# In-Course Descriptions

As cybersecurity continues to develop globally, the content of this course may be subject to change.

**LW383** – *Information Technology Law*
The objective of this course is to examine how computers and information and communications technology impact on the law and its administration, and how the law itself has developed new rules to deal with issues raised by these technologies.

**MG557** - *Strategic Management*
The objective of this module is to provide exposure to the concepts, theories and techniques of strategic management in a business context and application of strategic management concepts across a wide range of business settings. Understand the design, implementation and maintenance of strategic planning systems and strategic thinking. Developing an in--depth understanding of some of the key theoretical standpoints in the literature on strategic management. Developing your ability to critically review research and journal articles Improving your writing, presentational and research skills. Promoting the development of case study-based analysis through the application of seminal strategic management frameworks and theories.

**MS803** - *Business Data Communications*
The objective of this course is to develop in students an understanding of the fundamentals of modern data communication technologies and to combine them with applications and practices related to a business environment. Topics may include: network concepts; transmission media; OSI and TCP/IP; LAN technologies; network and Internet connectivity; Internet communication model and application layer services; hosting solutions; IP addresses and domain name system; network security technologies – problems and solutions.

**MS804** – *Systems Development and Project Management*
The objective of this course is to develop in students an understanding of the fundamentals of project management within the context of information systems development. Topics include the systems development life cycle, project integration, requirements analysis and scope management, time management, cost management, risk management, communications management etc. In addition, different IS development methods will be covered (Waterfall, SDLC, RAD, and Agile methods) as well as business process modelling techniques (e.g. DFDs).

**MS805** - *Database Systems*
The objective of this module is to provide students with an understanding of business and technical issues in the development of database systems. Topics may include: database management systems; data modelling techniques e.g. normalisation, entity-relationship modelling, class diagrams; logical and physical database design; data quality and integrity; data definition; Structured Query Language (SQL); transaction management; distributed databases; emerging topics and issues.

**MS806** - *Business Applications Programming*
The objective of the course is to develop your knowledge and competence in object-oriented programming for the business environment using visual C# programming language.

**MS807** - *Information Systems Management*
The objective of this course is to develop students' understanding of how to manage an IS function within an organisation to create business value for the business. That is - how IS and IS trends are managed in organisations, the impact of IS within organisations, how to manage and fund the IS function, so that it contributes to business value, and how to manage the IT capability. Topics covered may include IS Management issues such as: IS concepts and challenges; IS Governance; IS and organizational change; the impact of IS on organizations; IS and the changing competitive environment; how IS/IT delivers new ways of doing business; outsourcing; trends in information systems; and current issues in the management of the information systems resource.

**MS5107** - *Business Modelling & Analytics*

The objective of this course is to develop students understanding of the role of business analytics in decision making and equip them with solutions used to create scenarios, understand realities, and predict future states. The course focuses on three types of business analytics: descriptive analytics used to gain insight from historical data; predictive analytics used to forecast future business performance; and prescriptive analytics used to recommend decisions using optimisation, simulation etc. Students are introduced to core concepts and technologies of business analytics, such as modelling, analysis, optimisation; data exploration and data mining; forecasting models; decision trees; neural networks; clustering techniques; etc. The course uses real business cases, to illustrate the application and interpretation of these methods. An important feature of the course is the use of MS Excel, an environment familiar to business analysts. All discussed models are provided by the Excel add-ins Analytic Solver Platform and XLMiner plus illustrative examples.

### MS5114 - Advanced Programming for Business Analytics
Understanding key computational models and concepts for business analytics is important in today's data-driven business environment. In this module, learners will be introduced to computational thinking, experimental methodologies, and empirical methods for training, validation, and testing models within an analytics context. This module will provide learners with a working knowledge of how to prepare datasets, present data visualisations, and support decision-making using data analysis programming.

### MS5118 - Cloud Computing
The objectives of this course are to develop an understanding of cloud computing in the overall strategy of businesses, and to examine the impacts of cloud computing for individuals and society. Topics may include: salient issues in cloud computing; cloud business models, management & governance; cloud service models; cloud security, privacy and identity; data storage in the cloud; mobile cloud; virtualisation; app development for the cloud; transitioning business to the cloud; impacts of cloud computing; Ethics, Responsibility and Sustainability in cloud computing; emerging topics in cloud computing.

### MS5125 – Cybersecurity Risk Management
The objective of this module is to provide the base knowledge and understanding of core Cybersecurity concepts needed for Cybersecurity risk management in organisations. The module is aligned with the curriculum of the internationally-recognised CompTIA Security+ professional certification.

### MS5xxx – Cybersecurity Risk Management 2
The objective of this module is to understand cyberhacking approaches; and to refine and apply the skills and knowledge needed to apply risk management frameworks to organisational cybersecurity scenarios and threats.

### MS5127 – Major Cybersecurity Project
This project is a capstone for the MSc degree and students will be expected to demonstrate a full depth and breadth of skills, integrating all learning across the whole programme. The project will normally be undertaken in a combination of both individual and group assignments. Projects will be based on significant topic in cybersecurity.

### MS5126 – Philosophy of Information and Information Ethics
The objective of this course is to develop in students an introductory understanding of philosophy (especially ethics) underpinning Information Systems (IS) research and practice, theory as it is developed and applied in IS, and Research Methods used in IS practice, all whilst learning how to find, read, cite and reference academic papers.

### MS5129 – Storytelling Through Data Visualisation
We live in a world increasingly dominated by data. Data are used to make important decisions, to shape business and political policy, and to understand the fundamental workings of nature. But data can be complicated, mysterious, and difficult to understand. It is more important than ever to be able to communicate data in a way that is comprehensible and memorable. This is the essence of data storytelling. Data storytelling is a skill, and the goal of this course is to help you improve this skill.

### MS5130 – Applied Analytics in Business and Society
In today's digitally enabled world, businesses are collecting more data than they know what to do with. Using the R programming language, which has become the industry standard for statistical analytics, this module will focus on turning large datasets into useful insights. The focus is applying statistical

techniques to real datasets using R, rather than the mathematical details. Students will explore the R, RStudio, and R packages; learn how to programme basic statistics; create attractive, intuitive statistical graphics; write user-defined functions; combine and reshape multiple datasets; build linear, generalised linear, and nonlinear models; assess the quality of models and variable selection; analyse univariate and multivariate time series data; and learn how to write-up data analyses.