

**FAR WESTERN UNIVERSITY
FACULTY OF ENGINEERING
OFFICE OF THE DEAN
MAHENDRANAGAR, KANCHANPUR**



Curriculum

**Master of Science Program in Construction Project Management
(M. Sc. in Construction Project Management)**

FAR WESTERN UNIVERSITY
Faculty of Engineering
Master of Science Program in Construction Project Management

1. Introduction

The Far Western University offers the Master of Science (M.Sc.) program in Construction Project Management with an aim to produce highly qualified manpower in Construction Project Management capable of carrying out professional works and conducting independent research in Construction Project Management. The details of the Program are as follows:

2. Program Title

Master of Science (M.Sc.) in Construction Project Management

3. Program Objective

To provide the students the technical and analytical skills of Construction Project Management with latest methods of Construction Project Management as well as acquaint them with advanced methods of Construction Project Management. The graduates of the program will be able to

- i. Carry out higher studies and independent research;
- ii. Practice professionally as a Project Manager in construction Projects.

4. Program Duration

The minimum period for completion of the M.Sc. in Construction Project Management Program is 4 semesters for full time students. The maximum period within which a student is allowed to complete the program is 8 semesters (4 years).

5. Admission Requirements

Candidates with Bachelor's Degree (Four year regular) Program in Civil Engineering or Civil and Rural Engineering or Hydropower Engineering or Agriculture Engineering or Architecture (5 Year regular) or any equivalent degree in engineering from a recognized University or Institution are eligible for admission to the Program. The candidates must have secured a minimum CGPA of 2.0 or equivalent at the Bachelor's degree level.

6. Selection Procedures

Candidates fulfilling the Admission Requirements will be selected for admission on the basis of merit, which will be assessed in terms of total marks consisting of their aggregate scores in the Admission Test. The Dean's Office of the University, however, may modify the selection procedure and implement the admission guidelines after its approval from academic council of Far Western University.

7. Course Contents

The Program consists of the courses, in general, with the following types of components:

- i. Core Courses
- ii. Elective Courses
- iii. Project Work / Thesis

Core courses are those which are fundamental in nature and which each student of the

Program must learn.

The **Core courses** provide essential knowledge or pre-requisite for taking up higher level courses in the area of Construction Project Management.

Elective Courses provide the opportunity to the students specifically to train them in a particular direction, for instance, in the direction of higher studies and research, or in the direction of Construction Project Management.

Project work and Thesis component of the Program essentially provides research training to the student. Each student has to undertake a project of 4 credits and a thesis of 12 credits. The students will carry out research on a specific topic under the guidance of a supervisor. The project work of 4 credits will be conducted in the III Semester, in which the student may prepare the proposal and plan with theme of the research project, carries out a detailed literature review and formulate the methodology of the research. In addition, students will also work in a group to investigate the different problems and issues of construction Industry. At the end, the student must present the report of the project work. The main work of the research will be carried out in the IV Semester. At the end of IV semester, the students should submit and defend the Thesis. The students are encouraged to think independently, to do systematic review work, to develop computer software or to carry out laboratory experiments and present the outcome of the work in the form of a dissertation (thesis).

8. Course Credit System

The course curriculum of the Program is organized in the overall frame work of credit system. The salient features of the credit system are a process of continuous evaluation of a student's performance, and flexibility to allow a student progress at an optimum pace suited to his/her ability, target and convenience. Each course is given with a number of credits which represents its weightage. The number of credits depends upon the contact hours for the course and its total work load. A course, in general, is designed for a 4 hr. contact time for lecture per week, and this is denoted by (4 - 0) indicating '0' contact hour for laboratory. The courses having laboratory components will have label like (1 - 3) indicating 1 hr. lecture contact, and 3 hr. laboratory contact.

9 Course Codes

Each course offered under the Program is identified by three letters, CPM (stands for Construction Project Management) followed by three numerical digits. The first digit denotes the year in which the course is normally taken (6 for first year and 7 for second year). The second digit denotes the semester (1 for first semester, 2 for second semester, 3 for third semester, and 4 for fourth semester). The third digit is used to identify the particular course.

10 Core Courses

The Core Courses, which have to be mandatorily completed by the students, are listed as follows:

S. No.	Course Code	Course Title	Number of Credits
1	CPM 611	Advanced Project Management	4 (Four)
2	CPM 612	Procurement and Supply Chain Management	4 (Four)
3	CPM 613	Issues of Ethics and Liability in Construction	4 (Four)

4	CPM 614	Construction Technology	4 (Four)
5	CPM 621	Quantitative Techniques in Construction Project Management	4 (Four)
6	CPM 622	Principles and Practices of Construction Project Management	4 (Four)
7	CPM 623	Advanced Engineering Economics	4 (Four)
8		Elective I	4 (Four)
9	CPM 731	Research Methodology	4 (Four)
10	CPM 732	Project	4 (Four)
11		Elective II	4 (Four)
12		Elective III	4 (Four)
13	CPM 741	Thesis	12 (Twelve)
		Total	60 (Sixty)

11. Elective Courses

The following courses have been identified for the purposes of Elective Courses to be offered under Elective I in Semester II, and Elective II and III in Semester III. Alteration in the offering of the identified courses may be possible, additional courses may also be offered.

S.No.	Course Code	Course Title	Number of Credits
Elective I			
1.	CPM 624	Occupational Health and Safety in Construction	4 (Four)
2.	CPM 625	Materials and Inventory Management	4 (Four)
3.	CPM 626	Environment Impact Management	4 (Four)
4.	CPM 627	Urban Planning and Development	4 (Four)
Elective II and Elective III			
4.	CPM 733	Construction Quality Management	4 (Four)
5.	CPM 734	Management of Construction Plant and Equipment	4 (Four)
6.	CPM 735	Geographic Information System	4 (Four)
7.	CPM 736	Disaster Risk Management	4 (Four)
8.	CPM 737	Heritage Conservation and Management	4 (Four)
9.	CPM 738	Sustainable Cities and Regions	4 (Four)
10.	CPM 739	Principles and Practices of Alternative Dispute Resolution	4 (Four)

12 Course Conduction

Each of the courses, core or elective, is coordinated by a faculty member of the Department or a person appointed by the Department offering the course in a semester. This faculty member, designated as the course Coordinator, has the full responsibility for conducting the course, coordinating the work of the other members of the faculty involved in that course, conducting the tests and assignments, and evaluating the students' performances. The lectures will be followed by a number of assignments to the students to be solved individually and to be submitted within the stipulated time. Generally, 4 to 8 assignments are given in each course. Practical classes in the form of laboratory works or computations are used to verify the concepts and to develop necessary technical and analytical skills. The Program, in general, emphasizes on the process of self-learning.

13 Course Registration

Students are required to register courses at the beginning of each semester. All students must present themselves at the college for registration. Every student must seriously attempt to complete all the courses including the project work/thesis in 2 years. A student of the M.Sc. Program in Construction Project Management needs to complete altogether 8 core courses (of total 36 credits) and 3 elective courses (of total 12 credits) and a thesis (of total 12 credits). Students are advised to register for courses for each semester after planning to fulfill the course credit requirements as well.

A student would have the option to add or drop from the course. This can, however, be done only during the fixed stipulated time at the beginning of the Semester. A student wishing to withdraw from any elective course should apply on the prescribed form within two weeks from the starting date of the semester. A full time student has to take a minimum of 12 credits in a semester.

The Thesis work shall be carried out under the supervision of a Faculty Member in the concerned department. Five copies of the Thesis certified by the Supervisor(s) and the Head of the Department shall be submitted within the Academic Calendar Year after completion of the IV Semester. The student is eligible for the submission of M.Sc. Thesis at the end of IV Semester if the student has passed all the course work in the first and second Semesters.

The Course Structure and the Evaluation Scheme (semester wise) are presented as follows:

Course Structure and Evaluation Scheme M.Sc. (Construction Project Management)

Semester I

S. No.	Course Code	Course Title	Contact Period per week			Full Marks			No. of Credits
			L	P	Total	Internal	Final	Total	
1.	CPM 611	Advanced Project Management	4		4	40	60	100	4
2.	CPM 612	Procurement and Supply Chain Management	4		4	40	60	100	4
3.	CPM 613	Issues of Ethics and Liability in Construction	4		4	40	60	100	4
4.	CPM 614	Construction Technology	4		4	40	60	100	4

Semester II

S. No.	Course Code	Course Title	Contact Period per week			Full Marks			No. of Credits
			L	P	Total	Internal	Final	Total	
1.	CPM 621	Quantitative Techniques in Construction Project Management	4		4	40	60	100	4
2.	CPM 622	Principles and Practices of Construction Project Management	4		4	40	60	100	4
3.	CPM 623	Advanced Engineering Economics	4		4	40	60	100	4
4.		Elective I	4		4	40	60	100	4

Semester III

S. No.	Course Code	Course Title	Contact Period per week			Full Marks			No. of Credits
			L	P	Total	Internal	Final	Total	
1.	CPM 731	Research Methodology	4		4	40	60	100	4
2.	CPM 732	Project	4		4	40	60	100	4
3.		Elective II	4		4	40	60	100	4
4.		Elective III	4		4	40	60	100	4

Semester IV

S. No.	Course Code	Course Title	Contact Period per week			Full Marks			No. of Credits
			L	P	Total	Internal	Final	Total	
1.	CPM 741	Thesis							12

14 Attendance Requirements

Each student must attend every lecture, tutorial and practical classes. The minimum attendance requirement in each course is 80% of the classes actually held.

15 Evaluation System

A student's academic performance evaluation is done through two types of assessments: through a sessional continuous evaluation by the course coordinator, and the final evaluation through the Office of the Controller of Examination of the University.

The sessional evaluation of a student in any course will be based on his performance in 2 mid-term tests, and assignments. Two mid-term tests will be conducted in between the semester; the first mid-term test will cover the course contents covered between the beginning to the time of the test, and the second mid-term covers the course up to the time of the second test excluding the portion covered in the first test. In general, a weightage of about 10% is attached to the assignment component of the evaluation; another 30% weightage is given to the 2nd mid-term test, and remaining 60% weightage to the final examination conducted by the Office of the Controller of Examination of the University.

A student shall secure minimum marks in each course, as prescribed by the Dean's Office of the University.

For taking the centrally organized final examination in any theory or practical subject, candidates shall be required to obtain a minimum of 50% marks in sessional evaluation(internal evaluation) in that subject, failing to which he/she shall be required to repeat the course in that subject when next offered or study any other specified subject as may be required. In case of repetition the new sessional marks will be taken into account.

A candidate shall be deemed to have secured the minimum academic requirement in a subject if he or she secures a minimum of 50% marks in sessional evaluation. In case the candidate does not secure the minimum academic requirement in any subject he/she has to reappear in the final examination in that subject or any equivalent subject prescribed. Failure to attain the minimum academic requirement in any subject of previous semester(s) is no bar for enrollment to the next semester.

The performance of the students in each semester shall be evaluated on subject-wise. The distribution of marks between sessional work (based on internal assessment) and Final Examination will be as follows:

Nature of the Course	Sessional Marks	Final Examination Marks
Theory subjects	40	60
Practical	40	60
Project/Thesis	50	50

16 Grading System

Students are awarded grade points at the end of each semester based on their in-semester and end-semester examination scores. Final evaluation of the course is carried out on a four point grading system which is as follows:

Letter Grade	Grade Value	Marks
A	4	90 and above
A-	3.56	85 - 89
B+	3.36	80 - 84
B	3.16	75 - 79
B-	2.96	70 - 74
C+	2.76	65 - 69
C	2.56	60 - 64
C-	2.36	55 - 59
D+	2.16	50 - 54
INC	-	below 50

Semester Grade Point Average (SGPA)

Semester Grade Point Average (SGPA) is calculated by multiplying the earned grade value by the number of credits for each course and then dividing the total grade points by the total number of semester credits. To pass the semester, the SGPA must be 2.2 or above.

$$SGPA = \frac{\text{Sum of [No. of Credits X Grade Point]}}{\text{Sum of Credits}}$$

Cumulative Grade Point Average (CGPA)

CGPA is calculated at the end of the program. For graduation, a student has to maintain a CGPA at least by 2.2 or above.

CGPA Calculation

The overall performance reported by CGPA is a weighted average, calculated as follows:

$$\text{CGPA} = (c_1g_1+c_2g_2+c_3g_3+\dots)/(c_1+c_2+c_3+\dots)$$

Where c_1, c_2, \dots denote credits associated with the courses and g_1, g_2, \dots denote grade values earned by the students in the respective courses. The CGPA defines the overall performance category:

CGPA	Division
3.6 upto 4	Distinction
3.2 upto 3.59	First Division
2.8 upto 3.19	Second Division
2.2 up to 2.79	Pass
Below 2.2	Incomplete

Dean's List:

To qualify for the Dean's list, a student must obtain a CGPA of 3.8 or above.

Other Abbreviations

The following letters (in the remarks column) can also be awarded according to the nature of performance:

W	Withheld
INC	Incomplete
Abs	Absent

Grade Improvement:

- In each semester, if students secure SGPA less than 2.2, they will be provided an opportunity to improve the Grade Value in any two courses where they have acquired grades below 2.2

After results are declared, Grade sheets will be issued to each student which will contain the following details:

- The list of subjects with stipulated credits in the semester and corresponding Grade obtained.

- The Semester Grade Point Average (SGPA) for each semester and
- The Cumulative Grade Point Average (CGPA) of all subjects put together up to final Semester from first Semester onwards
- Equivalent letter grades for CGPA and respective division as well as the grade values will be described and mentioned in a chart on the backside of the Grade Sheet.

17. Degree Requirements

- To graduate from the M.Sc. Construction Project Management program, a student should have a '2.2' or better grade in each semester as specified in the curricular structure section;
- Completed all the courses, project work/ Thesis as specified in the curricular structure section within the maximum time period specified in the normal and maximum duration of the study section;
- Have a final CGPA of 2.2 or better on the University's 4 grade scale, and
- No outstanding financial obligations to the University and college.
