

1152CE116 (VTUR15)	CONSTRUCTION PLANNING, SCHEDULING AND CONTROL	L	T	P	C
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Course Category: Programme Elective

A. Preamble

Students undergoing this course are expected

- To understand the various steps involved in the planning, scheduling, quality, cost and safety management for a project.

B. Prerequisites

- NIL

C. Link to other Course(s)

- NIL

D. Course Outcomes

CO Nos.	Course Outcomes	Level of learning domain (Based on revised Bloom's taxonomy)
C01	Prepare work break down plan and estimate resources requirements	K1
C02	Computes scheduling procedures and techniques	K2
C03	Predict cost control and financial accounting	K2
C04	Apply quality control and safety in construction	K2
C05	Use project information and DBMS in construction	K2

E. Correlation of COs with POs

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		M		M	M			M						H
CO2		M		M				M			M	H		H
CO3		M		M				M			M	H		H
CO4		M		M		H	M							H
CO5					M			M		M		M		H

F. Course Content

UNIT I CONSTRUCTION PLANNING 9

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 9

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 Precedence – Use of Advanced Scheduling Techniques – Scheduling with Uncertain Durations.

UNIT III COST CONTROL, MONITORING AND ACCOUNTING 9

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 AND SAFETY DURING CONSTRUCTION 9

Quality and Safety Concerns in Construction – Organizing for Quality and Safety – Work and Material Specifications – Total Quality Control – Statistical Methods, Sampling by Attributes and Variables – Safety.

UNIT V ORGANIZATION AND USE OF PROJECT INFORMATION 9

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.

TOTAL: 45 Periods

G. Learning Resources

TEXT BOOKS:

1. Calin M. Popescu, Chotchai Charoenngam, Project Planning, Scheduling and Control in Construction: An Encyclopedia of terms and Applications, Wiley, New York, 1995.
2. Chitkara, K.K. Construction Project Management: Planning, Scheduling and Control, McGraw-Hill Publishing Company, New Delhi, 2005.

REFERENCES:

1. Chris Hendrickson and Tung Au, Project Management for Construction – Fundamental
2. Concepts for Owners, Engineers, Architects and Builders, Prentice Hall, Pittsburgh, 2000.