The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT4913
Subject Title	Integrated Capstone Project
Credit Value	6
Level	4
Normal Duration	2-semester
Pre-requisite / Co-requisite/ Exclusion	**Pre-requisite:** LGT2106 Principles of Operations Management **Exclusion:** Any other equivalent capstone project
Objectives	The objectives of this subject are to: • provide a student with the opportunity to apply and integrate the knowledge of artificial intelligence and data analytics (AIDA) to his/her discipline in the Departmental Scheme. • develop the capabilities of a student in analyzing and solving complex and possibly real-life problems using AIDA. • train students with skills on systematic development and documentation of a significant piece of work.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: <u>Professional/academic knowledge and skills</u> a. conduct literature surveys to locate materials and sources relevant to the selected problem area in a specific discipline in the Departmental Scheme; b. understand the materials obtained and connect the materials with the problem to be solved using AIDA knowledge and skills; c. define and specify the problem precisely; d. assimilate and apply the learnt knowledge to generate good solutions to the problem; e. think critically the formulation of alternative models and solutions to the problem, in the analysis of approaches to the solution and their implementation; and f. evaluate the final outcome in an objective manner; <u>Attributes for all-roundedness</u> g. improve presentation and communication skills via oral presentation; h. enhance technical report writing skills with proper organization of materials; i. develop the ability to learn independently and to find/integrate information from different sources required in solving real-life problems; j. manage the project efficiently and effectively through the supervision of supervisor(s); and k. work collaboratively with related parties (e.g. vendors, sponsor company, technical support staff, team-partners, research students, etc.). l. recognise the need for continual learning and self-improvement in the context of their respective subject disciplines, and be able to plan, manage and evaluate their own learning in pursuit of self-determined goals.

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<td>Subject Synopsis/ Indicative Syllabus</td>
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1. In-depth Study of a Topic Typically Proposed by the Supervisor
2. Project Meeting and Planning
3. Proposal Writing
4. Regular Progress Checking and Reporting
5. Project Documentation
6. Presentation and Demonstration

Students are expected to identify a project topic with a supervisor in their chosen discipline, and a co-supervisor with artificial intelligence and data analytics expertise.

Students need to demonstrate their knowledge in both their chosen discipline and AIDA in the project, receiving advice from both supervisors. The project should represent requisite effort in analysing and interpreting the data/information obtained, using the principles and techniques learnt from various related subjects. Students are also expected to demonstrate significant analytical and, preferably, research ability in the chosen application domain.

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<td>Teaching/Learning Methodology</td>
<td>The Integrated Capstone Project spans across the academic year for two consecutive semesters. The teaching/learning activities include regular project meetings with the supervisor and the co-supervisor, guided study of project materials, independent project development work and other project management tasks.</td>
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<td>Assessment Methods in Alignment with Intended Learning Outcomes</td>
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<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="12">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td><td>g</td><td>h</td><td>i</td><td>j</td><td>k</td><td>l</td></tr>
<tr><td>Continuous Assessment</td><td>100%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="12"></td></tr>
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Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

The Integrated Capstone Project will be accessed by the supervisor/co-supervisor and other assessors. Attributes to be assessed include, but not limited to, Problem Identification, Problem Solving, Communication and Presentation, Project Management, and Self-Discipline.

Integrated Capstone Projects should be problem-oriented and there are no restrictions on the nature of the problem except that it should be relevant to the student's chosen discipline and AIDA. The project could be practical, academic or a hybrid in which the student is encouraged but not constrained to have some original contributions. Each student has to submit a proposal, a mid-term checkpoint progress report and a final report. The proposal must be approved by the supervisor/co-supervisor before the student can proceed with the Integrated Capstone Project. An oral presentation and demonstration is essential at the end of the project. A mid-term presentation and demonstration may also be required for proper continuous assessment.

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Student Study Effort Expected	Class contact:	
	▪ Discussions with supervisor	25 Hrs.
	▪ Laboratory	15 Hrs.
	▪ Seminar	12 Hrs.
	Other student study effort:	
	▪ Carry out the research project	118 Hrs.
	▪ Presentation and report preparation	80 Hrs.
	Total student study effort	252 Hrs.
Reading List and References	**<u>Recommended Textbooks</u>** There will be no specific text for this subject, however students will be required to read all assigned readings, and utilize all previous texts from the BBA programme as reference as necessary. Selected articles on various aspects of Business, Business Planning, Proposal Writing and Research Methodology are used as supplementary texts. Kumar, R. (2019), *Research Methodology: A Step-by-step Guide for Beginners*, 5th ed., Sage Publications Ltd. Leedy, P.D., Ormrod, J.E., and Johnson, L.R. (2021), *Practical Research: Planning and Design,* 12th ed., Pearson. Pearce, J., and Robinson, R. (2015), *Strategic management: Planning for Domestic & Global Competition*, 14th ed., McGraw Hill. Saunders, M.N.K., Lewis, P., and Thornhill, A. (2019). *Research Methods for Business Students*, 8th ed., Pearson.	