UNIVERSITI TEKNOLOGI MARA

BCM463: SITE SURVEYING II

Course Name (English)	SITE SURVEYING II APPROVED
Course Code	BCM463
MQF Credit	3
Course Description	The general aim of the course is to provide sufficient knowledge and understanding of basic principles in site surveying pertaining to building construction. The course covers the element of introduction to theodolite, setting out, traverse surveying, tachometry, areas and volumes and GIS, with emphasis on the process and techniques of the works
Transferable Skills	Site survey skill
Teaching Methodologies	Lectures, Lab Work, Field Trip, Tutorial
CLO	CLO1 Perform and record traverse surveying, tacheometry, and setting out. CLO2 Calculate data and produce traverse control plan, tacheometry plan and setting out plan CLO3 Calculate area and volume for earthworks. CLO4 Understand work associated with GIS.
Pre-Requisite Courses	No course recommendations

Topics
1. Theodolite 1.1) Introduction 1.2) Structure and its components 1.3) Handling of instruments 1.4) Setting up 1.5) Angle reading: horizontal 1.6) Angle reading: vertical 1.7) Trigonometric heighting 1.8) Instrument Errors and permanent adjustment.
2. Setting Out 2.1) Introduction 2.2) Process of setting out 2.3) Establishment and maintenance of equipment 2.4) Marks and profiles 2.5) Setting out building works 2.6) Setting out road works 2.7) Setting out drains and pipelines
3. Traverse Surveying 3.1) Introduction 3.2) Type of traverse 3.3) Procedures : station selection, distance measurement, Angle measurement 3.4) Booking procedures 3.5) Calculation 3.6) Plotting
4. Tacheometry 4.1) Introduction 4.2) Types of tacheometry 4.3) Procedures : station selection, distribution of spot heights 4.4) Booking procedures 4.5) Calculation 4.6) Plotting

5. Area and Volume Measurement 5.1) Introduction 5.2) Regular areas 5.3) Irregular areas 5.4) Volumes of regular solids 5.5) Volumes of irregular solids 5.6) Curved irregular solids
6. Introduction to GIS and mapping 6.1) n/a
7. Field Works 7.1) Setting out. 7.2) Traverse surveying 7.3) Tacheometry

Assessment Breakdown	%
Continuous Assessment	50.00%
Final Assessment	50.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Lab Exercise	n/a	40%	CLO1 , CLO2 , CLO3 , CLO4
Test	n/a	10%	CLO1 , CLO2 , CLO3

Reading List

Reference Book Resources

- **Charles D. Ghilani, Paul R. Wolf, 2007, *Elementary Surveying: An Introduction to Geomatics*, 12th Edition Ed., Pearson Prentice Hall**
- **Kavanagh, B.F, 2003, *Surveying Principles and Applications*, 6th Edition Ed., Barnes & Noble**
- **Muskett J,(2000, *Site Surveying*, 2nd Edition Ed., Blackwell Science**
- **McCormac J.C, 1999, *Surveying*, John Wiley & Sons, Inc**
- **Irvine W,, 1988, *Surveying for Construction*, 3rd Edition Ed., Mc Graw- Hill**
- **Neal P, 1985, *Site Surveying Level 2 & 3*, Longman**

Article/Paper List: This Course does not have any article/paper resources

Other References: This Course does not have any other resources