CMG 7100 Project Management and Control

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	2	3	45	100	60	40	3

Course Description
The course covers management principles, operations research, construction contracts, and planning, scheduling and controlling of constriction projects.

Objectives/Aim
- To train the student in the application of modern management concepts, principles and tools in the management of construction projects.

Course Outline

1. Principals of management [9 CH]
   1.1. Organisation theory
   1.2. Evolution of management theory
   1.3. Scientific management theories
   1.4. The human relations approach
   1.5. System and contingency approaches
   1.6. Modern approaches to management

2. Construction Management Tools and Techniques [10 CH]
   2.1 Project Work Breakdown
   2.2 Work Scheduling
   2.3 Critical Path Method of Analysis
   2.4 Project Evaluation and Review Technique
   2.5 Precedence Network Analysis
   2.6 Manpower Scheduling
   2.7 Planning for Construction Materials
   2.8 Planning for Construction Equipment
   2.9 Construction Costs and Budgets
   2.10 Statistical Approach
   2.11 Computer Applications

3. Operational research [9 CH]
   3.1 linear programming,
   3.2 probability theory,
   3.3 research and development,
   3.4 decision and game theory,
   3.5 queuing theory.

4. Construction contracts: [9 CH]
   4.1 construction commissioning
   4.2 systems of agreement,
   4.3 the role of the engineer
   4.4 documentation,
   4.5 tendering & bidding,
   4.6 management contracts,
   4.7 target contracts.
   4.8 sub-contracts,

5. construction site organization, [8 CH]
   5.1 personnel,
   5.2 documentation and regulations,
   5.3 accounting,
   5.4 execution of works,
   5.5 risk management,

6. Project failure [5 CH]

7. Project phasing and scheduling. [5 CH]

8. Project monitoring and appraisal. [5 CH]

Learning Outcomes
At the end of the course, the student will be equipped with management concepts in the context of construction projects, and will be in position to apply appropriate project management tools in the management of the construction projects and processes.

Method of Teaching/Delivery
The course will be conducted through lectures, tutorials and assignments. Basic lecture materials provided by the Lecturer will be supplemented by individual reading effort by students.

Assessment Method
Continuous assessment through assignments and tests, and final written examination. The final examination carry 60% of the total mark., while continuous assessment will carry a total of 40%.

Reading/ Reference Materials

Anbuvelan K. (2007). *Management Concepts for Civil Engineers*. Laxmi Publications, New Delhi

Cole G. A. (2004). *Management Theory and Practice*. (6th Ed.) Book Power, London

Chitkara K. K. (2004). *Construction Project Management. Planning, Scheduling and Controlling.* Tata McGraw-Hill Publishing Company Limited, New Delhi

Freeman B. G. & Balkwill J. (2005). *Management in Engineering: Principles and Practice*. (2nd Ed.) Prentice Hall of India PVT, New Delhi

Kwakye A. A. (1997). *Construction Project Administration in Practice*. Pearson Lomgman, Essex, UK.

Piésold D. A. (1991). *Civil Engineering Practice, Engineering Success by Analysis of Failure*. McGraw-Hill Book Company, London.

Sengupta B. & Guha H. (2004). *Construction Management and Planning*. Tata McGraw-Hill Publishing Company Limited, New Delhi.