

## Subject Description Form

<b>Subject Code</b>	MM1041
<b>Subject Title</b>	Introduction to Artificial Intelligence and Data Analytics in Business
<b>Credit Value</b>	2
<b>Level</b>	1
<b>Pre-requisite/ Co-requisite/ Exclusion</b>	Exclusion: LGT1041 Introduction to Artificial Intelligence and Data Analytics in Business
<b>Objectives</b>	The objective of this subject is to provide students with an overview of artificial intelligence and data analytics (AIDA) and their latest business applications. This subject seeks to help students develop data thinking and analytical skills for transforming data into insights for better decision making. In addition to theoretical knowledge of AIDA, students can gain hands-on experience with Python programming. Knowledge and skills acquired through this subject can be extended to other subjects related to AIDA and Python programming.
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> <li>a. Demonstrate an understanding of the foundational concepts of Artificial Intelligence and Data Analytics (AIDA).</li> <li>b. Acquire basic skills in using AIDA technologies and applications.</li> <li>c. Articulate examples of how the adoption AIDA could enhance business discipline.</li> <li>d. Demonstrate an awareness of global contemporary ethical issues and impact from AIDA applications in daily life.</li> <li>e. Acquire fundamental Python programming skills.</li> </ol>
<b>Subject Synopsis/ Indicative Syllabus</b>	<p><b>Artificial Intelligence (AI)</b> Basic concepts of AI. A brief history of AI. AI and machine learning, robotics, and natural processing language. AI applications in marketing, banking, e-commerce, education and other industries. Future of AI. Ethical issues of AI.</p> <p><b>Big Data, Cloud Computing and Data Analytics Tools</b> Overview of big data, cloud computing and data analytics tools for structured and unstructured data. Business applications of data analytics tools.</p> <p><b>Python Programming</b> Fundamental programming concepts. Variables, expressions, statements, and arithmetic operations. Conditional statements (if, then, else). Iterations (while loop and for loop). Strings and lists.</p>
<b>Teaching/Learning Methodology</b>	<p>The course will implement a variety of methods as its pedagogy to help students achieve the above learning outcomes.</p> <ul style="list-style-type: none"> <li>• The first two weeks are assigned to an online module to cover materials related to AIDA (a 3-hour online module developed by Department of Computing and online exercises).</li> <li>• After the first two weeks, the course is delivered in the format of 1-hour of lecture and 1-hour of tutorial per week.</li> <li>• Lectures are designed to illustrate key concepts and application cases relevant to Python and AIDA in business contexts. Guest lectures might be arranged.</li> </ul>

	<ul style="list-style-type: none"> <li>• Tutorials provide a student-centered environment to facilitate interactive learning. There are two types of tutorials. <ul style="list-style-type: none"> <li>○ Exercises, cases, and projects are provided for students to practice, discuss, and apply AIDA knowledge to solve business problems both individually and collaboratively.</li> <li>○ Lab sessions are provided for students to gain hands-on experience with Python programming.</li> </ul> </li> </ul>																																																			
<p><b>Assessment Methods in Alignment with Intended Learning Outcomes</b></p>	<table border="1" data-bbox="506 401 1395 938"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="5">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> </tr> </thead> <tbody> <tr> <td>1. Participation</td> <td>15%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>2. Individual Assignment</td> <td>15%</td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>3. Group Assignment</td> <td>30%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> </tr> <tr> <td>4. Exam</td> <td>40%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Total</td> <td>100 %</td> <td colspan="5"></td> </tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>To reflect the significant technology content in this subject, 10% (or more) of the overall weighting of this subject is based on individual assessment concerning technology-related knowledge.</p> <p>To pass this subject, students are required to obtain Grade D or above in the overall subject grade.</p> <p>Participation assesses students' online module participation, lecture participation (e.g., MCQs) and tutorial participation.</p> <p>Individual assignment assesses students' Python programming skills.</p> <p>Group assignment evaluates students' co-operation in applying AIDA concepts in business situations.</p> <p>Exam measures students' overall understanding of AIDA and Python knowledge covered in this course.</p>					Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					a	b	c	d	e	1. Participation	15%	✓	✓	✓	✓	✓	2. Individual Assignment	15%					✓	3. Group Assignment	30%	✓	✓	✓	✓		4. Exam	40%	✓	✓	✓	✓	✓	Total	100 %					
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<p><b>Reading List and References</b></p>	<ol style="list-style-type: none"> <li>1. Camm J.D., Cochran, J.J., Fry, M.J., Ohlmann, J.W., Anderson, D.R., Sweeney, D.J. and Williams, T.A. (2019). <i>Business Analytics (3<sup>rd</sup> Edition)</i>. Cengage Learning.</li> <li>2. Davenport, T.H., Brynjolfsson, E., McAfee, A., &amp; Wilson, H.J. (2019). <i>Artificial Intelligence: The Insights You Need from Harvard Business Review</i>. Harvard Business Press.</li> <li>3. Haenlein, M., &amp; Kaplan, A. (2019). A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence. <i>California Management Review</i>, 61(4), 5-14.</li> <li>4. Kaplan, J. (2016). <i>Artificial Intelligence (What Everyone Needs to Know)</i>. Oxford University Press.</li> <li>5. Panda, S. (2022). <i>Artificial Intelligence and Machine Learning in Business Management: Concepts, Challenges, and Case Studies (First Edition)</i>. CRC Press.</li> <li>6. Rose, D. (2020). <i>Artificial Intelligence for Business (2<sup>nd</sup> Edition)</i>. Pearson FT Press.</li> <li>7. Severance, C.R. (2016). <i>Python for Everybody: Exploring Data in Python 3</i>. CreateSpace Independent Publishing Platform.</li> <li>8. Yao, M., Jia, M., Zhou, A., &amp; Zhang, N. (2018). <i>Applied artificial intelligence: A handbook for business leaders</i>. TOPBOTS.</li> </ol>
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August 2022