



THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE

Department of Quantity Surveying

QSV 502 – MEASUREMENT AND SPECIFICATION OF CONSTRUCTION WORKS II

COURSE PARTICULARS

Course Code: QSV 502

Course Title: Measurement and Specification of Construction Works II

No. of Units: 3

Course Duration: Two hours of lecture and one hour of tutorial per week for 15 weeks.

Status: Compulsory

Course Email Address: qsv502@futa.edu.ng

Course Webpage: <http://www.qsv.futa.edu.ng/courseschedule.php?coursecode=QSV%20502>

Prerequisite: NILL

COURSE INSTRUCTORS

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COURSE DESCRIPTION

This course deal with the act of determines the size, quantity or amount of items in Electrical and Mechanical services drawings and is for students in quantity surveying. The course provides training in the interpretation of drawing and the focus is to impart useful skills on the students in order enhance their ability to prepare bills of quantities for electrical and mechanical engineering services. Topics to be covered include measurement of electrical equipment and control gear; conduit; trucking; cables and conductors; fittings and accessories to be grouped according to power distribution; lighting; heating; ventilation and air conditioning; telephones; bells chalets; sound distribution; signals; fire alarms; burglar-alarms etc.

The mechanical engineering services measurement include rain water and sanitary installation; cold and hot water installation including the pipe work; fire-fighting and hydraulic installation; compressed air and gas installation including pipe work and sundries; equipment installation and sundries.

COURSE OBJECTIVES

The objectives of this course are to:

- introduce students to the use of the standard method of measurement.
- introduce students to the interpretation of Electrical and Mechanical Engineering Services Drawings for building projects; and
- provide students with opportunities to develop basic measurement skills and preparation of Bills of Quantities for Electrical and Mechanical Engineering Services for Building projects.

COURSE LEARNING OUTCOMES / COMPETENCIES

Upon successful completion of this course, the student will be able to:

(Knowledge based)

- understand how to use the building and engineering standard method of measurement in measuring electrical and mechanical engineering services for building projects;
- interpret both electrical and mechanical engineering services drawings for building projects.

(Skills)

- use the Building and Engineering Standard Method of Measurement to:
 - take-off quantities from electrical and mechanical engineering service drawings;
 - prepare bills of quantities for electrical and mechanical engineering services.

GRADING SYSTEM FOR THE COURSE

This course will be graded as follows:

Class Attendance	5%
Assignments	15%
Test(s)	20%
<u>Final Examination</u>	<u>60%</u>
<u>TOTAL</u>	<u>100%</u>

GENERAL INSTRUCTIONS

Attendance: It is expected that every student will be in class for lectures and also participate in all practical exercises. Attendance records will be kept and used to determine each person's qualification to sit for the final examination. In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with any of the instructors, indicating the reason for the absence.

Academic Integrity: Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited. You are not allowed to make copies of another person's work and submit it as your own; that is plagiarism. All cases of academic dishonesty will be reported to the University Management for appropriate sanctions in accordance with the guidelines for handling students' misconduct as spelt out in the Students' Handbook.

Assignments and Group Work: Students are expected to submit assignments as scheduled. Failure to submit an assignment as at when due will earn you zero for that assignment. Only under extenuating circumstances, for which a student has notified any of the instructors in advance, will late submission of assignments be permitted.

Code of Conduct in Lecture Rooms and Laboratories: Students should turn off their cell phones during lectures. Students are prohibited from engaging in other activities (such as texting, watching videos, etc.) during lectures. Food and drinks are not permitted in the laboratories.

READING LIST

¹Peter, G. and William C. (1982). *Worked Examples in Quantity Surveying*. 1st Edition. E & F. N. Spon Limited, New York, USA. 217p

¹Oforeh, E. C. and Alufohai A.J. (2008). *Advanced Measurement of Buildings Works*. 2nd Edition. In Cosines Limited, Lagos, Nigeria. 468p

²Seeley, I. H. and Winfield R. (1999). *Building Quantities Explained*. 5th Edition. In Macmillan Press Limited, New York, USA. 406p.

²Oforeh, E. C. (2008). *Installation and Measurement of Electrical Works in Buildings*. 3rd Edition. In Cosines Limited, Lagos, Nigeria. 444p

²N.I.Q.S. (2008). *Buildings and Engineering Standard Method of Measurement*. 3rd Edition. In N.I.Q.S. Lagos, Nigeria. 224p

⁴Murry, G. P. (1997). *Measurement of Building Services*. 1st Edition. In Macmillan Press Limited, London, UK. 158p.

Legend

- 1- Available in the University Library
- 2- Available in Departmental/School Libraries
- 3- Available on the Internet.
- 4- Available as Personal Collection
- 5- Available in local bookshops.

COURSE OUTLINE

Week	Topic	Remarks
1	Introduction and Course Overview <ul style="list-style-type: none"> • Interpretation of Drawings. 	Interpretation of drawing is important to measurement; students will be taught how to interpret electrical engineering service drawings.
2 & 3	The use of the standard method of measurement for measuring electrical services. Electrical engineering measurement(Part 1) <ul style="list-style-type: none"> • Equipment and Control Gear • Conduit, trucking, cables and Conductors 	The students will be requested to prepare the list of the sources electricity generation in Nigeria as assignment.
4 & 5	Electrical Engineering Measurement (Part 2) Electrical fittings to be grouped according to: <ul style="list-style-type: none"> • Power Distribution • Lighting • Heating 	
6&7	Electrical fittings to be grouped according to: <ul style="list-style-type: none"> • Ventilating and Air Conditioning • Telephones • Bells chalets 	MID-SEMESTER TEST
8&9	Electrical fittings to be grouped according to: <ul style="list-style-type: none"> • Sound Distribution • Signals • Fire-Alarms • Burglar-Proof etc 	
10 &11	Mechanical Engineering Measurement(Part1) <ul style="list-style-type: none"> • Interpretation of drawings • Rain water and Sanitary Installations 	Interpretation of drawing is important to measurement; students will be taught how to interpret mechanical engineering service drawings.
12 & 13	Mechanical Engineering Measurement(Part2) <ul style="list-style-type: none"> • Hot and Cold water Installations including pipe work and sundries • Fire-Fighting and Hydraulic Installation • Compressed Air and Gas Installations including the pipe work 	
14	Mechanical Engineering Measurement(Part3) <ul style="list-style-type: none"> • Compressed Air Equipment and Sundries 	
15	REVISION	This is the week preceding the final examination. At this time, evaluation will be done to assess how far the students' expectations for the course have been met.

