Course list for Cross-Institutional Course Enrolment (Semester 2, 2023/24)

Faculty of Science
The University of Hong Kong

Last update: November 29, 2023

Course Code	Course Title	Level (RPG/TPG)	Pre-requisites	Class Dates	Class Time	Venue	Quota for Non-HKU Students (if any)	Course Syllabus URL	Contact Information (Name & Email)	Remarks (Please specify if the medium of instruction is NOT English)
BIOL6009	Advanced studies in Ecology & Biodiversity for Postgraduate Students	RPG	RPG	---	---	---	---	http://www.biosch.hku.hk/course/RPGmodules.html	Ms. Flora Chan ppchan@hku.hk	Student will select BSc course in our School and we will notify the corresponding timetable.
PHYS8656	Topics in Astrophysics	RPG	Nil	Jan 15 - Apr 27, 2024	11:30 - 12:20 (Mondays) 10:30 - 12:20 (Thursdays)	MW325	Nil	https://www.physics.hku.hk/students/course-information/PG%20courses	Ms Anna Wong. annaylw@hku.hk	Nil
PHYS8450	Graduate Electromagnetic Field Theory	RPG	Nil	Jan 15 - Apr 27, 2024	17:30 - 18:20 (Mondays) 16:30 - 18:20 (Thursdays)	KKLG105	Nil	https://www.physics.hku.hk/students/course-information/PG%20courses	Ms Anna Wong. annaylw@hku.hk	Nil
PHYS8550	Graduate Statistical Mechanics	RPG	Nil	Jan 15 - Apr 27, 2024	12:30 - 13:20 (Tuesdays) 12:30 - 14:20 (Fridays)	KKLG107	Nil	https://www.physics.hku.hk/students/course-information/PG%20courses	Ms Anna Wong. annaylw@hku.hk	Nil
PHYS8552	Condensed Matter Physics	RPG	Nil	Jan 15 - Apr 27, 2024	13:30 - 15:20 (Tuesdays) 14:30 - 15:20 (Fridays)	CYP522 JLG01	Nil	https://www.physics.hku.hk/students/course-information/PG%20courses	Ms Anna Wong. annaylw@hku.hk	Nil

PHYS8701	Physics experimental techniques	RPG	Nil	Jan 15 - Apr 27, 2024	14:30 - 17:20 (Wednesdays)	KKLG105	Nil	https://www.physics.hku.hk/students/course-information/PG%20courses	Ms Anna Wong. annaylw@hku.hk	Nil
PHYS8751	Device Physics	RPG	Nil	Jan 15 - Apr 27, 2024	10:30 - 12:20 (Tuesdays) 11:30 - 12:20 (Fridays)	LE3 KKLG105	Nil	https://www.physics.hku.hk/students/course-information/PG%20courses	Ms Anna Wong. annaylw@hku.hk	Nil

EASC6010 Nanogeoscience		Academic Year	2023 - 24
Offering Department	Earth Sciences	Compulsory (C)/ Elective (E)	E
Course Co-ordinator	Dr. KH Lemke (kono@hku.hk)		
Teachers Involved	Dr. KH Lemke		
Course Objectives	This course provides an overview of nanomaterial properties and nano-scale processes that take place in solids, fluids/droplets, vapors and across reacting interfaces with an emphasis on the Earth and environmental sciences.		
Course Contents & Topics	Introduction to nanoscience/nanotechnology ideas and concepts; occurrence and fate of nanomaterials on Earth and elsewhere, role of nanomaterials during Earth's early history and life's origins; introduction to phase diagrams of nanostructured solids, size and shape-dependent melting, crystallization of metals, alloys, minerals and ice-like materials, construction of phase maps of clusters and nano-materials from ab initio thermodynamics at elevated PT; effect of size on electronic structure and thermodynamic properties; Techniques: nanocalorimetry, AFM, nano-atom probes, mass spectrometry and other size-sensitive spectroscopies; Applications: chemical weathering of nanomaterials, virus/bacteria-mineral surface interactions, atmospheric nanoparticles, climate/health implications; Trends in nanoscience and their impact on modern Earth Sciences.		
Course Learning Outcomes	• understand basic concepts of nanoscience, nanotechnology and Earth materials. • understand how shape and size influence electronic structure and properties of nanomaterials. • apply concepts of nanoscience to Earth and environmental science systems.		
Pre-requisites (and Co-requisites and Impermissible combinations)	N/A		
Offer in 2019 - 2020	Yes **2nd sem**	Examination	No Exam
Offer in 2020 - 2021	Yes		

Course Grade	Pass/Fail
Grade Descriptors	<table><tr><td>Pass</td><td>Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.</td></tr><tr><td>Fail</td><td>Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.</td></tr></table>
Course Type	Lecture-based
Course Teaching & Learning Activities	<table><tr><th>Activities</th><th>Details</th><th>No. of Hours</th></tr><tr><td>Tutorials</td><td></td><td>18</td></tr></table>
Assessment Methods and Weighting	<table><tr><th>Methods</th><th>Details</th><th>Weighting in final course grade (%)</th></tr><tr><td>Assignment</td><td></td><td>100</td></tr></table>
Required/recommended reading and online materials	Rogers, B., Adams, J., & Pennathur, S. (2014). *Nanotechnology: understanding small systems*. Crc Press; Hochella Jr, M. F. (2006). The case for nanogeoscience. *Annals of the New York Academy of Sciences*, *1093*(1), 108-122.
Additional Course Information	This course is for RPg students of: All Faculties of HKU. Timetable: TBC