Liverpool John Moores University

Title:	GEOMATICS
Status:	Definitive
Code:	**5547BEKL** (125470)
Version Start Date:	01-08-2020
Owning School/Faculty:	Civil Engineering and Built Environment
Teaching School/Faculty:	Imperia College

Team	Leader
Fiona Borthwick	Y

Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	50
Total Learning Hours:	200	**Private Study:**	150		

Delivery Options
Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	10
Practical	20
Workshop	20

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Scenario Based	60	
Practice	AS2	Surveying Practical	40	

Aims

To introduce the principles and techniques involved in land surveying and setting out on site and demonstrate the use of Imaging and Unmanned Arial Systems for the surveying, inspection and monitoring of construction works including data output integration with digital terrain models and BIM.

Learning Outcomes

After completing the module the student should be able to:

1 Carry out practical surveys and setting out procedures using equipment including tapes, levels, total stations, GNSS receivers and imaging systems.
2 Undertake relevant surveying calculations using gathered field data.
3 Undertake setting out calculations using construction drawings.
4 Use relevant data processing, drawing and modelling software with gathered field data.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Scanario Based	2	3	4
Surveying Practical	1	2	3

Outline Syllabus

Linear measurement, units and the use of OS maps. Errors. Levelling, use of level and staff, levelling procedures and applications. Angle measurement, use of conventional and robotic total stations. Survey controller instruments, onboard software and data to pc transfer. Traverse surveying calculations. Topographic surveys. GNSS RTK, point cloud and aerial imagery data. Post-processing of total station, GNSS, Imaging and UAS output data. Topographic CAD survey and digital terrain modelling software packages. Setting out techniques and procedures for horizontal and vertical control on site. Safety and Risk Assessment in surveying operations.

Learning Activities

The module will be delivered through a mixture of lectures, workshops and practical work.

Notes

Geomatics is the collection, processing, analysis, presentation and management of spatial information which the student will have developed a knowledge and skill of during this module with a particular focus on the construction process.