

COURSE DETAIL

ALGEBRAIC NUMBER THEORY

Country

Denmark

Host Institution

University of Copenhagen

Program(s)

University of Copenhagen

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

108

UCEAP Course Suffix**UCEAP Official Title**

ALGEBRAIC NUMBER THEORY

UCEAP Transcript Title

ALGEBRAIC NUMBR THR

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course covers algebraic number fields and their rings of integers; trace, norm, and discriminants; prime decomposition in Dedekind domains and rings of integers; prime decomposition in quadratic and cyclotomic number fields; decomposition theory in Galois extensions; decomposition- and inertia groups and fields; quadratic reciprocity via decomposition theory; Frobenius automorphisms; the prime divisors of the discriminant and ramification; finiteness of class numbers; Dirichlet's unit theorem; the first case of Fermat's last theorem for regular primes.

Language(s) of Instruction

English

Host Institution Course Number

NMAK17011U

Host Institution Course Title

ALGEBRAIC NUMBER THEORY

Host Institution Course Details

<https://kurser.ku.dk/course/nmak17011u/2023-2024>

Host Institution Campus

Host Institution Faculty

Science

Host Institution Degree

Master

Host Institution Department

Mathematical Sciences

Course Last Reviewed

2023-2024

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