



UNIVERSITI TEKNOLOGI MARA

BCT423: LAND SURVEY

Course Name (English)	LAND SURVEY APPROVED
Course Code	BCT423
MQF Credit	3
Course Description	The general aim of the course is to provide sufficient and up to date knowledge related to land surveying for construction industry. The course covers introduction to land surveying, introduction to theodolite, setting out, traverse surveying, tachometry, areas and volume and GIS, with emphasis on the technique and process of the works.
Transferable Skills	Knowledge Practical Skills
Teaching Methodologies	Lectures, Practical Classes
CLO	CLO1 Describe the principles and calculation of site surveying techniques and applications in Land Survey. CLO2 Determine the problems of site surveying data in Land Survey CLO3 Demonstrate autonomous learning in reporting and interpreting data of site surveying procedure and calculations in Land Survey
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction to Land Surveying 1.1) Introduction	
2. Linear Measurement 2.1) • Introduction to site control framework 2.2) • Instruments uses	
3. Leveling 3.1) • Introduction 3.2) • Instrumentation and setting up 3.3) • Leveling procedure	
4. Theodolite 4.1) • Introduction 4.2) • Handling of instruments 4.3) • Setting up 4.4) • Angle reading 4.5) • Trigonometric height	
5. Traverse Surveying 5.1) • Introduction 5.2) • Procedures 5.3) • Booking procedures 5.4) • Calculation 5.5) • Plotting	
6. Tachometry 6.1) • Introduction 6.2) • Procedures 6.3) • Booking procedures 6.4) • Calculation 6.5) • Plotting	

7. Area and Volume Measurement

- 7.1) • Introduction
- 7.2) • Regular and Irregular areas
- 7.3) • Volume of regular and irregular solids
- 7.4) • Curved irregular solids

8. Setting Out

- 8.1) • Introduction
- 8.2) • Process of setting out
- 8.3) • Setting out building works
- 8.4) • Setting out road works

9. Introduction to GIS and mapping

- 9.1) Introduction to GIS and mapping

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Assignment	20%	CLO2
	Quiz	Quiz	10%	CLO1
	Test	Test1	15%	CLO1
	Test	Test2	15%	CLO1
	Written Report	Levelling	10%	CLO3
	Written Report	Traverse Surveying	10%	CLO3
	Written Report	Tacheometry Surveying	10%	CLO3
	Written Report	Setting Out	10%	CLO3

Reading List	Recommended Text	<ul style="list-style-type: none"> • Jerry A. Nathanson M.S. P.E., <i>Surveying Fundamentals and Practices</i>, 7 Edition Ed. [ISBN: 978-013441443] • Barry Kavanagh (Author), Diane K. Slattery (Author), <i>Surveying with Construction Applications</i>, (8th Edition) Ed. [ISBN: 978-013276698] • D. Ian Heywood, Ian Heywood, Sarah Cornelius, Steve Carver, <i>An Introduction to Geographical Information Systems</i> [ISBN: 9780273722595]
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	