

The Hong Kong Polytechnic University

Subject Description Form

Subject Code	CUS3000
Subject Title	Research Project
Credit Value	9
Level	3
Pre-requisite/ Co-requisite/ Exclusion	CUS2000 Introduction to Research CUS3001 Philosophy of Knowledge & Science
Objectives	This subject aims to foster students' intellectual development and enhance their ability to plan and conduct original research to tackle research challenges. It employs enquiry-based learning and offers training opportunities to cultivate students' innovative mindset, academic proficiency, and research competence. The research project spans over 2 consecutive academic years and is guided by an academic supervisor. The tasks to be accomplished by the students in this subject include, but are not limited to below: a. Prepare a research project proposal b. Based on the developed methodology in the proposal, acquire the necessary skills and abilities for executing the project; c. Conduct investigations and data collection in a critical and professional manner; d. Demonstrate the ability to critically evaluate information and data; e. Communicate clearly and concisely the progress and final outcome of the study; and f. Demonstrate effective time and resources management for the project.
Intended Learning Outcomes <i>(Note 1)</i>	Upon completion of the subject, students will be able to: a. Explore a subject in-depth, create innovative ideas and novel insights through original research; b. Develop problem-solving skills by identifying, formulating, and proposing solutions to research problems; c. Demonstrate analytical skills, logical reasoning, and the ability to draw appropriate conclusions from research findings; d. Plan, implement, and manage a research project, including considerations of research ethics and time management; and e. Communicate research results effectively through written works and oral presentations.

Subject Synopsis/ Indicative Syllabus (Note 2)	The subject is a two-year supervised research project. The project objectives, detailed theory, research methodology and analytical process will be proposed and carried out by the student. The data collected by the student will be processed and presented in the form of reports and oral presentations.																																																						
Teaching/Learning Methodology (Note 3)	Each student is paired with an academic supervisor, who is a full-time PolyU tenure-track academic staff at the level of Assistant Professor or above. With guidance from the supervisor, each student will be proposing and working on their own research problem. The supervisor’s major role is to guide students in preparing their research proposals, provide advice and guidance throughout the project, and monitor project implementation progress. In cases where additional guidance is required, the supervisor may invite a PhD Research Mentor to coach the student on specific research tasks.																																																						
Assessment Methods in Alignment with Intended Learning Outcomes (Note 4)	<table><tr><th rowspan="2">Specific assessment methods/tasks</th><th rowspan="2">% weighting</th><th colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th></tr><tr><th>a</th><th>b</th><th>c</th><th>d</th><th>e</th><th></th></tr><tr><td>1. Project proposal</td><td>20%</td><td>√</td><td>√</td><td></td><td></td><td></td><td></td></tr><tr><td>2. Progress report</td><td>20%</td><td></td><td></td><td>√</td><td>√</td><td>√</td><td></td></tr><tr><td>3. Completion report</td><td>40%</td><td></td><td></td><td>√</td><td>√</td><td>√</td><td></td></tr><tr><td>4. Oral presentation</td><td>20%</td><td></td><td></td><td></td><td></td><td>√</td><td></td></tr><tr><td>Total</td><td>100%</td><td colspan="6"></td></tr></table> A Project Management Team (PMT), comprising a minimum of three Minor Programme Committee members, inclusive of the Programme Leader and the subject leader, will be formed to oversee the operations and quality assessment of the projects. The project is assessed based on the achievement of proposed objectives, the research approach, planning and execution of research activities, interpretation and analysis of results, and presentation of the findings. The student’s ability to convey research findings will be assessed based on the written reports and oral presentation. The appropriateness of the assessment methods in assessing the intended learning outcomes is detailed as follows: <i>Project Proposal:</i> The project proposal aims to position the research study within the appropriate context and scope of work. It should include a critical review of relevant literature, a clear and precise objective, a carefully designed methodology, a detailed and feasible research plan, and potential deliverables that have practical applications. The student should take into account available resources, site access, time constraints, etc., when refining aims, objectives, and	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						a	b	c	d	e		1. Project proposal	20%	√	√					2. Progress report	20%			√	√	√		3. Completion report	40%			√	√	√		4. Oral presentation	20%					√		Total	100%						
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	the project plan, as deemed necessary for the successful execution of the work. Feedback and comments will be provided by the assessor(s) to help students refine their initial proposal. <i>Progress Report:</i> At the end of the first academic year, students are expected to submit and present a progress report to their supervisor. This report should outline their plans and the progress made on the chosen topic, allowing the assessor(s) to assess the students' advancements. <i>Completion Report:</i> Upon project completion, students are required to submit a completion report covering the entire research work. The report should be written in a format suitable for research professionals and include sections such as an abstract, introduction, literature review, methods (survey, experiment, simulation), results/analysis and discussion, conclusions, and any other relevant sections. The introduction section should provide background information and justification for the proposed investigations, supported by a literature review. It should also clearly state the aims and objectives of the project. The methods section should describe the specific methods used, such as site surveys, laboratory experiments, or computer simulations, and provide an overview of the work conducted. The results section should present the findings and data analysis, including comparisons with relevant standards, verification or rejection of theories, models, or guidance, and identification of the cause of a problem, if applicable. Finally, the report should conclude with a summary of the main findings and conclusions. <i>Oral Presentation (Assessors: Group of staff):</i> At the end of the project, students are required to deliver an oral presentation in front of at least two assessors. Each student is allowed a specific time slot to present their findings, followed by a question-and-answer session. The completion report must be submitted before the oral presentation. The assessment by each assessor is then rationalised into a single score. The marking scheme used by the assessors for various assessment elements is given in the assessment rubrics. The grades may be subject to overall review and rationalisation by the PMT to ensure fairness and consistency among students. The aggregate percentage will be converted into the appropriate subject grade.	
Student Study Effort Expected	Class contact:	
	Guided Study including meeting / Experiment / Survey / Simulation	117 Hrs.

	Other student study effort including:	
	▪ Proposal / Revised Proposal Writing	234 Hrs
	▪ Literature Review, Project Execution, Data Analysis	
	▪ Reporting and Completion Report	
	Total student study effort	351 Hrs.
Reading List and References	To be provided by individual supervisor based on the student's research area	

Note 1: Intended Learning Outcomes

Intended learning outcomes should state what students should be able to do or attain upon subject completion. Subject outcomes are expected to contribute to the attainment of the overall programme outcomes.

Note 2: Subject Synopsis/Indicative Syllabus

The syllabus should adequately address the intended learning outcomes. At the same time, overcrowding of the syllabus should be avoided.

Note 3: Teaching/Learning Methodology

This section should include a brief description of the teaching and learning methods to be employed to facilitate learning, and a justification of how the methods are aligned with the intended learning outcomes of the subject.

Note 4: Assessment Method

This section should include the assessment method(s) to be used and its relative weighting, and indicate which of the subject intended learning outcomes that each method is intended to assess. It should also provide a brief explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes.

(Form AR 140) 8.2020