

**Title (Units):** COMP7280 MSc Practicum (3,\*,\*)

**Course Aims:** Students will develop: (i) mastery of integrating concepts with practices in data analytics (DA) and/or artificial intelligence (AI), (ii) creative and systematic problem-solving skills for analyzing, designing, and implementing DA and/or AI systems, and (iii) report writing and presentation skills for effective communication in IT enterprises. Through guided project supervision, students will cultivate self-learning skills for lifelong learning.

**Prerequisite:** Postgraduate Student Standing

**Course Intended Learning Outcomes (CILOs):**

Upon successful completion of this course, students should be able to:

No.	Course Intended Learning Outcomes (CILOs)
	<b>Knowledge</b>
1	Describe how to use principled methodology to analyze, design, and develop a system to solve a problem
	<b>Professional Skill</b>
2	Demonstrate an understanding of a complete system development lifecycle
3	Identify problems and propose solutions to solve the problems, integrating knowledge learned and acquiring knowledge from additional sources
4	Demonstrate organizational and time-management skills
5	Produce technical reports and effective presentations
	<b>Attitude</b>
6	Conduct work on a project, individually or as part of a team, from initial topic selection, up to final project presentation and delivery

**Calendar Description:** Students work on group or individual system development projects. Each project is supervised by an academic staff, and it may be co-supervised by practicing professionals. The project demands careful planning and creative application of underlying theories and enabling technologies. Students can select project in consultation with their project supervisors. A written report and an oral presentation are required upon successful completion of the project. Each project will be assessed by the supervisor(s) and one additional academic staff on four aspects: (i) project management and progress, (ii) methodologies and results, (iii) report writing, and (iv) oral presentation. Through these projects, students will develop: (i) mastery of integrating concepts with practice in information systems, (ii) creative and systematic problem solving skills for analyzing, designing, and implementing information systems, and (iii) report writing and presentation skills for effective communication in IT enterprises.

**Teaching and Learning Activities (TLAs):**

CILOs	Type of TLA
1,2,4	Students will be guided by the checkpoints described in the project handbook and fulfil the requirements of all stages in the project.
2,3,6	Students will identify problems and propose and implement solutions based on the knowledge and techniques learned in this programme and/or from other sources.
2,5	Students will meet regularly with supervisors to discuss and arrange various project tasks.
5	Students will give an oral presentation of the project

**Assessment:**

No.	Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
1	Continuous Assessment	10%	4,6	This category covers the assessment of the attitude of the students, the amount of effort the student has put into the project, self discipline, and the general

				management skills in the project development process. The ingenuity of development and creativity towards achieving the project objectives are considered. The progress reports are also assessed in this category. This category is assessed by the Supervisor only.
2	Project Report	70%	1-3,5	<p>The grade for this category reflects the quality and the amount of completed work including those of the final report and, if any, the system.</p> <p>1. Project originality (15%)  2. Level of difficulty (15%)  3. Identification and analysis of the problem (15%)  4. Efficiency and robustness of the solutions (25%)</p> <p>This category is assessed by both the Supervisor and the Co-Supervisor.</p>
3	Presentation	20%	5	<p>This category assesses students' oral presentation of the project. Communication skills are emphasized.</p> <p>This category is assessed by both the Supervisor and the Co-Supervisor.</p>

**Assessment Rubrics:**

	Excellent (A)	Good (B)	Satisfactory (C)	Fail (F)
Continuous Assessment	<ul style="list-style-type: none"> <li>Has a high degree of effectiveness in project management</li> <li>Always follows the schedule, and makes good progress in all phases</li> </ul>	<ul style="list-style-type: none"> <li>Has a considerable degree of effectiveness in project management</li> <li>Follows the schedule most of the time, and makes good progress in most phases</li> </ul>	<ul style="list-style-type: none"> <li>Has a moderate degree of effectiveness in project management</li> <li>Does not always follow the schedule, but is able to make some progress</li> </ul>	<ul style="list-style-type: none"> <li>Very poor in project management</li> <li>Cannot follow the schedule</li> <li>Cannot make reasonable progress in most phases</li> </ul>
Project Report	<ul style="list-style-type: none"> <li>Has a thorough understanding of the problem, and conducts a comprehensive literature review</li> <li>Uses appropriate methodology with a high degree of effectiveness</li> <li>Achieves original and significant results</li> <li>Demonstrates excellent organization, clarify, English grammar, spelling, format, and references</li> </ul>	<ul style="list-style-type: none"> <li>Has a good understanding of the problem, and conducts a good literature review</li> <li>Uses appropriate methodology with a considerable degree of effectiveness</li> <li>Achieves original and important results</li> <li>Demonstrates good organization, clarify, English grammar, spelling, format, and references</li> </ul>	<ul style="list-style-type: none"> <li>Can understand part of the problem, and conduct moderate literature review</li> <li>Uses appropriate methodology with a moderate degree of effectiveness</li> <li>Achieves moderate results</li> <li>Demonstrates fair organization, clarify, English grammar, spelling, format, and references</li> </ul>	<ul style="list-style-type: none"> <li>Has difficulties in understanding the problem, and unable to conduct literature review</li> <li>Cannot use an appropriate methodology</li> <li>Achieves few results</li> <li>Demonstrates poor organization, clarify, English grammar, spelling, format, and references</li> </ul>

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| Oral presentation | <ul style="list-style-type: none"> <li>The whole presentation is very well organized</li> <li>All information is presented very clearly and fluently</li> <li>All questions are appropriately answered</li> <li>Visual aids are carefully prepared and can support the presentation effectively</li> </ul> | <ul style="list-style-type: none"> <li>Most parts of the presentation are well organized</li> <li>Most information is presented clearly and fluently</li> <li>Most of the questions are appropriately answered</li> <li>Visual aids are prepared and can support the presentation</li> </ul> | <ul style="list-style-type: none"> <li>Some parts of the presentation are not well organized</li> <li>Most information is understandable</li> <li>Some of the questions are appropriately answered</li> </ul> | <ul style="list-style-type: none"> <li>The whole presentation is poorly organized</li> <li>Most information is difficult to understand</li> <li>No questions are appropriately answered</li> <li>Little knowledge of the topic is demonstrated</li> </ul> |
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**Course Content and CILOs Mapping:**

Content		CILO No.
I	Project Briefing	
II	Project Topics Selection	3
III	Project Plan	1-2,4-6
IV	Systems Analysis	1-6
V	Systems Design	1-6
VI	Implementation	1-6

**References:**

- Literature research appropriate to the topics under study.
- T. Hung, Avoiding Plagiarism, HKBU ([http://ar.hkbu.edu.hk/curr/avoid\\_plagiarism/](http://ar.hkbu.edu.hk/curr/avoid_plagiarism/)).
- Barbara Gastel and Robert A. Day, How to Write and Publish a Scientific Paper, 8th Edition, Greenwood, 2016.
- John Bowden, Writing A Report: How to Prepare, Write & Present Really Effective Reports, 9th Edition, How To Books, 2011.
- C. Lipson, Doing Honest Work in College: How to Prepare Citations, Avoid Plagiarism, and Achieve Real Academic Success, Third edition, Chicago Guides to Academic Life, 2019.

**Course Content:**

**Topic**

- I. Project Briefing
- II. Project Topics Selection
- III. Project Plan
  - A. Project objectives
  - B. Feasibility study
  - C. Development schedule
  - D. Team organization
- IV. Systems Analysis
  - A. Requirements analysis
  - B. Information description
  - C. Functional description
  - D. Report writing/documentation
  - E. Presentation

- V. Systems Design
  - A. Design description: data, modules, interface, etc.
  - B. Prototyping
  - C. Report writing/documentation
  - D. Presentation
  
- VI. Implementation
  - A. Coding
  - B. Testing
  - C. Demonstration
  - D. Report writing and user manuals