

<b>Subject Code</b>	MM5426
<b>Subject Title</b>	Business Applications of Blockchain
<b>Credit Value</b>	3
<b>Level</b>	5
<b>Pre-requisite/ Co-requisite/ Exclusion</b>	None
<b>Objectives</b>	<p>The goal of this course is to offer students a solid foundation covering major problems, challenges, concepts, and techniques in blockchain technology and business applications. This Course will help students get to know the concepts of blockchain, understand how blockchain will become the foundation of the digital economy, and become capable of writing business plans in blockchain projects. This course will <i>not</i> require students to code lengthy programs except for short business logics in the form of smart contracts.</p> <p>This subject contributes to the achievement of the MSc BA Programme Outcome 2 (Demonstrate the ability to think critically and creatively within the domain of business analytics and be proficient in analytics tools, such as data mining techniques as provided in SAS and IBM SPSS modeler).</p>
<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. Understand the fundamental concepts in blockchain and its applications such as cryptocurrency and consensus algorithms, and be able to read and argue about blockchain issues in a professional setting.</li> <li>b. Appreciate the role and use of blockchain in organizations and institutions, and the typical benefits to obtain and common challenges to overcome.</li> <li>c. Know the core concepts, methods, techniques, and tools for development of blockchain solutions for various business contexts such as finance, healthcare, and manufacturing.</li> <li>d. Understand key existing blockchain platforms.</li> <li>e. Critically evaluate current trends in blockchain technology and their manifestation in business of various industrial sectors.</li> </ol>
<b>Subject Synopsis/ Indicative Syllabus</b>	<ol style="list-style-type: none"> <li>1. Blockchain Overview and Use Cases</li> <li>2. Consensus Mechanisms &amp; Smart Contract Processing</li> <li>3. Blockchain and Fintech</li> <li>4. Blockchain in Healthcare and Other Fields</li> <li>5. Blockchain Application Design and Deployment</li> <li>6. Blockchain as a Service</li> <li>7. Blockchain Architecture and Platforms</li> <li>8. Blockchain Best Practices</li> <li>9. Future Trends of Blockchain</li> </ol>

<b>Teaching/Learning Methodology</b>	<p>This course is project-based. Students will be able to work as in groups to design high-level prototypes of blockchain applications by using a blockchain platform such as Ethereum. Students will also conduct their own research into the fast-evolving sector of business applications of blockchain in various fields.</p>																																																															
<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	<table border="1" data-bbox="480 445 1428 992"> <thead> <tr> <th data-bbox="480 445 783 647" rowspan="2">Specific assessment methods/tasks</th> <th data-bbox="783 445 940 647" rowspan="2">% weighting</th> <th colspan="6" data-bbox="940 445 1428 580">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th data-bbox="940 580 1019 647">a</th> <th data-bbox="1019 580 1099 647">b</th> <th data-bbox="1099 580 1179 647">c</th> <th data-bbox="1179 580 1259 647">d</th> <th data-bbox="1259 580 1339 647">e</th> <th data-bbox="1339 580 1428 647"></th> </tr> </thead> <tbody> <tr> <td data-bbox="480 647 783 719">1. Attendance</td> <td data-bbox="783 647 940 719">10%</td> <td data-bbox="940 647 1019 719">✓</td> <td data-bbox="1019 647 1099 719">✓</td> <td data-bbox="1099 647 1179 719">✓</td> <td data-bbox="1179 647 1259 719">✓</td> <td data-bbox="1259 647 1339 719">✓</td> <td data-bbox="1339 647 1428 719"></td> </tr> <tr> <td data-bbox="480 719 783 790">2. Assignments</td> <td data-bbox="783 719 940 790">20%</td> <td data-bbox="940 719 1019 790">✓</td> <td data-bbox="1019 719 1099 790">✓</td> <td data-bbox="1099 719 1179 790">✓</td> <td data-bbox="1179 719 1259 790">✓</td> <td data-bbox="1259 719 1339 790">✓</td> <td data-bbox="1339 719 1428 790"></td> </tr> <tr> <td data-bbox="480 790 783 862">3. Group Project</td> <td data-bbox="783 790 940 862">30%</td> <td data-bbox="940 790 1019 862">✓</td> <td data-bbox="1019 790 1099 862">✓</td> <td data-bbox="1099 790 1179 862">✓</td> <td data-bbox="1179 790 1259 862">✓</td> <td data-bbox="1259 790 1339 862">✓</td> <td data-bbox="1339 790 1428 862"></td> </tr> <tr> <td data-bbox="480 862 783 934">4. Final Exam</td> <td data-bbox="783 862 940 934">40%</td> <td data-bbox="940 862 1019 934">✓</td> <td data-bbox="1019 862 1099 934">✓</td> <td data-bbox="1099 862 1179 934">✓</td> <td data-bbox="1179 862 1259 934">✓</td> <td data-bbox="1259 862 1339 934">✓</td> <td data-bbox="1339 862 1428 934"></td> </tr> <tr> <td data-bbox="480 934 783 992">Total</td> <td data-bbox="783 934 940 992">100 %</td> <td colspan="6" data-bbox="940 934 1428 992"></td> </tr> </tbody> </table> <p data-bbox="480 1010 1428 1081">Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p data-bbox="480 1113 1428 1184">Individual assignments, a group project, and the final exam will provide an all-round assessment of students' learning outcomes.</p>								Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						a	b	c	d	e		1. Attendance	10%	✓	✓	✓	✓	✓		2. Assignments	20%	✓	✓	✓	✓	✓		3. Group Project	30%	✓	✓	✓	✓	✓		4. Final Exam	40%	✓	✓	✓	✓	✓		Total	100 %								
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<b>Reading List and References</b>	<p data-bbox="480 1686 1428 1758">Lecture slides, tutorial materials and other readings will be distributed throughout the semester.</p> <p data-bbox="480 1792 1428 1910"><b>Textbook:</b> <i>Mastering Blockchain: A deep dive into distributed ledgers, consensus protocols, smart contracts, DApps, cryptocurrencies, Ethereum, and more</i>, 3rd Edition, by Imran Bashir, Packt Publishing Ltd.</p> <p data-bbox="480 1951 735 1986"><b>Reference Materials:</b></p> <ul data-bbox="480 1991 1428 2063" style="list-style-type: none"> <li>• <i>Course reading materials will be augmented by articles from journals and by whitepapers and other materials.</i></li> </ul>																																																															