

Course offered for the STAT PhD program starting from a.y. 2019/2020

TITLE	<b>Mineral physics of planetary interiors: from high-pressure experiments to computational modelling</b>
Lecturer	Donato Belmonte
Duration and Credits	16 hours - 4 CFU
Course description	The aim of this course is to highlight the fundamental processes which control the dynamics and chemical evolution of the deep Earth and planetary interiors (including super-Earths and exoplanets). Special attention will be devoted to the role of chemico-physical and thermodynamic properties of minerals and deep magma oceans in determining solid-melt-fluid phase equilibria and phase transformations at extreme P-T conditions. A survey of current experimental and computational methods used to investigate mineral physics in planetary interiors will be briefly outlined and some basic skills on <i>ab initio</i> and thermodynamic modelling will be provided by hands-on tutorials on personal computers.
Course organization	The course will consist of frontal lessons and hands-on tutorials on computational modelling, along with seminars given each year by a renowned expert in the field of mineral physics.
Teaching period	April – May