INFS 7005 SMART CONSTRUCTION

Credit Points 10

Legacy Code 301189

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Description This subject introduces the evolving smart technologies applicable to construction and facilitates critical thinking in how these technologies can be gainfully applied in the construction industry. It builds up understanding of the subject content from baseline principles of management information systems moving towards evolving new technologies such as digital engineering, Building Information Modelling, Blockchain, Artificial Intelligence among others. The modern construction enterprises are critically analysed to determine the application of suitable technologies for their advancement.

School Eng, Design & Built Env

Discipline Information Systems

Student Contribution Band HECS Band 2 10cp

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate course

Assumed Knowledge

It is expected that students will have a basic understanding of construction procurement processes at undergraduate level.

Learning Outcomes

1. Analyse and review the different types and classifications of information systems, data modelling, system analysis and design and their application within the construction industry.
2. Review application of knowledge-based systems and AI in construction projects and enterprises.
3. Analyse different e-business technologies and their application in the construction industry.
4. Evaluate the use of Digital Engineering technologies such as Building Information Modelling and how it can be effectively used to manage projects.
5. Analyse and review the impact of Industry 4.0 and the need for a digital strategy for smart and modern construction enterprises.

Subject Content

1. Construction Information Systems

2. Data modelling

3. System Analysis and design

4. Building Information Modelling for Project Management

5. e-Business; Internet of Things, cloud technologies, data analytics,

6. Blockchain, Smart Contracts and other technologies

7. Artificial intelligence and knowledge management systems

8. Impact of Industry 4.0

9. Smart modern construction

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task
Two online quizzes	30 minutes x 2	35	N	Individual
Case Study and Presentation	2,000 words And 10 minutes (including 5 minutes Q&A)	25	N	Both (Individual & Group)
Report And Presentation	4,000 words And 10 minutes (including 5 minutes Q&A)	40	N	Both (Individual & Group)

Teaching Periods