CA3411: CONSTRUCTION MANAGEMENT I

Effective Term
Semester A 2022/23

Part I Course Overview

Course Title
Construction Management I

Subject Code
CA - Civil and Architectural Engineering
Course Number
3411

Academic Unit
Architecture and Civil Engineering (CA)

College/School
College of Engineering (EG)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
BC3411/BC3411F/BC3411P Construction Management I / SE3411 Construction Management for Architects

Exclusive Courses
CA3410 Construction Management for Architects

Part II Course Details

Abstract

This course aims to provide students with the knowledge on the general management principles and theories in the construction industry. Topics including planning and scheduling techniques, principle management, management of resources in a construction project, IT applications in the construction process.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	explain the features of an organization and the environment in which it operates;		x		
2	develop students' awareness of the nature of organization and managerial processes of construction project;		x		
3	explore the roles of managers;		x		
4	apply scheduling, planning, resource allocation, resource levelling, and cost control in managing construction projects;			x	
5	use of a computer package (Primavera or Microsoft Project) to substantiate the learning process of construction project scheduling.			x	

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Teaching and Learning Activities (TLAs)

	TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Explain and discuss the key principles, theories and tools for construction management	1, 2, 3, 4, 5	
2	Tutorial	In class discussions, exercises and applications on problems related to lecture topics.	1, 2, 3, 4, 5	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Coursework assignment	4, 5	25	
2	Mid-term Test	1, 2, 3, 4	25	

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

3

Additional Information for ATs

To pass a course, a student must obtain minimum marks of 30% in both coursework and examination components, and an overall mark of at least 40%

Assessment Rubrics (AR)

Assessment Task

Coursework assignment

Criterion

ABILITY to RELATE and APPLY suitable techniques and principles to manage the construction works

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

Mid-term Test

Criterion

CAPACITY to EXPLAIN and DISCUSS the management concepts, principles and theories in the construction context and ABILITY to ANALYSE the construction management problems with relevant tools/techniques

Excellent (A+, A, A-)

High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
Examination

Criterion
CAPACITY to EXPLAIN and DISCUSS the management concepts, principles and theories in the construction context and ABILITY to ANALYSE the construction management problems with relevant tools/techniques

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Part III Other Information

Keyword Syllabus
Principles of construction management: basis of management, organization structure, managerial qualities, construction management, construction supervision. Project scheduling, planning, and control: traditional planning techniques; CPM network based planning; resource allocation and levelling; project control; computers applications for planning construction projects.

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

	Title
1	Callahan, M.T., Quackenbush, P.G. & Rowings, J.E. (1992) 'Construction Project Scheduling', McGraw Hill, (TH438 .C26)
2	Barrie, D.S. & Paulson, B.C. (1984), 'Professional Construction Management', McGraw Hill, (TH438 .B23)
3	Calvert, R.E. (1995), 'Introduction to Building Management', 6th ed, Butterworth-Heinemann. (HD9715.A2 C34)
4	C.I.O.B. (1980), 'The Practice of Site Management', 2nd ed, Institute of Building. (TH438 .P69).
5	C.I.O.B. (2010), 'Code of practice for project management for construction and development', 4th ed, Wiley-Blackwell. (TH438 .C626)
6	Fryer, B. (1990), 'The Practice of Construction Managementt', 3rd ed, BSP Professional Books, (TA190 .F79)
7	Harris, F. & McCaffer, R. (2006), 'Modern Construction Management', 6th ed, Blackwell Science. (HD9715.A2 H35)
8	Mawdesley, M., Askew, W. & O'Reilly, M. (1997), 'Planning and Controlling Construction Projects : the best laid plans', Longman. (TA190 .M389)
9	Murdoch, J. & Hughes, W. (2000), 'Construction Contracts: Law and Management', 3rd ed, Spon Press, (KD1641 .M87)
10	Oxley, R. & Poskitt, J. (1996), 'Management Techniques Applied to the Construction Industry', 5th ed, Blackwell Science. (TH438 .O95)
11	Stoner, J.A.F. & Freeman, R.E. (1995), 'Management', 6th ed, Prentice Hall. (HD31 .S6963)