MAP50001: Introduction to Conformal Field Theory

Semester taught	Michaelmas Term
Module Coordinator	Manuela Kulaxizi
Credits	10 ECTS
Content	This course offers an introduction to conformal field theories. The students will study the definition of conformal group in general dimension. Primary fields ;The energy-momentum tensor; Radial quantisation; The operator product expansion (OPE); Normal ordered products; The CFT Hilbert space; Examples; Highest weight representations of the Virasoro algebra; Correlation functions and fusion rules
Learning Outcomes	• Define the conformal group in two and higher spacetime dimensions • Define the stress-energy tensor and write associated Ward identities • Define primary fields and explain the OPE • Compute simple correlation functions in Conformal Field Theories. • Provide examples of solvable two-dimensional CFTs and compute the OPE coefficients and the spectrum of operators.
Assessment detail	50% continuously assessment and 50% online examination