**MATH 368 -FİELD EXTENSİONS AND GALOİS THEORY**

**2021 SPRİNG SEMESTER**

**Textbook:** Abstract Algebra by David S.Dummit, R.M.Foote, John Wiley and Sons., 1999

**Lecture:** Monday , 12:40 - 13:30  
 Wednesday, 08:40 - 10:30

**Grading:** Midterm 1, 30%- 28.April at 9.00

Midterm 2, 30%- 26. May at 9.00

Final: 40%- 23.June at 9.00

One make-up exam will be offered after the final exam for those who have (for a good reason) missed an earlier exam.

**Lectures:**

The classes will be done live  via the Zoom platform. The Zoom link will be posted on Odtüclass. Attending the live lectures is **NOT** mandatory.  The video recording and lecture notes of each lecture will be posted on Odtüclass, so that you have a chance to watch it again. Sharing the links to the videos with third parties is strictly prohibited.

**Tentative course outline:**

**Week 1**: Preliminaries

**Week 2:** Basic Field Theory

**Week 3**: Algebraic Extensions

**Week 4**: Splitting Fields, Algebraic Closures

**Week 5**: Separable and Inseparable Extensions

**Week 6**: Cyclotomic Polynomials and Extensions

**Week 7**: Galois Theory-Basic Definitions

**Week 8**: Normal Extensions

**Week 9**: The Fundamental Theorem of Galois Theory

**Week 10**: The Fundamental Theorem of Galois Theory (continued)

**Week 11**: Composite Extensions and Simple Extensions

**Week 12**: Finite Fields

**Week 13**: Galois Group of Polynomials

**Week 14**: Solvable and radical extensions: Insolvability of the quintic.