



## SBM1103 Project and Program Information & Communication Systems

<i>UOS CODE</i> SBM1103	<i>UOS NAME</i> Project and Program Information & Communication Systems		<i>CREDIT POINTS</i> 6	<i>STATUS</i> Secondary Core
<i>SUMMARY</i>	<p>Information and communication technologies (ICT) play a key role in successful development, staging and ongoing management of projects and programs. Thus, all project and program managers and directors as well as experts participating in projects and programs need to be thoroughly versed in effective utilisation of ICT. Nowadays there are multiple choices of information and communication systems, ranging from fairly simple technologies such as email to more advanced systems offering a multitude of channels of communications as well as decision analysis and optimisation.</p> <p>The thrust of this unit is to develop competencies in the design of appropriate information technology infrastructures for projects and programs in order to facilitate real time communication and collaboration as well as effective virtual teamwork. More specifically the objectives are:</p> <ul style="list-style-type: none"> <li>• To develop an understanding of the role that effective and efficient information and communication management systems will play in management of projects and programs.</li> <li>• To understand different systems for collaborative and integrated communication systems and current uses of information technology in achieving greater efficiency and lowering costs.</li> <li>• To develop the ability to formulate information management systems and infrastructure for planning and implementation of projects, covering both decision making and communication functions.</li> </ul> <p>Information and communication management systems that will be studied are as follows:</p> <ol style="list-style-type: none"> <li>1. Email, fax, phone and SMS that need no or simple adaptation on any project and program</li> <li>2. Stand alone project control software, such as scheduling, cost estimating software</li> <li>3. Web-based project/program information and document sharing and communication tools</li> <li>4. Web-enabled information evaluation and decision support tools</li> <li>5. Voice, still pictures and video streaming over the Internet</li> <li>6. CAD and design software</li> <li>7. Visualisation and multi-media communication tools</li> <li>8. Simulation technologies</li> <li>9. System dynamics and other specific technologies</li> </ol> <p>As seen, the array of technologies available is too wide. Professionals in charge of projects and programs need to select and optimise the most appropriate ICT strategies and ensure that these will work to engender teamwork and collaboration, act as quality tools, maintain information and documentation records, protect against potential unauthorised access and so on. The optimality of the choice and actual design of ICT infrastructure must be systematic and based on the business value rather than sophistication of the relevant technologies. This unit of study will focus on the underpinning principles, framework for analysis of the available options, selection and installation of the relevant systems as well as training and induction of the staff interacting with the system on a frequent basis.</p>			
<i>COURSE CONVENOR</i> <i>COURSE TUTOR</i>	Professor A Jaafari, ME, MSc, PhD, FIEAust, CPEng TBA			
<i>ASSUMED KNOWLEDGE</i>	Recommended SBM1101 and SBM1102			
<i>APPROXIMATE WORKLOAD</i>	<b>Lectures &amp; Workshops</b>	<b>Team Work</b>	<b>Personal Work</b>	<b>Readings</b>
	30 hours	>30 hours	>50 hours	>30 hours
<i>PRE-REQUISITE</i> <i>(course name)</i>	Recommended SBM11001 & SBM1102			



<p><b>OBJECTIVES</b></p>	<p>Upon completion of the course, the student should demonstrate:</p> <ul style="list-style-type: none"> <li>• Sound knowledge of the available technologies and ICT solutions typically applicable to projects and programs</li> <li>• Competency in assessment of information and communication needs and requirements in each phase of projects/programs</li> <li>• Competency for data capture and standardization, over project/program life cycle</li> <li>• Competency in document standardisation, sharing and archiving processes</li> <li>• Know how to conduct cost benefit analysis of the ICT systems and selection of an appropriate system for each case project/program</li> <li>• Competency in projects re-engineering, benchmarks and testing</li> <li>• Competency in risk analysis; management roles and technology interfaces</li> <li>• Know how to set up effective computer-based teamwork and collaborative framework, particularly during design and planning processes where computer-based modelling may play a vital role in the project solution optimisation</li> <li>• Competency in developing staff and team skills in the effective utilisation of ICT systems to achieve order of magnitude performance improvements on projects/programs</li> </ul>
<p><b>TARGET COMPETENCIES (Project and Program Management))</b></p>	<p><b>Information &amp; communication needs</b></p> <ul style="list-style-type: none"> <li>• Ability to conduct systematic investigation of information, communication and documentation needs on projects and programs with particular emphasis on achievement of quality and attainment of strategic goals</li> <li>• Competency to standardise data and documentation formats, mode of information generation, updating, recording and archiving</li> <li>• Ability to validate if the information needs and requirements of project/program have been correctly determined as well as obtaining agreement on selected format and protocols for data standardisation and reporting through consultation with the client and other stakeholders</li> <li>• Ability to generate potential information and communication technologies (ICT) and paper-based solutions and narrow these down to a shortlist of promising solutions</li> </ul> <p><b>Acquisition of information &amp; communication systems</b></p> <ul style="list-style-type: none"> <li>• Ability to undertake systematic assessment of shortlisted solutions, including cost-benefit analysis, or other appropriate appraisal techniques to locate the optimum solution</li> <li>• Competency in preparing simplified diagrams and users' specifications for system acquisition</li> <li>• Know how to acquire the selected systems, test and operationalise the same</li> <li>• Ability to define KPIs for on-going evaluation, adjustment and improvement of selected ICT systems</li> </ul> <p><b>Effective utilisation &amp; on-going improvement</b></p> <ul style="list-style-type: none"> <li>• Know how to develop and widely distribute appropriate protocols for users and institute training and ensure proper induction of new staff</li> <li>• Know how to ensure systems are aligned with all other functions such as scope management, time management, cost and risk management, quality management, progress monitoring and so on.</li> <li>• Know how to facilitate system utilisation via help desk function or through other assistance</li> <li>• Competency in undertaking continuous evaluation, alignment and performance improvement of the ICT systems</li> </ul>
<p><b>TARGET COMPETENCIES (Personal and Socio-cultural)</b></p>	<ul style="list-style-type: none"> <li>• Generic: All competencies that are common to all professionals (including cognitive and communication abilities, problem solving and analytical mindset)</li> <li>• Leadership: Ability to direct, motivate &amp; manage individuals &amp; teams.</li> <li>• Commitment: Ability to dedicate to tasks &amp; to project outcomes.</li> <li>• Attitude: Ability to create the right frame of mind that promotes integrity &amp; support for achievement of project goals within a social context.</li> <li>• Self Direction: Ability to manage within and without guidelines &amp; processes, and to work without supervision.</li> </ul>



	<ul style="list-style-type: none"> <li>• Learning: Ability to commit to continuous improvement in knowledge, skills &amp; attitude, &amp; to creating new knowledge developing skills &amp; approaches.</li> <li>• Cultural Empathy: Ability to respect for &amp; accommodation of individual lifestyle, beliefs &amp; norms.</li> <li>• Creativity &amp; Innovation: Capacity to generate new ideas/approaches &amp; make them happen.</li> </ul>	
<b>MODES OF DELIVERY</b>	<ul style="list-style-type: none"> <li>• Upfront intensive workshop (4 days)</li> <li>• Project and team based flexible work facilitated via the Internet (over 10 weeks)</li> <li>• Face-to-face formal assessment (one week)</li> </ul>	
<b>ASSESSMENT</b>	<ol style="list-style-type: none"> <li>1. Formal knowledge test</li> <li>2. Team project submissions (formatted as per specification for the same)</li> <li>3. Formal unit of study competency assessment</li> <li>4. Formal Leadership &amp; Socio-cultural competency assessment</li> </ol>	
	<b>PRESCRIBED FOR THE COURSE</b>	<b>SELECTED REFERENCES</b>
<b>PRINTED MATERIALS</b>	<p>Learning material (lecture notes, slides, case study and other material provided online).</p> <p>Case project (students' own case project subject to endorsement)</p> <p>Brief for team projects</p> <p>PMI, <b>A Guide to Project Management Body of Knowledge</b> (Latest edition)</p> <p>National Competency Standards in Project Management (obtained from the Australian Institute of Project Management).</p> <p>IPMA, <b>International Competence Base (ICB)</b>.</p> <p>P2M, <b>Project and Program Management for Enterprise Innovation</b>, PMCC, Japan</p> <p>Other learning materials and resources</p>	<p>Gray and Larson (2000). <i>Project Management: A Managerial Approach</i>, McGraw Hill.</p> <p>Turner, R J. <b>Handbook of Project-based Management</b>, McGraw Hill.</p> <p>Lewis, J P (1995). <b>The Project Manager's Desk Reference</b>. McGraw-Hill, 1995 (ISBN: 1-55738461-4)</p> <p>Dinsmore, P C (1993). <b>The AMP Handbook of Project Management</b>. American Management Association, 1993 (ISBN: 0-8144-0106-6)</p>
<b>WEB SITES</b>	TBA	<p><b>Online useful sources of references are:</b></p> <p>Students are expected to conduct own search and locate useful web sites. The following are just a sample of such sites:</p> <p><a href="http://members.aol.com/AllenWeb">http://members.aol.com/AllenWeb</a></p> <p><a href="http://www.usaid.gov/ausguide/ausguidelines/index.cfm">http://www.usaid.gov/ausguide/ausguidelines/index.cfm</a></p> <p><a href="http://www.au.af.mil/au/awc/awcgate/awc-sp.htm#gen">http://www.au.af.mil/au/awc/awcgate/awc-sp.htm#gen</a></p> <p><a href="http://www.gannettfleming.com/damproject/01_home.htm">http://www.gannettfleming.com/damproject/01_home.htm</a></p> <p><a href="http://www.projectmanagement.tas.gov/index.htm">http://www.projectmanagement.tas.gov/index.htm</a></p> <p><a href="http://www.un.org/esa/sustdev/agenda21.htm">http://www.un.org/esa/sustdev/agenda21.htm</a></p> <p><a href="http://www.adb.org/Projects">http://www.adb.org/Projects</a></p>
<b>Software</b>	TBA	
<b>COURSE CONTENTS</b>	<p><b>Intensive Phase</b></p> <p><b>Day 1: Information and communications needs and options</b></p> <ul style="list-style-type: none"> <li>• Introduction to course aims, objectives, target competencies, learning strategies, resources available, timetable and deliverables, assessment methods and related briefings</li> </ul>	



	<ul style="list-style-type: none"> <li>Briefing on how to conduct the entire unit of study</li> <li>Lecture: Project/program information and communication needs over project/program life cycle phases</li> <li>Tutorial on information and communication needs</li> <li>Lecture: Data and document standardisation through protocols and ICT media</li> <li>Lecture: Building consensus on information and communication needs, formats, frequency, mode and responsibility</li> <li>Lecture: Developing options and narrowing the list down to the promising options from typical solutions</li> <li>Tutorial and class discussion</li> </ul> <p><b>Day 2: Acquisition of information and communication systems</b></p> <ul style="list-style-type: none"> <li>Lecture: Evaluation (e.g. cost-benefit analysis) and selection of the optimum solution</li> <li>Lecture: Development of system diagrams and specifications plus other essential information for system acquisition and utilisation purposes</li> <li>Lecture: Pitfalls associated with ICT systems acquisition and installation</li> <li>Tutorial and class discussion on system acquisition and utilisation</li> </ul> <p><b>Day 3: Effective utilisation and on-going improvement</b></p> <ul style="list-style-type: none"> <li>Lecture: Information and communication management processes, protocols and users training, relationship to quality management processes and systems</li> <li>Lecture: Training and induction, with particular emphasis on promoting information sharing, timely communication and effective decision making</li> <li>Lecture: Ongoing ICT system evaluation and improvement using appropriate KPIs</li> <li>Tutorial and class discussion of information and communication system utilisation</li> </ul> <p><b>Day 4: Reinforcing learning outcomes, knowledge tests and feedback</b></p> <ul style="list-style-type: none"> <li>Assessing current competencies in project/program information and communication systems</li> <li>Sample test conducted, assessed and discussed</li> <li>Reinforcing learning outcomes and application of the same to forthcoming team project</li> <li>Conduct of written test on fundamentals of project/program information and communication systems</li> <li>Students' feedback on the intensive phase</li> </ul>															
	<p><b>Teamwork phase</b></p> <p>A structured learning program will be applied; in summary form it will comprise:</p> <ul style="list-style-type: none"> <li>An overall process for studying project/program information &amp; communication systems in each phase to apply to a real life case project as advised in the unit's web site;</li> <li>A program of the learning activities which are part of student's Team Workplan and individual competency acquisition needs which each student need to plan to conduct flexibly within the unit of study timeline as advised in the unit's web site (detailed schedules are to be developed and submitted as part of the Team Work/QA Plan)</li> <li>The assignment Brief which is available as a downloadable file.</li> </ul> <p>The Learning activities are designed for each team to develop and evaluate a complete project/program information &amp; communication system plan* for their case project via the following activities:</p> <table border="1" data-bbox="453 1727 1374 2027"> <tr> <td colspan="5" data-bbox="453 1727 1374 1809">Assessment of learning styles and team roles, and balancing of team development of self management and socio-cultural/teamwork competencies</td> </tr> <tr> <td data-bbox="453 1809 612 1944">Team Formation, Case Project selection and team QA/Workplan</td> <td data-bbox="612 1809 794 1944"><b>Activity 1</b> Best Practice Models vs. Case Project Requirements</td> <td data-bbox="794 1809 991 1944"><b>Activity 2</b> Initiation Plan for Project/Program Communication and Information Systems</td> <td data-bbox="991 1809 1187 1944"><b>Activity 3</b> Detailed Plan for Project/Program Communication and Information Systems</td> <td data-bbox="1187 1809 1374 1944"><b>Activity 4</b> Evaluation, Formatting and Presentation of Project Report</td> </tr> <tr> <td data-bbox="453 1944 612 2027">Case Project Summary, QA/Workplan</td> <td data-bbox="612 1944 794 2027">Submit Assignment 1</td> <td data-bbox="794 1944 991 2027">Submit Assignment 2</td> <td data-bbox="991 1944 1187 2027">Submit Assignment 3</td> <td data-bbox="1187 1944 1374 2027">Submit Assignment 4</td> </tr> </table> <p>Continuous reflection, self and peer assessment and competency acquisition. Final Individual Report and Viva to validate competencies acquired versus target competencies</p>	Assessment of learning styles and team roles, and balancing of team development of self management and socio-cultural/teamwork competencies					Team Formation, Case Project selection and team QA/Workplan	<b>Activity 1</b> Best Practice Models vs. Case Project Requirements	<b>Activity 2</b> Initiation Plan for Project/Program Communication and Information Systems	<b>Activity 3</b> Detailed Plan for Project/Program Communication and Information Systems	<b>Activity 4</b> Evaluation, Formatting and Presentation of Project Report	Case Project Summary, QA/Workplan	Submit Assignment 1	Submit Assignment 2	Submit Assignment 3	Submit Assignment 4
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	<p>*. The ICT Systems Plan need to cover all project phases from strategic through to completion and close out. It is essential that there is a systematic evaluation and adjustment of the final ICT Systems Plan before submission to ensure relevance, efficiency and effectiveness vis-à-vis each phase.</p>
<p><b>COMPETENCY VALIDATION (via evidence and professional interview)</b></p>	<p><b>Final Report &amp; assessment</b></p> <p>Each student must plan to progressively acquire, develop and document target managerial and leadership/socio-cultural competencies. The protocols on the web site for this purpose need to be followed carefully to prepare the required evidence of competency acquisition. The evidence for this unit to comprise a final report in two parts to validate individually the following: Specified target competencies and Leadership and Socio-cultural competencies. These will be assessed separately and both need to show the student's development history using the student's L&amp;D plan as the basis.</p>