

## Subject Description Form

<b>Subject Code</b>	COMP443
<b>Subject Title</b>	Knowledge and Information Management
<b>Credit Value</b>	3
<b>Level</b>	4
<b>Pre-requisite / Co-requisite/ Exclusion</b>	Nil
<b>Objectives</b>	<p>This subject provides students knowledge on:</p> <ul style="list-style-type: none"> <li>• acquisition, representation and processing of knowledge and information;</li> <li>• concepts and applications of knowledge and information management;</li> <li>• a class of knowledge-based systems that support decision-making activities.</li> </ul>
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <p><i>Professional/academic knowledge and skills</i></p> <p>(a) learn fundamental knowledge and concepts in the acquisition, representation, processing of knowledge and information;</p> <p>(b) relate knowledge and information management to support decision making;</p> <p>(c) develop and apply the skills in real-life organizational problem solving with core methods, techniques, and tools of IT-enabled knowledge and information systems;</p> <p><i>Attributes for all-roundedness</i></p> <p>(d) develop critical thinking and analytical skills using systematic approaches;</p> <p>(e) demonstrate the skills in conducting team works.</p> <p><b>Alignment of Programme Outcomes:</b></p> <p>This subject contributes to corresponding programme outcomes by facilitating students to</p> <p>Programme Outcome 1: practice communication skills in case discussions and writing skills in project documentation;</p> <p>Programme Outcome 2: identify global organizations' best practice in knowledge and information management.</p> <p>Programme Outcome 4: develop critical thinking through tutorials, lab exercises,</p>

	<p>assignments and projects that involve solving problems.</p> <p>Programme Outcome 6: understand advancements in knowledge and information systems and their impact in organizations and industry.</p> <p>Programme Outcome 7: develop team spirit through group-based projects and discussions.</p> <p>Programme Outcome 8c: undertake a professional application of knowledge and information tools in order to effect improvements in organizational problem contexts.</p>							
<p><b>Subject Synopsis/ Indicative Syllabus</b></p>	<table border="1"> <thead> <tr> <th data-bbox="462 495 1451 533" style="text-align: center;"><b>Topic</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="462 533 1451 779"> <p><b>1. Introduction to knowledge and information management</b> 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.</p> </td> </tr> <tr> <td data-bbox="462 779 1451 957"> <p><b>2. Knowledge and information management approaches</b> Schools of knowledge management: economic school, organizational school, strategic school; barrier to knowledge management; impact of culture and technology.</p> </td> </tr> <tr> <td data-bbox="462 957 1451 1171"> <p><b>3. Knowledge and information acquisition and representation</b> 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.</p> </td> </tr> <tr> <td data-bbox="462 1171 1451 1350"> <p><b>5. Knowledge and information processing</b> Information storage, retrieval and use; knowledge storage, retrieval and use, e.g. production systems, expert systems, inference engines; knowledge transfer and exchange.</p> </td> </tr> <tr> <td data-bbox="462 1350 1451 1596"> <p><b>4. Knowledge-based decision support systems</b> 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.</p> </td> </tr> <tr> <td data-bbox="462 1596 1451 1810"> <p><b>6. Knowledge management and applications</b> 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.</p> </td> </tr> </tbody> </table> <p><b>Laboratory Experiment and Case Study:</b></p> <p>Acquisition, representation, and processing of knowledge and information in case studies of real-life systems; use of tools such as Clementine.</p>	<b>Topic</b>	<p><b>1. Introduction to knowledge and information management</b> 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.</p>	<p><b>2. Knowledge and information management approaches</b> Schools of knowledge management: economic school, organizational school, strategic school; barrier to knowledge management; impact of culture and technology.</p>	<p><b>3. Knowledge and information acquisition and representation</b> 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.</p>	<p><b>5. Knowledge and information processing</b> Information storage, retrieval and use; knowledge storage, retrieval and use, e.g. production systems, expert systems, inference engines; knowledge transfer and exchange.</p>	<p><b>4. Knowledge-based decision support systems</b> 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.</p>	<p><b>6. Knowledge management and applications</b> 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.</p>
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<b>Teaching/Learning Methodology</b>	This subject integrates lectures, seminars, tutorials, lab exercises, discussions, and projects, and assignments together. Students learn through listening, observation, and participation.																																																																	
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<b>Reading List and References</b>	<p data-bbox="462 1396 690 1438"><b>Reference Books:</b></p> <ol data-bbox="462 1459 1489 1837" style="list-style-type: none"> <li data-bbox="462 1459 1489 1543">1. R. K. Bali, N. Wickramasinghe, and B. Lehaney. Knowledge Management Primer. Routledge, 2009.</li> <li data-bbox="462 1543 1489 1627">2. E. Turban, J. E. Aronson, T. P. Liang, and R. Sharda, Decision Support Systems and Intelligent Systems, 9th Edition, Prentice Hall, 2010.</li> <li data-bbox="462 1627 1489 1711">3. D. Hislop. Knowledge Management in Organizations: A Critical Introduction. Oxford University Press, 2009.</li> <li data-bbox="462 1711 1489 1795">4. A. Zilli, E. Damiani, P. Ceravolo. Semantic Knowledge Management: An Ontology-Based Framework. Information Science Reference, 2009.</li> <li data-bbox="462 1795 1489 1837">5. Articles on knowledge, information, and decision support systems.</li> </ol>																																																																	