

COURSE DETAIL

COMBINATORICS & NUMBER THEORY

Country

Ireland

Host Institution

University College Dublin

Program(s)

University College Dublin

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

107

UCEAP Course Suffix**UCEAP Official Title**

COMBINATORICS & NUMBER THEORY

UCEAP Transcript Title

COMBINATOR&NUM THRY

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

This course introduces and develops some of the basic ideas in the areas of Combinatorics and Number Theory. Topics include: mathematical induction, permutations and combinations, counting arguments, modular arithmetic, Euclidean algorithm, Fermat's and Euler's theorems, fundamental theorem of arithmetic, systems of linear congruences, and the Chinese remainder theorem. Students learn to recognize, read, and use standard mathematical symbols and notation. Students learn to ask pertinent questions, to decide which questions are relevant, answerable, and so on. Students gain an understanding of the reasoning behind any methods or procedures they use and are able to demonstrate that understanding. Students also learn to produce examples themselves, in order to illustrate a definition, show a method, or test boundaries of an idea.

Language(s) of Instruction

English

Host Institution Course Number

MST10040

Host Institution Course Title

COMBINATORICS & NUMBER THEORY

Host Institution Course Details

https://hub.ucd.ie/usis/!W_HU_MENU.P_PUBLISH?p_tag=MODULE&MODULE=MST10040

Host Institution Campus

UC Dublin

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematical Studies

Course Last Reviewed

2024-2025

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