Mathematics and Computer Science (Pure Mathematics and Computational Logic)
Imperial College London

Duration:
4 years

Attendance:
Full Time

Qualification:
MEng (Hons)

Tuition Fee Costs:
£9,000.00 Academic year. First year home fees

Course Modules
Year 1: Computing modules: Architecture; logic; object oriented programming; professional issues; programming; reasoning about programmes; laboratory; Mathematics modules: algebra; analysis; analytical methods and analysis; geometry and linear algebra. Year 2: Computing modules: Operating systems (JMC); software engineering (design); laboratory and project work; Mathematics modules: algebra; orthogonality; probability and statistics 1. Years 3 and 4: Computing modules: Automated reasoning; compilers; computer networks and distributed systems; concurrency; custom computing; databases; distributed systems; graphics; introduction to informatics; machine learning; operations research; performance analysis; simulation and modelling; software engineering methods; type systems for programming languages; Mathematics modules: algebra 2; algebraic number theory; applied probability; biostatistics; computational linear algebra; communicating mathematics; design of experiments and surveys; discrete mathematics; elementary number theory; finite difference methods for partial differential equations; finite element method; Galois theory; games, risks and decisions; graphs, algorithms and optimisation; group representation theory; groups, rings and numbers; group theory; linear algebra and matrices; methods of approximation; modern statistical methods for pattern recognition; Monte Carlo methods in finance engineering; numerical analysis; numerical solution of ordinary differential equations; optimisation; orthogonality; practical numerical algorithms; probability and statistics 2; rings and modules; rings and fields; statistical modelling; statistical modelling with applications in finance; statistical pattern recognition; statistical theory; stochastic simulation; survival models and actuarial applications; theoretical numerical analysis; tilings and patterns; time series.

Qualifications required:

International Baccalaureate 39

Original version: http://www.study london.ac.uk/courses/details/24499775-mathematics-and-computer-science-pure-mathematics-and-computational-logic