Title	**BMAN71631** **Distributed Systems and Internet Technology**
Credit Rating	15
Level	MSc
Semester	1
Course Coordinator(s)	Dr Weigang Wang
Methods of Delivery	
Lecture Hours	33
Seminar Hours	
Private Study Hours	117
Total Study Hours	150
Pre-requisites	
Co-requisites	
Dependant Courses	
Assessment Methods and Relative Weightings	Examination (3-hour, 80%): Compulsory multi-part question (50%) plus two essay questions (50%). Calculators not permitted. Coursework (20%): A Web-based application, or, A research report on technology choices for a particular situation by comparing the attributes of each type in a critical way for a range of typical application scenarios.

Aims

The aim of this unit is to provide students with the knowledge of the principles and practices underlying the design of distributed systems. To equip students with knowledge of web architecture and development technology, and practical skills in developing interactive web applications.

Learning Outcomes

Academic knowledge:

- Understand the motivation, concepts, and challenges of distributed systems, especially Internet and the Web.

Intellectual skills:

- Understand the various architecture models and middleware of distributed systems;
- Choose a model or a middleware for a particular situation by comparing the attributes of each type in a critical way for a range of typical application scenarios.

Subject practical skills:

- Design and implement Web-based distributed applications using a middleware.

Syllabus

General concepts and technology of distributed systems:

- Motivation, characterisation, challenges, and system models of distributed systems.
- Communication subsystem (networking and inter-process communication), and distributed programming models.

- The Web (HTML, URL, HTTP, Web client-server architecture, XML, XML DTD and Schema),
- AJAX (Asynchronous JavaScript and XML) technology.
- Web 2.0 systems and their business and social practices.
- Web Service, Semantic Web, Cloud computing, Web-based groupware

Web application development technology, middleware and tools:

- Client-side technologies (HTML, CSS, GWT GUI, GWT RPC definition and invocation)
- Server side technologies (GWT-RPC services and Web services).
- Developing a Web-based application

Reading List

(B) Coulouris, G., Dollimore, J. and Kindberg, T., *Distributed Systems: Concepts and Design*, 3rd/4th edn, Addison -Wesley

(B) Governor, J., Hinchcliffe, D., Nickull, D, Web 2.0 Architectures: What entrepreneurs and information architects need to know

(B) Dewsbury, R., Google Web Toolkit Applications