City University of Hong Kong
Course Syllabus

offered by Department of Physics
with effect from Semester A 2022/23

Part I Course Overview

Course Title:	Survival Skills for Research Scientists
Course Code:	PHY8001
Course Duration:	One semester
Credit Units:	3
Level:	R8
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Nil
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	AP8001 Survival Skills for Research Scientists
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. Abstract

The course is designed for students enrolled in the MPhil and PhD programmes to train them in acquiring the necessary skills of practicing research scientists.

2. Course Intended Learning Outcomes (CILOs)

No.	CILOs	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	Prepare and deliver well-structured, informative, and comprehendible seminar/conference presentations.				✔
2.	Write concise and informative good abstracts for scientific papers and conferences.				✔
3.	Present scientific data.				✔
4.	Search the scientific literature and manage bibliographies and references.			✔	
5.	Write well-structured, informative, and comprehendible articles for publication in reputable journals.		✔		
6.	Prepare well-structured research proposals for research-grant application and research-activity planning		✔	✔	
7.	Research ethics in Science.			✔	
		100%			

A1: *Attitude*
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: *Ability*
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: *Accomplishments*
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)

TLA	Brief Description	CILO No.							Hours/week (if applicable)
		1	2	3	4	5	6	7	
1.	Lectures	✔	✔	✔	✔	✔	✔	✔	10/semester
2.	Tutorials	✔	✔	✔	✔	✔	✔		8/semester
3.	Presentations	✔	✔				✔		8/semester

Scheduled activities: Lectures on each CILO are given first. Tutorials are to discuss the assignments and provide the students with practical examples. Presentations are for students to deliver their own seminar presentations.

4. Assessment Tasks/Activities (ATs)

The assessment of the course is based entirely on coursework.

Assessment Tasks/Activities	CILO No.							Weighting*	Remarks
	1	2	3	4	5	6	7		
Continuous Assessment: 100%									
1. Assignment		✔				✔		60%	Examine whether students are able to write concise and informative abstracts; Examine whether students are able to write well-structured research proposals
2. Presentation	✔							40%	Examine whether students are able to deliver well-structured, informative, and comprehensible oral presentations;
Examination: 0%									
								100%	

5. Assessment Rubrics

Applicable to students admitted in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Assignment	Writing of an original research proposal following a structure similar to the RGC-GRF grant proposal, including objectives, background/introduction, methodology, research plan, Gantt chart; writing of an abstract following the structure of standard scientific publications.	High	Significant	Moderate	Not reaching marginal level
2. Presentation	Skillful presentation of research work. This includes preparation of well-structured and informative slides, delivering a scientific presentation in a professional manner	High	Significant	Moderate	Not reaching marginal level

Applicable to students admitted before Semester A 2022/23

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Assignment	Writing of an original research proposal following a structure similar to the RGC-GRF grant proposal, including objectives, background/introduction, methodology, research plan, Gantt chart; writing of an abstract following the	High	Significant	Moderate	Basic	Not reaching marginal level

	structure of standard scientific publications					
2. Presentation	Skillful presentation of research work. This includes preparation of well-structured and informative slides, delivering a scientific presentation in a professional manner	High	Significant	Moderate	Basic	Not reaching marginal level

Part III Other Information

1. Keyword Syllabus

 Preparing and delivering a well-structured scientific presentation
 Writing an abstract for a conference
 Preparing scientific graphs
 Searching and managing bibliographic databases
 Learning the standard paper formats in reputable journals
 Learning the standard proposal format and practicing writing it
 Understanding research ethics in science

2. Reading List

2.1 Compulsory Readings

1.	Goodlad, S, 1996: Speaking Technically. Imperial College Press, 112pp.
2.	Holtom, D and E Fisher, 1999: Enjoy Writing Your Science Thesis or Dissertation!
3.	Imperial College Press, 278pp.
4.	Yang, J T, 1995: An Outline of Scientific Writing. World Scientific, 160pp.

2.2 Additional Readings

N/A