COURSE DETAIL

INTRODUCTION TO NUMBER THEORY
Country Ireland
Host Institution Trinity College Dublin
Program(s) Trinity College Dublin
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 117
UCEAP Course Suffix
UCEAP Official Title INTRODUCTION TO NUMBER THEORY
UCEAP Transcript Title INTRO NUMBER THEORY
UCEAP Quarter Units 4.00
UCEAP Semester Units 2.70

Course Description

In this course, students state and prove some standard theorems in number theory, use standard theorems to solve problems in number theory including some classes of Diophantine equations, and learn to use the following: divisibility and factorization of integers: prime numbers, gcd and lcm, Euclidean algorithm, Bézout's theorem, multiplicative functions such as sums of divisors; arithmetic in the ring Z/nZ and the field Z/pZ, Euler's totient function, Chinese remainder theorem, multiplicative order and primitive roots; sums of squares, quadratic forms, discriminant, class number; and continued fractions, expansion of rationals and quadratic irrationals, Diophantine approximation, and Pell-Fermat equations.

Language(s) of Instruction
English

Host Institution Course Number
MAU23101

Host Institution Course Title
INTRODUCTION TO NUMBER THEORY

Host Institution Course Details
https://www.maths.tcd.ie/undergraduate/modules/MAU23101.php

Host Institution Campus
Trinity College Dublin

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics

Course Last Reviewed
2023-2024

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