

Subject Description Form

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| Subject Code | COMP4913 |
| Subject Title | Capstone Project |
| Credit Value | 6 |
| Level | 4 |
| Pre-requisite / Co-requisite / Exclusion | Exclusion: Any other equivalent capstone project |
| Objectives | <p>The objectives of this subject are to:</p> <ol style="list-style-type: none"> 1. provide a student the opportunities to apply and integrate his/her knowledge acquired throughout the undergraduate study; 2. develop the capabilities of a student in analysing and solving complex and possibly real-life problems; and 3. train students with skills on systematic development and documentation of a significant piece of work. |
| Intended Learning Outcomes | <p>Upon completion of the subject, students will be able to:</p> <p><i>Professional/academic knowledge and skills</i></p> <ol style="list-style-type: none"> (a) conduct literature survey to locate for materials and sources relevant to the selected problem area; (b) understand the materials obtained and connect the materials with the problem to be solved; (c) define and specify the problem precisely; (d) assimilate and apply the knowledge learnt in generating 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; (f) evaluate the final outcome in an objective manner; <p><i>Attributes for all-roundedness</i></p> <ol style="list-style-type: none"> (g) improve presentation and communicate skills via oral presentation; (h) enhance technical report writing skills with proper organisation 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 |

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| | <p>(k) work collaboratively with related parties (e.g. vendors, sponsor company, technical support staff, team-partners, research students, etc.).</p> <p><u>Learning to learn</u></p> <p>(l) recognize the need for life-long learning</p> <p>(m) recognize the importance of an active pursuit of knowledge at both intrapersonal and interpersonal levels</p> <p>(n) be able to plan, manage and evaluate their own learning in pursuit of self-determined goals</p> <p>(o) self-learn new technologies to plan, manage and evaluate the Capstone Projects</p> | | | | | | |
| <p>Subject Synopsis/ Indicative Syllabus</p> | <table border="1" data-bbox="357 658 1522 1079"> <tr> <td data-bbox="357 658 1522 730">1. In-depth Study of a Topic Typically Proposed by the Supervisor</td> </tr> <tr> <td data-bbox="357 730 1522 801">2. Project Meeting and Planning</td> </tr> <tr> <td data-bbox="357 801 1522 873">3. Proposal Writing</td> </tr> <tr> <td data-bbox="357 873 1522 945">4. Regular Progress Checking and Reporting</td> </tr> <tr> <td data-bbox="357 945 1522 1016">5. Project Documentation</td> </tr> <tr> <td data-bbox="357 1016 1522 1079">6. Presentation and Demonstration</td> </tr> </table> <p>Capstone Projects are normally proposed by academic staff of the department or in conjunction with external organisations or other departments in the university. However, students may propose a topic along an area of their interest contingent upon the condition that they could find an interested academic staff to supervise the project. Each student will be assigned a supervisor who is in charge of the entire project.</p> | 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 |
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| <p>Teaching/ Learning Methodology</p> | <p>The capstone project spans across the academic year for two consecutive semesters. The teaching/learning activities include regular project meetings with the supervisor and/or other involved parties, guided study of project materials, independent project development work and other project management tasks.</p> <p>In addition, to enable L2L outcomes, students are:</p> <p>(1) engaged in the projects to explore their aspirations and relate them with their university studies as well as life-long learning plans.</p> <p>(2) required to identify and make use of new technologies to plan and manage their own projects with self-determined goals and also self-evaluate how well they have achieved the objectives of the capstone projects.</p> <p>(3) introduced to the idea of L2L for planning, managing and evaluating their group/individual projects as lifelong learners.</p> | | | | | | |

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| Assessment Methods in Alignment with Intended Learning Outcomes | Specific assessment methods/tasks | % weighting | Intended subject learning outcomes to be assessed | | | | | | | | | | | | | | |
| | | | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o |
| | Continuous Assessment | 100% | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Total | 100 % | | | | | | | | | | | | | | | |
| <p><u>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</u></p> <p>The capstone project will be assessed by the 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.</p> <p>Capstone Projects should be problem-oriented and there is no restriction to the nature of the problem except that it should be relevant to the student's study programme. 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 before the student can proceed to the 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.</p> <p>At the end of the project, students must submit final reports. In the reports, students will discuss the difficulties encountered throughout the projects and reflect on how they utilise their L2L ability to complete the projects and overcome new challenges in the future.</p> | | | | | | | | | | | | | | | | | |
| Student Study Effort Expected | Class contact: | | | | | | | | | | | | | | | | |
| | ▪ Lectures | | 0 Hrs. | | | | | | | | | | | | | | |
| | Other student study effort: | | | | | | | | | | | | | | | | |
| | ▪ Searching and reading materials, meeting with supervisor / others, design and system development, testing, documentation, presentation, etc. | | 210 Hrs. | | | | | | | | | | | | | | |
| Total student study effort | | | 210 Hrs. | | | | | | | | | | | | | | |
| Reading List and References | Reference Books: | | <ol style="list-style-type: none"> Kumar, Ranjit, <i>Research Methodology: A Step-by-step Guide for Beginners</i>, 3rd Edition, SAGE Publications, 2011. Burns, Robert B., <i>Introduction to Research Methods</i>, 4th Edition, SAGE Publications, 2000. Roberts, Carol M., <i>The Dissertation Journey: A Practical and Comprehensive Guide to Planning, Writing, and Defending Your Dissertation</i>, 3rd Edition, Corwin Press, 2007. | | | | | | | | | | | | | | |

4. Mauch, James E. and Park, Namgi, *Guide to the Successful Thesis and Dissertation: A Handbook for Students and Faculty*, 5th Edition, Marcel Dekker, 2003.
5. Rudestam, Kjell Erik and Newton, Rae R., *Surviving Your Dissertation: A Comprehensive Guide to Content and Process*, 2nd Edition, Sage Publications, 2001.
6. Garson, G. David, *Guide to Writing Empirical Papers, Theses and Dissertations*, Marcel Dekker, 2002.
7. Reinhart, Susan M., *Giving Academic Presentations*, 2nd Edition, University of Michigan Press, 2013.
8. Oshima, Alice and Hogue, Ann, *Writing Academic English*, 4th Edition, Pearson Longman, 2006.
9. American Psychological Association. *Publication Manual of the American Psychological Association*, 6th Edition, American Psychological Association, 2010.
10. Szuchman, Lenore T., *Writing with Style: APA Style Made Easy*, 5th Edition, Wadsworth/Cengage Learning, 2011.
11. Statistics, simulation, programming, and relevant books.
12. ACM and IEEE magazines, Transactions and Journals.
13. Other International Journals.
14. Relevant conference proceedings and magazines (including ACM and IEEE conferences).
15. Technical reports from universities and major companies.