

Department of Civil Engineering			
Specifications and Estimations (61470)			
Total Credits		3	
major compulsory			
Prerequisites		P1 : Building Construction (61371) OR Building Construction (61304) OR Building Construction Engineering (68350) P2 : Economy & Engineering Management (65301) OR Eng'g Economics (61471)	
Course Contents			
This course is designed to prepare students to handle the practical tasks the engineer is exposed to in the real life. The topics discussed in readings and course lectures are selected to give the student a comprehensive understanding of the process of generating, bidding, and performing construction contracts components of direct and indirect construction costs, work breakdown, contingency and risk.. This course teaches the methodology, procedures and organizational techniques involved in preparing a competitive bid. Detailed estimates for each major construction discipline are prepared, based upon real construction project documents. Ethical considerations in budgeting and estimating are discussed. The final project is the preparation of a formal competitive bid on a project. A study of methods and operations in managing projects from both the perspective of the constructor and designer. Topics include elements of the construction process, project delivery types and types of construction contracts.			
Intended Learning Outcomes (ILO's)		Student Outcomes (SO's)	Contribution
1	1. Understanding the projects delivery systems and different contracts organizations. And understanding the different construction contracts types, documents and specifications	E	20 %
2	2. Understanding the various bidding procedures and ability to prepare bid documents and contract documents, in addition to ability to understand the types of bonds.	J	20 %
3	3. Understanding of the design and construction process and the roles of the different parties.	F	10 %
4	4. Ability to estimate various cost components in construction projects.	A	25 %
5	5. Understand the quantity surveying techniques and methods.	A	25 %
Textbook and/ or References			
Estimating Construction Costs by Robert L. Purify and Garold D. Oberlender (Paperback - Oct 1, 2008) Hinze, Jimmie (2003) Construction Contracts. 3d Edition, McGraw-Hill Book Company, New York.			
Assessment Criteria		Percent (%)	
First Exam		20 %	
Second Exam		20 %	
Projects		20 %	
Final Exam		40 %	
Course Plan			
Week	Topic		
1	Description of the industry Nature of contracts, construction parties, project delivery systems		

2	Bidding procedures & contracts Bid procedures, Bid documents, Bonds and insurances,
3	Bid forms, bid evaluation, addenda
4	Contract types
5	Contract documents, Bid Documents
6	Contract documents, Bid Documents
7	MIDTERM EXAM 1
8	Construction Cost Estimate , Material Cost
9	Direct Labor Cost, Indirect Labor Cost Estimate
10	Depreciation, Equipment Cost estimate
11	Project Indirect Cost estimate, job Overhead Cost , operating overhead cost, Pricing
12	Quantity surveying
13	MIDTERM EXAM 2
14	Real Case Project practice
15	Real Case Project practice
16	Final Exam