Course Number and Name

BCE054 - CONSTRUCTION PLANNING, SCHEDULING AND CONTROL

Credits and Contact Hours

3 & 45

Course Coordinator's Name

Mr.K.Venkatrraman

Text Books and References

REFERENCES:

- 1. Chitkara, K.K. Construction Project Management: Planning, Scheduling and Control, Tata McGraw-Hill Publishing Company, New Delhi, 1998.
- 2. Calin M. Popescu, Chotchai Charoenngam, Project Planning, Scheduling and Control in Construction: An Encyclopedia of terms and Applications, Wiley, New York, 1995.
- 3. Chris Hendrickson and Tung Au, Project Management for Construction Fundamental Concepts for Owners, Engineers, Architects and Builders, Prentice Hall, Pittsburgh, 2000.
- 4. Willis, E. M., Scheduling Construction Projects, John Wiley & Sons, 1986.
- 5. Halpin, D. W., Financial and Cost Concepts for Construction Management, John Wiley & Sons, New York, 1985.

Course Description

Cou	ISE Desc	npu	UII											
	• To s	tudy	the fine	er aspect	s of pla	nning, s	chedulir	ng and c	ontrolli	ng of co	nstructio	on proje	cts.	
			Prerequisites					Co-requisites						
	Bu	Building Construction Technology						NIL						
				require	ed, elect	tive, or s	elected	elective	(as per	Table 5-	-1)			
	rse Outc		· · ·											
CO1		Know the elements of construction planning and estimating activity durations and resource												
		requirements.												
CO2		Know the elements of scheduling and to apply appropriate tools and techniques												
		lik	e netwo	orks and	coding	systems.								
CO3		Understand the monitoring and accounting of projects through cost control.												
CO4		Know the elements of quality control and safety of construction projects.												
CO5		Know the concept of gathering and using project information												
Stuc	lent Outo		es (SOs)		riterion		ed by the	1	se	T		1		-
	COs/S	Os	а	b	c	d	e	f	g	h	i	j	k	
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	CO5		М			М			М	Н				+
	005	'	11/1			101			101					1

List of Topics Covered

UNIT I CONSTRUCTION PLANNING

Basic Concepts in the Development of Construction Plans - Choice of Technology and Construction Method - Defining Work Tasks - Defining Precedence Relationships among Activities - Estimating Activity Durations - Estimating Resource Requirements for Work Activities - Coding Systems

UNIT II SCHEDULING PROCEDURES AND TECHNIQUES

Construction Schedules - Critical Path Method – Scheduling Calculations - Float - Presenting Project Schedules - Scheduling for Activity-on-Node and with Leads, Lags, and Windows - Scheduling with Resource Constraints and Precedences - Use of Advanced Scheduling Techniques - Scheduling with Uncertain Durations - Calculations for Monte Carlo Schedule Simulation - Crashing and Time/Cost Tradeoffs - Improving the Scheduling Process.

UNIT III COST CONTROL, MONITORING AND ACCOUNTING

The Cost Control Problem - The Project Budget - Forecasting for Activity Cost Control - Financial Accounting Systems and Cost Accounts - Control of Project Cash Flows - Schedule Control - Schedule and Budget Updates - Relating Cost and Schedule Information.

UNIT IV QUALITY CONTROL DURING CONSTRUCTION

Quality Concerns in Construction - Organizing for Quality - Work and Material specifications - Total Quality Control - Quality Control by Statistical Methods - Statistical Quality Control with Sampling by Attributes - Statistical Quality Control with Sampling by Variables

UNIT V ORGANIZATION AND USE OF PROJECT INFORMATION

Types of Project Information - Accuracy and Use of Information - Computerized Organization and Use of Information - Organizing Information in Databases - Relational Model of Databases - Other Conceptual Models of Databases - Centralized Database Management Systems - Databases and Applications Programs - Information Transfer and Flow.

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