

Subject Description Form

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| Subject Code | COMP 4135 |
| Subject Title | Knowledge and Information Management |
| Credit Value | 3 |
| Level | 4 |
| Pre-requisite / Co-requisite/ Exclusion | Nil |
| Objectives | <p>The objectives of this subject are:</p> <ol style="list-style-type: none"> 1. To equip students with the knowledge and understanding of the acquisition, representation and processing of knowledge and information; 2. To provide students with the concepts and application of knowledge and information management; 3. To help students recognize a class of knowledge-based systems that support decision-making activities. |
| Intended Learning Outcomes | <p>Upon completion of the subject, students will be able to:</p> <p><u>Professional/academic knowledge and skills</u></p> <ol style="list-style-type: none"> (a) Understand and appreciate the fundamental knowledge and concepts in the acquisition, representation, processing of knowledge and information; (b) Collect knowledge and information management to support decision making; (c) Apply the skills in real-life organizational problem solving with core methods, techniques, and tools of IT-enabled knowledge and information systems. <p><u>Attributes for all-roundedness</u></p> <ol style="list-style-type: none"> (d) Solve problems with critical thinking and analytical skills using systematic approaches; (e) Solve problems in groups. |
| Subject Synopsis/ Indicative Syllabus | <ol style="list-style-type: none"> 1. Introduction to knowledge and information management Data, information and knowledge; information processing; information and knowledge society; knowledge as enterprise asset; knowledge network; difference between information and knowledge management; knowledge life cycle; knowledge acquisition, representation, storage and retrieval, transfer, application and management. 2. Knowledge and information management approaches Schools of knowledge management: economic school, organizational school, strategic school; barrier to knowledge management; impact of culture and technology. 3. Knowledge and information acquisition and representation |

Various information and knowledge acquisition techniques; different representation of information and knowledge including rules, frames, semantic networks, Bayesian networks, first order, modal and temporal logics, ontology.

4. Knowledge and information processing
Information storage, retrieval and use; knowledge storage, retrieval and use, e.g. production systems, expert systems, inference engines; knowledge transfer and exchange.
5. Knowledge-based decision support systems
The relationship between DSS and knowledge management; a class of computer-based information systems including knowledge-based systems that support decision-making activities; formulating specific knowledge and information implementation with reference to the business environment of specific organizations for decision making.
6. Knowledge management and applications
Knowledge management techniques; strategies for knowledge management; chief knowledge officer and chief information officer; enterprise information portal framework and application; content management; collaborative portal; e-business.

Laboratory Experiment and Case Study:
Acquisition, representation, and processing of knowledge and information in case studies of real-life systems; use of tools such as Clementine.

Teaching/Learning Methodology

Lectures
During the lecturers, students will come across the concepts, methods, and techniques in knowledge and information management, and will be supplemented by case studies and in-class exercises. Students are required to actively participate in the case discussion and the Q&A exercises.

During the Tutorial and Lab sessions, students will have the opportunity to practice, apply, and present what they have learned. They will also be able to share their ideas and experience, as well as learn from each other through various course activities.

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. Continuous assessment | 55 | √ | √ | √ | √ | √ | |
| 2. Exam | 45 | √ | √ | √ | √ | | |
| | | | | | | | |
| Total | 100 % | | | | | | |

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

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| | <p>The course will be assessed by class participation, quiz tests, Lab exercises and project.</p> <p>Class and Lab participation pool ideas and experiences from group, and allows everyone to participate in an interactive process. Quiz tests give students chances to reflect on learning and experience. Projects are used to develop students' analytic, problem solving and reporting skills.</p> | |
| Student Study Effort Expected | Class contact: | |
| | <ul style="list-style-type: none"> ▪ Lecture | 39 Hrs. |
| | <ul style="list-style-type: none"> ▪ Tutorial/Lab | 0 Hrs. |
| | Other student study effort: | |
| | <ul style="list-style-type: none"> ▪ Self learning | 41 Hrs. |
| | <ul style="list-style-type: none"> ▪ Project(s) | 25 Hrs. |
| | Total student study effort | 105 Hrs. |
| Reading List and References | <p>Textbooks:</p> <ol style="list-style-type: none"> 1. R. K. Bali, N. Wickramasinghe, and B. Lehaney. Knowledge Management Primer. Routledge, 2009. 2. E. Turban, J. E. Aronson, T. P. Liang, and R. Sharda, Decision Support Systems and Intelligent Systems, 9th Edition, Prentice Hall, 2010. 3. D. Hislop. Knowledge Management in Organizations: A Critical Introduction. Oxford University Press, 2009. 4. A. Zilli, E. Damiani, P. Ceravolo. Semantic Knowledge Management: An Ontology-Based Framework. Information Science Reference, 2009. 5. Articles on knowledge, information, and decision support systems. | |