# Subject Description Form

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| **Subject Code** | COMP4123 |
| **Subject Title** | Business Process and Workflow Management |
| **Credit Value** | 3 |
| **Level** | 4 |
| **Pre-requisite / Co-requisite / Exclusion** | |
| **Objectives** | The objectives of this subject are to:<br>1. present a process-oriented view to business modelling and the application of workflow technologies to business process engineering; and<br>2. equip students with the fundamental knowledge of workflow management systems. |
| **Intended Learning Outcomes** | Upon completion of the subject, students will be able to:<br>*Professional/academic knowledge and skills*<br>(a) understand the role of business processes in modern enterprises;<br>(b) understand the basic steps in business process engineering/re-engineering;<br>(c) understand the application of workflow technologies to process modelling and implementation;<br>(d) understand the building blocks of a workflow management system;<br>(e) understand the existing industrial workflow standards;<br>(f) apply workflow technologies to solve business problems;<br>*Attributes for all-roundedness*<br>(g) improve presentation and communication skills (through case study presentations); and<br>(h) learn independently and to find/integrate information from different sources required in solving real-life problems. |

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<td>Subject Synopsis/ Indicative Syllabus</td>
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<tr><th>Topic</th></tr>
<tr><td>1. Introduction to Business Process<br><br>Modern business environment; process-oriented view to organisations; examples of business processes.</td></tr>
<tr><td>2. Business Process Engineering<br><br>Process analysis; process re-engineering; business engineering and workflow.</td></tr>
<tr><td>3. Fundamental Concepts of Workflow<br><br>Major components of a workflow management system; Buildtime metamodel: process data, activities, control flow, data flow; Runtime system structure; workflows and objects.</td></tr>
<tr><td>4. Advanced Functions of Workflow<br><br>Events; dynamic modification of workflows; advanced join conditions; container materialisation; context management; performance spheres; compile spheres; transactions.</td></tr>
<tr><td>5. Workflow Systems Architecture<br><br>Application structure; middleware; Internet and mobile workflow; emergent technologies.</td></tr>
<tr><td>6. Workflow Standards<br><br>OMG’s Workflow Management Facility; Workflow Management Coalition standards.</td></tr>
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Case Study:<br><br>Presentations will be held during the seminars, where the students will form groups to read and present real-life cases related to the subject's topics.
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<td>Teaching/ Learning Methodology</td>
<td>Lectures focus on the introduction and explanation of key concepts.<br><br>Seminars provide students with the opportunity to deepen their understanding of the concepts taught in lectures and to apply the theories to the analysis of real-life issues.</td>
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**Assessment Methods in Alignment with Intended Learning Outcomes**

| Specific assessment methods/tasks | % weighting | Intended subject learning outcomes to be assessed | | | | | | | |
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| | | a | b | c | d | e | f | g | h |
| **Continuous Assessment** | | | | | | | | | |
| 1. Assignments | **55%** | ✓ | | | ✓ | | | | |
| 2. Project | | ✓ | | | ✓ | ✓ | | ✓ | |
| 3. Mid-Term | | ✓ | | | ✓ | | | | |
| **Examination** | **45%** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Total | 100% | | | | | | | | |

The course will be expected to be accessed using both examination and coursework including assignments, project and mid-term examination.

Assignments, project and mid-term examination can be acted as a measure on the understandings of the students on the basic concepts of the business process and building blocks of a workflow management system.

In addition, project can be used to measure the understandings of the students about the current industrial workflow standards. The students could further improve their presentation and communication skills through the project presentation.

Examination can be used as an overall measure of the understandings of the students on the workflow concepts, technologies and understand the existing standards which discussed in the lectures.

**Student Study Effort Expected**

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| Class contact: | |
| ▪ Lecture | 39 Hrs. |
| ▪ Tutorial | 0 Hrs. |
| Other student study effort: | |
| ▪ Reading and Self-Learning | 66 Hrs. |
| Total student study effort | 105 Hrs. |

**Reading List and References**

**Reference Books:**


1. Jeston, John, *Business Process Management: Practical Guidelines to Successful Implementations*, 4th Edition, Routledge, 2018.
2. Weskem, M., *Business Process Management Concepts, Languages, Architectures*, Springer, 2007.
3. Chang, J. F., *Business Process Management Systems: Strategy and Implementation*, Boca Raton, FL: Auerbach Publications, 2006.

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| | 4. van der Aalst, W. and van Hee, K., *Workflow Management: Models, Methods, and Systems*, The MIT Press, Paperback Edition, 2004.<br><br>5. Ficher, L. (ed.), *Workflow Handbook 2004*, Future Strategies Inc., 2004.<br><br>6. Leymann, F. and Roller, D., *Production Workflow: Concepts and Techniques*, Prentice-Hall, 2000.<br><br>7. Schael, T., *Workflow Management Systems for Process Organisations*, Springer, 1998.<br><br>8. Articles from journals, magazines, and conference proceedings, including Emerald Business Process Management Journal, ACM TOCS, ACM TODS, IEEE TKDE, IEEE TSE, IEEE TOC, CACM, IEEE Computer, ICDE, CIKM. |