COURSE DETAIL

MODELS OF COMPUTATION
Country United Kingdom - England
Host Institution Imperial College London
Program(s) Imperial College London
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 135
UCEAP Course Suffix
UCEAP Official Title MODELS OF COMPUTATION
UCEAP Transcript Title MODELS OF COMPUTATN
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description

The course offers students a strong foundation in the theoretical side of computer science. The course explores the skills involved in dealing with abstract systems and constructing proofs, through both teaching and exercises. Students learn to construct rigorous arguments about properties of the Lambda Calculus, construct reduction sequences according to particular reduction orders, and understand the relationship between the Lambda Calculus and other notions of computability.

The course focuses on formal descriptions (models) of computational behavior. Students learn about the operational semantics (formal description) of a simple 'WHILE' programming language; the operational semantics of other styles of real-world languages, such as Java and Haskell; and equivalent definitions of algorithm, initiated in the 1930s and providing the foundations for programming languages and computation.

Language(s) of Instruction
English

Host Institution Course Number
COMP50003

Host Institution Course Title
MODELS OF COMPUTATION

Host Institution Course Details
http://www.imperial.ac.uk/computing/current-students/courses/240/

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Department of Computing

Course Last Reviewed
2025-2026

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