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QUSU08015 2019

Digital Construction Technology

Full Title	Digital Construction Technology		
Transcript Title	Digital Construction Technolog		
Status	IB - Uploaded to Banner	Module Code	QUSU08015
NFQ Level	08	ECTS Credits	10
Subject Area	QUSU - Quantity Surveying	Attendance	75 %
Grading Mode	Numeric/Percentage	Module Duration	Stage - (30 Weeks)
Start Term	2019 - Full Academic Year 2019-20	End Term	9999 - The End of Time
Module Leader	Paul Tansey	Department	CENG - Civil Eng. and Construction
Module Co-Authors			
Gary McGinty, David Colliery			

Module Description
<p>This module will develop the student's expertise in the practical application of the taught modules on the programme. It will consist of Projects, Multidisciplinary Teamwork, digital software applications, digital workflows and digital technologies. The projects will require the student to display a professional level of skill in project management and administration pertaining to the new digitalization era.</p>

Indicative Syllabus
<p>Projects - Students will be assigned a number of projects in the course of the academic year with the objective of developing the student's expertise in the practical application of the taught modules on the programme. The projects will be of increasing complexity so that the final project will require the student to display a professional level of skill in project management and administration pertaining to digital workflows and technologies.</p> <p>Multidisciplinary Teamwork - The students will be required to participate in multi-disciplinary teams comprising of Quantity Surveying, Civil Engineering and Interior Architecture students. The project (Project Execution Plan) will employ a total problem-based learning teaching strategy in order to develop critical thinking and teamwork skills, encourage deep learning and develop report writing, presentation and interpersonal skills. Digital workflows will form the basis of the project.</p> <p>Software applications - Asta Powerproject BIM, Navisworks, Synchro Pro, ReCap, BIM 360, Estate Master.</p> <p>CPD - Methods and sources of CPD and Lifelong Learning.</p>

	Learning Outcomes <i>On completion of this module the learner will/should be able to;</i>
1.	Consolidate the skills attained in other modules of this programme and apply them to the practical aspects of Construction Project Management.
2.	Demonstrate an ability to coordinate the responsibilities of other design team professionals to bring a project to fruition in accordance with the relevant codes of practice
3.	Illustrate a capacity to communicate effectively with clients, other design team members and with contractor's personnel using innovative digital workflows.
4.	Select research information sources and apply findings as appropriate.
5.	Appraise current digital workflows and associated software and technologies.
6.	Manage deadlines and appreciate the need to work to rigid programmes and to deliver on commitments.
7.	Utilise innovative digital platforms which connect multidisciplinary project teams and data in real-time.

Teaching and Learning Strategies
<p>This module will be delivered using blended learning techniques. This will include online lectures (via adobe connect or similar), workshops and work based learning where relevant and guest lectures augmented by independent learning and directed learning. This approach is expected to address student learning needs. Moodle will be used to upload educational material (i.e. presentations and recordings of online lectures plus supplementary reading material) and as a means of assessment (e.g. quizzes, uploading assignments and journals). This blended approach (lectures and workshops) brings students together to facilitate group learning.</p>

Module Assessment Strategies
This module is 100% Continuous Assessment.

Repeat Assessment Strategies
Repeat Continuous Assessment.

Module Dependencies

Prerequisite Modules
none
Co-requisite Modules
none
Incompatible Modules
none
Programme Membership
SG_CCONS_K08 201900 Level 8 Honours Degree Add-on in Construction Project Management SG_SCONS_H08 201900 Bachelor of Science (Honours) in Construction Project Management and Applied Technology

Coursework / Continuous Assessment Breakdown

Coursework & Continuous Assessment	100 %	End of Semester / Year Formal Exam	0 %
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Coursework Assessment						
Title	Type	Form	Failed Element	Percent	Week	Outcomes Assessed
Project	Continuous Assessment	Project	No	20 %	OnGoing	1,2,3,4,5
Project	Continuous Assessment	Project	No	20 %	OnGoing	3,4,5,6,7
Group Project Multidisciplinary/PEP	Continuous Assessment	Project	No	60 %	End of Year	1,2,3,4,5,6,7

Full Time Mode Workload						
Type	Location	Description	Hours	Frequency	Avg Workload	
Practical	Computer Laboratory	Software applications & theory	4	Weekly	4.00	
Practical	Computer Laboratory	Software applications & theory	4	Weekly	4.00	
Independent Learning	UNKNOWN	self directed learning	6	Weekly	6.00	

Total Full Time Average Weekly Learner Contact Time 8.00 Hours

Part Time Mode Workload						
Type	Location	Description	Hours	Frequency	Avg Workload	
Practical	Distance Learning Suite	Software applications & theory	2	Weekly	2.00	
Practical	Distance Learning Suite	Software applications & theory	2	Weekly	2.00	
Independent Learning	UNKNOWN	self directed learning	10	Weekly	10.00	

Total Part Time Average Weekly Learner Contact Time 4.00 Hours

Module Resources

Non ISBN Literary Resources				
Tan & Hi Chen	Capture and reuse of project knowledge in construction	Wiley-Blackwell	2010	
CIOB	Code of practice for project management for construction and development	Wiley-Blackwell	2010	
Winch & Graham	Managing construction projects: an information processing approach 2 nd ed.	Wiley-Blackwell	2010	

Journal Resources
1. Construction Management and Economic 2. Journal of Construction Engineering and Management 3. Engineering, Construction and Architectural Management 4. Journal of Management in Engineering

5. Proceedings of Institution of Civil Engineers - Civil Engineering
6. International Journal of Project Management
7. Building Research & Information
8. Automation in Construction

URL Resources

<https://www.theb1m.com/>
<https://www.autodesk.com/bim-360/>
<https://connect.bim360.autodesk.com/>

Other Resources

Use of the Rack computers through 'GoToMyPc'.

Additional Information

None

Administrative Information	
Date Created	03-04-2019
Module Owner	Paul Tansey
Date School Approved	21-06-2019
Module Approver	Trevor McSharry
Date Academic Council Approved	12-07-2019