Subject Description Form

Subject Code	ABCT5113
Subject Title	Research Project
Credit Value	6
Level	5
Pre-requisite	Nil
Co-requisite	Nil
Exclusion	Nil
Objectives	1. Develop hands-on research skills through laboratory-based experimentation 2. Apply theoretical knowledge to practical research problems 3. Foster independent research capability and critical thinking 4. Enhance scientific writing and presentation skills 5. Develop project management and problem-solving skills in a research context
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a) Design and execute laboratory experiments independently with appropriate methodologies b) Analyze and interpret experimental data using appropriate statistical methods c) Demonstrate proficiency in laboratory safety and standard operating procedures d) Effectively communicate research findings through written reports and oral presentations e) Critically evaluate research outcomes and propose improvements to experimental design
Subject Synopsis/ Indicative Syllabus	This research project provides students with hands-on experience in conducting laboratory-based research. Students will work under the supervision of faculty members on specific research topics. Research Project Planning: • Literature review and background research • Experimental design and methodology • Project timeline and milestones Laboratory Skills: • Laboratory safety protocols • Equipment operation and maintenance • Experimental techniques and procedures Data Collection and Analysis: • Experimental data recording

| | • Statistical analysis |
| | • Data interpretation |

Research Documentation:
- Laboratory notebook maintenance
- Progress reports
- Final thesis preparation

Research Communication:
- Scientific writing
- Oral presentation skills
- Research poster preparation

Teaching/Learning Methodology	Laboratory-based research experience under faculty member's supervision. Students are required to: • Complete minimum 400 hours of laboratory work within The Hong Kong Polytechnic University • Maintain detailed laboratory records • Submit progress reports • Present research findings • Submit final thesis

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% (weighting)	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b	c	d	e
	1. Thesis Report	30			√	√	
	2. Performance assessment	40	√	√	√		
	3. Presentation	30	√		√		√
	Total	100 %					

Presentation: Students will present on a selected topic, showcasing their ability to analyze, synthesize, and clearly communicate advanced drug development concepts.

Thesis Report: Students will submit a comprehensive thesis report on a chosen topic, demonstrating their ability to critically analyze, integrate, and articulate complex drug development concepts in a well-structured, evidence-based written format.

Performance Assessment: Students will engage in a practical evaluation, such as a case study or simulation, to exhibit their proficiency in applying

	advanced drug development concepts, problem-solving skills, and effective decision-making under realistic scenarios. Students are allowed to use GenAI tools to support their writing of and essays. If GenAI tools are used to support their essay writings, students must declare the use of such tools and how they have been used in the assessments. It should be noted that submitting a work generated by GenAI, in part or in whole, as your own (even in paraphrased form) constitutes an act of academic dishonesty; it is no different from asking another person to write your assignment or claiming others' ideas as yours.	

Student Study Effort Expected	Class contact:	
	▪ Attachment in Laboratory in University	230 Hrs.
	Other student study effort:	
	▪ Self and guided study	20 Hrs.
	▪ Daily log and reflective report	20 Hrs.
	Total student study effort	270 Hrs.
Reading List and References	Khan, F. A. (2014). Biotechnology in medical sciences. CRC Press/Taylor & Francis Group. ISBN : 1482223678 (hardcover)	