Quantity Surveying & Cost Estimation

Course Code	Credit Hours
CE- 372	3-0

Course Description

This course comprises of estimating quantities and cost of various activities in a typical construction project. The students will be exposed to necessary skills of taking quantities off the engineering drawings for preparing the cost estimates.

Text Book:

1. Holm, Len; Schaufelberger, John; griffin, Dennis and Cole Thomas. (2005). Construction Cost Estimating Process and Practices. Pearson Prentice Hall. Upper Saddle River, New Jersey.

Reference Book:

1. Peurifoy, Robert and Oberlender, Garold. (2002). Estimating Construction Costs. McGraw-Hill.
2. MES Schedule of Rates 2000 (Ref Book).
3. Estimating and Costing by B.N. Dutta.
4. FIDIC (International Contract Conditions).

Prerequisites :

Nil**.**

ASSESSMENT SYSTEM FOR THEORY

	Without Project (%)	With Project/Complex Engineering Problems (%)
Quizzes	15	10-15
Assignments	10	5-10
Mid Terms	25	25
Project	-	5-10
End Semester Exam	50	45-50

ASSESSMENT SYSTEM FOR LAB

Lab Work/ Psychomotor Assessment/ Lab Reports	70%
Lab Project/ Open Ended Lab Report/ Assignment/ Quiz	10%
Final Assesment/ Viva	20%

Teaching Plan

Week No	Topics/Learning Outcomes
1	Review Units of measurements and conversions for area, weight, volume etc. **(Topics Added)** Data resources, estimating forms, files & spread sheets, estimating team, estimator's checklist, basic procedures, document review, request for information, measurements, marking the drawings, sections/details, necessity of site visits, ethical considerations. **(Topics Deleted)**
2	Preconstruction Services and Estimate- Scheduling the estimating work, order of taking off, use of schedules, Government institution practices, introduction to Military Engineer Services Schedule of Rates. **(Topics Added)**
3	Introduction to the process of estimation and steps involved in estimation. Review of basic excel formula Review Volumes, use of computers in quantity surveying **(Topics Deleted)**
4-5	Quantity Take Off- Excavation, cut and fill quantities, termite proofing, foundations, brickwork, plaster, and roof insulation.
6	Quantity Take Off Concrete-Slabs, beams, columns, and roof insulation. **(Topics Added)**
7	Quantity Take Off - Floorings, types of floor finishes, interior and exterior finishes, decorative works (distempering, painting etc.), tile work, joinery work, doors, windows. **(Topics Added)**
	QTO of Mechanical, Electrical and Plumbing works
	OHT-1
8	B.O.Q & M.B contents and preparation of bills quantities for a project and maintaining of measurement books, sample, specification for various items of construction, pricing the bill of quantities. **(Topics Added)**
9	Estimating General Conditions - Project estimates examples, Government departments practices, market rates system (MRS), Calculation of overheads and profit **(Topics Added)**
10	Risk Assessment in Estimation and calculation of contingencies. Scenario

	Analysis **(Topics Added)**
11	Rate Analysis - civil works, direct & indirect costs, labour productivity factors, project estimates, material pricing, store statements. Preparation of abstract cost **(Topics Added)**
12	**OHT-2**
12-13	Estimating Sub-Contractor Works - Work done measurements, interim payments, deviation orders, star rates, financial effects, estimating sub-contractor works and final bills. **(Topics Added)**
14-15	Preparing complete detailed quantity estimations, creation of BOQ list, figuring out productivities, developing project budget and bidding price along with estimation planswift from contract document and project charter document of a specified project **(Topics Added)**
16	Estimation Using Software, Application of AI and BIM for estimation
17	**End Semester Exam**

Practical: Nil.