



# AMITY UNIVERSITY

— UTTAR PRADESH —

## FORMAT FOR COURSE CURRICULUM

**Course Title:** Quantity Surveying and Estimation

**Course Code:** CEE401

**Credit Units:**

L	T	S	SW/ FW	P	TOTAL CREDIT UNITS
3	1	-	-	-	4

**Course Objectives:** This course introduces to students the importance of various estimates and different methods to carry out the quantity estimation of construction work. It also deals with specifications and rate analysis including tendering for construction activities.

**Pre-requisites: Building design and drawing &** Basic understanding of RCC structure, Understanding of IS code

### Course Contents/Syllabus:

	Weightage (%)
<b>Module I</b> <b>Estimates</b> Meaning of estimation, different types, and their relative importance. Factors to be considered complete set of Estimate. Approximate estimates- importance, purpose, different methods. Methods of preparation of estimates for projects such as: Building R.C.C., Load bearing, Road, Culvert, Water supply and sewerage: miscellaneous works like Manhole, water storage tank, septic tanks; Trusses of steel, Industrial Shed	12
<b>Module II</b> <b>Specifications</b>	12

<p>Meaning, purpose, types of specifications, Method of preparation of specification, general specification, detailed specifications of different items of buildings and other structures – Rate analysis – Data sheet for materials and various items of work in buildings and other structures, schedule of rates, abstract estimate of buildings.</p>	
<p><b>Module III</b></p> <p><b>Measurements for various items</b></p> <p>Use of relevant Indian Standard Specifications; for the same, taking out quantities from the given requirements of the work, comparison of different alternatives, Bar bending schedules, Mass haul Diagrams, Earthwork Calculations</p>	12
<p><b>Module IV</b></p> <p><b>Detailed estimates</b></p> <p>Different items of work in building; Principles of taking out quantities, detailed measurement form; long walls and short walls method of building estimate, Centre line method of building estimate. Estimate of RCC building, slope roof buildings; G.I. and A.C. Sheet, Detailed estimate of different types of doors and windows, electricity and water supply. Sanitation works.</p>	15
<p><b>Module V</b></p> <p><b>Rate analysis</b></p> <p>Purpose, importance and necessity of the same, factors affecting, task work, daily output from different equipment</p>	10
<p><b>Module VI</b></p> <p><b>Tender</b></p> <p>Preparation of tender documents, importance of inviting tenders, contract types, relative merits, prequalification. general and special conditions, termination of contracts, extra work and items, penalty and liquidated charges, Settlement of disputes, R.A. Bill &amp; Final Bill, Payment of advance, insurance, claims, price variation.</p>	12
<p><b>Module VII</b></p>	15

<b>Estimation of Various Items</b> Estimate of earth work; different formulae for calculations, estimate of metalled road, Tar road, concrete road, Railway tract, Estimate of culverts and bridges etc. Valuation of buildings; purpose, different method of building valuation; different terms used in valuation and their meaning.	
<b>Module VIII</b>	<b>12</b>
<b>Various Acts &amp; Computerization</b> Introduction to acts pertaining to-Minimum wages, Workman's compensation, Contracts, Arbitration, Easement rights. Use of computers in quantity surveying	

**Student Learning Outcomes:** Students will be able to learn following:

1. Estimation of various items of civil engineering works
2. Specifications of various items of civil engineering works
3. Knowledge about tendering procedure and finalization of contract

**Pedagogy for Course Delivery:** 1. Class room teaching supported with field based examples. 2. Use of presentation for enabling better understanding of the subject. 3. Application oriented assignments.

**Assessment/ Examination Scheme:**

Theory L/T (%)	Lab/Practical/Studio (%)
100	0

**Theory Assessment (L&T):**

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down)	A	CT	S/V/Q	HA	EE
Weightage (%)	5	10	8	7	70

CT: Class Test, HA: Home Assignment, S/V/Q: Seminar/Viva/Quiz, EE: End Semester Examination; A: Attendance

Text & References:

1. M Chakravarty, Estimating, Costing Specifications & Valuation 106
2. Joy P K, Handbook of Construction Management, Macmillan
3. B.S. Patil , Building & Engineering Contracts

**Lab/ Practical/ Studio Assessment:**

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down					
Weightage (%)					

**Text & References:**