.**
* The details of the oral exam will be announced later.

**Make-up policy:** There will be no make-up exams under any circumstance.

**Tentative course outline:**

**Week 1**: Groups: definition, examples, elementary properties.

**Week 2**: Subgroups, cyclic groups, finite groups, direct product.

**Week 3**: Homomorphism,Isomorphism,Isomorphism Theorems

**Week 4**: Cosets, Lagrange's theorem.

**Week 5**: Normal subgroups, simple groups, quotient groups.

**Week 6**: Group actions, Statement of Sylow theorems and applications.

**Week 7**: Fundamental theroem of finite abelian groups.

**Week 8**: Rings; definition, examples

**Week 9**: Integral domains,fiel of fractions

**Week 10**: Euclidean domains, PID,UFD

**Week 11**: PID,UFD

**Week 12**: Polynomials,polynomials in several variables

**Week 13**: Fields; definition, field extensions

**Week 14**: Algebraic and transcendental elements