POKHARA UNIVERSITY
ACADEMIC COUNCIL, 115TH MEETING
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Master of Science in
Disaster Risk Engineering and Management (DREM)

Curriculum

Faculty of Science and Technology
Pokhara University

2024

POKHARA UNIVERSITY

Master of Science in Disaster Risk Engineering and Management Program

1. Program Objectives

The aim of the Master of Science in Disaster Risk Engineering and Management program is to develop technical human resource that have essential knowledge, skill and capacities to research and practice disaster risk engineering thereby reducing disaster risks and contribute to developing the disasters resilient society. The specific objectives are:

- Impart the knowledge on natural hazards, risk assessments, mitigation and reduction measures.
- Acquaint National and International DRRM policies and frameworks.
- Analysis using natural hazard modelling, risk assessment tools and techniques and engineering design for mitigation and reduction strategies.

2. Curricular Structure

The courses consist of different modules related to various aspects of Civil Engineering, Disaster Risk Engineering, and Environmental Engineering. There are 9 core courses of 4 credits each, 3 elective courses of 3 credits each and 15 credits thesis work.

3. Program Features

The Master of Science in Disaster Risk Engineering and Management (DREM) program offers a competitive learning environment, field-based concentration, and holistic knowledge. This professional degree focuses on technical, socio-environmental, and implementation issues in designing, building, and maintaining disaster-resilient projects. It combines theoretical and practical aspects of specifying, designing, implementing, and managing projects of various scales. Graduates can assume managerial roles in government and humanitarian organizations. The program is completed within two years, employing diverse pedagogical methods such as classroom discussions, presentations, case studies, guest lectures, field visits, and project work.

4. Entry Requirements and Admission Procedure

Eligibility

Candidates pursuing admission must have a four years Bachelors of Civil Engineering (Civil Engineering, Civil & Rural Engineering, B. Arch) or an equivalent degree from recognized institutions with at least second division or a 2.0/4.0 CGPA. Furthermore, the candidates must adhere to the admission test requirements. The final admission decision is based scores from the admission test and interview.

Documents Required

Applicants must submit the following documents with the application form, available from the concerned college/school for a predetermined fee:

- Completed and signed application form
- Official transcripts from all the academic institutions attended.

Photocopied and properly attested certificates of all degrees

Admission Procedures

The concerned college publicly announces a notice inviting applications for admission. Application forms and information brochures are provided upon request and payment of the

prescribed fees. The college scrutinizes the applications and informs eligible candidates to take the entrance test, providing the date and time. Final selection is based on aggregate scores in the entrance test and personal interview. Candidates granted provisional admission under special conditions must submit all necessary documents within one month of the start of regular classes, or their admission will be terminated.

5. Academic Schedule and Course Registration

The academic year consists of two semesters. Admission to the program occurs twice a year, following the schedule published by the Office of the Dean. Students must register for courses at the beginning of each semester. As registration is a crucial part of the credit system, all students must be present at the college. Registration in absence is allowed only in rare cases at the discretion of the director/principal. A student's nominee cannot register for courses but may complete other formalities.

6. Addition and Withdrawal from Courses

A student will have the option to add or drop from the course. This can, however, be done only during the first week of the semester. A student wishing to withdraw from a course should apply on the prescribed form given by the college within two weeks from the starting date of the semester.

7. Attendance Requirements

The students must attend every lecture, tutorial and practical class. However, to accommodate for late registration, sickness and other such contingencies, the attendance requirements will be a minimum of 80% of the classes actually held.

8. Normal and Maximum Duration of Study

The normal duration and the maximum duration for the completion of the course for the Master of Science in Disaster Risk Engineering and Management program are as follow:

Normal duration: Two years (Four Semesters)
Maximum duration: 4+1 years from the date of registration.

(All the courses have to be completed within four years, and additional one year can be given to thesis work on special request upon the approval of concerned authority)

9. Evaluation System

A student's academic performance in a course is evaluated in two phases as:

- Internally by the concerned faculty member and
- Externally by the Office of the Controller of Examinations through semester-end Examinations.

Sixty percent weightage is given to internal evaluation and forty percent to external evaluation. The pass mark for both is sixty percent. Students must pass both evaluations separately to pass a course. The final grade is based on consolidated performance in both evaluations.

Internal evaluation may include project works, quizzes, presentations, written exams, reflection notes, etc. Students receiving a NOT QUALIFIED (NQ) status in internal evaluation are not allowed to take the semester-end exam for that course. The pass mark for each course is a minimum grade of C or a GPA of 2.0. However, students must secure a minimum CGPA of 3.0 to graduate.

10. Grading System

Pokhara University follows a four-point letter grade system. The letter grades awarded to students will be as follows:

Letter Grade	Grade Point	Description
A	4.0	Excellent
A-	3.7	
B+	3.3	Good
B	3.0	Fair
B-	2.7	
C+	2.3	
C	2.0	Pass in Individual Course
F	0.0	Fail

If a student cannot finish all the assigned works for the course, he/she will be given an incomplete grade 'I'. If all the required assignments are not completed within the following semester, the grade of 'I' will automatically be converted into 'F'.

The performance of a student is evaluated in terms of two indices: (a) Semester Grade Point Average (SGPA) which is the grade point average of the particular semester, and (b) Cumulative Grade Point Average (CGPA) which is the grade point average of all the semesters.

CGPA = [Total honor points earned] / [Total number of credits completed]

where,
Honor Point = Grade point earned in a subject × Number of credits assigned to that subject

11. Degree Requirements

To graduate from the Master of Science in Disaster Risk Engineering and Management (DREM) program, a student

- should have a 'C' or better grade in each of the courses as specified in the curricular structure section,
- complete all the courses and the 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 3 or better on the University's 4.0 grade scale.

12. Distinction and Dean's List

A Student who obtains CGPA of 3.75 or better will receive distinction in Master of Science in Disaster Risk Engineering and Management. To qualify for Dean's list, a student must have a CGPA of 3.80 or better.

13. Repeating a Course

A course may be taken only once for grade. Since passing of all courses individually is a degree requirement, the student must reappear the failed courses when offered and must complete. A student will be allowed to reappear maximum of two courses to achieve a minimum CGPA of 3.0. The grade earned on the reappeared examinations will substitute the earlier grade earned by the student in that course. A student can retake a course only when it is offered by the college/university.

14. Credit Transfer and Withdrawal

50% of the total credit hours of course work completed by a student in an equivalent program of a recognized university/institution may be transferred/ waived for credit by the Dean office on the recommendation of the Principal/ Head of the college. The thesis must be submitted and defended to the enrolled university/institution. However, for such transfer of credit, a student must have received a grade 'B' or better in that particular course. Courses taken more than two years earlier than the date of application will not be accepted for transfer of credit.

Credit transfers will also be allowed from different programs of Pokhara University. In such cases, all credits earned by students in compatible courses with a minimum grade 'B' may be transferred to the new program.

The student may apply for withdrawal from the entire semester only on medical grounds. However, partial withdrawal from courses registered in a semester will not be considered.

15. Unfair Means

Students are strictly forbidden from adopting unfair means in class assignments, tests, report-writing, final examinations and thesis work. The following would be considered as adoption of unfair means during examination:

- Communicating with fellow students for obtaining help.
- Copying form another student's script/report/paper.
- Copying from disk, mobile, palm of hand or other incriminating documents and equipment.
- Possession of any incriminating documents, whether used or not.
- Any approach in direct or indirect form to influence teacher concerning grade.
- Unruly behavior which disrupts academic program.

If the instructor/invigilator detects a student using unfair means, the student may be given an 'F' grade at the discretion of the Examination Board. Adoption of unfair means may result in the dismissal of the student from the program and expulsion of the student from the college and as such from Pokhara University.

16. Dismissal from the Program

A student is normally expected to obtain a GPA of 3.0 in the semester-end examinations of the Master of Science in Disaster Risk Engineering and Management program. If a student's performance falls short of maintaining this CGPA continuously over the semesters, he/she may be advised to leave the program or dismissed from the program.

17. Detailed Curricular Structure

The Master of Science in Disaster Risk Engineering and Management students are required to complete all the courses including internship and thesis work. The program consists mandatory courses (equivalent to 36 credit hours), elective courses (equivalent to 9 credit hours) and thesis (15 credit hours). Students are required to attend classes in the school/college and take written examinations conducted by the Controller of Examination, PU to be held at the end of every semester.

Master of Science in Disaster Risk Engineering and Management (DREM) Program
Curriculum Structure

Semester I (16 Credit Hours)			
Course Code	**Course Description**	**Credit Hours**	**Remarks**
DEM111	Principle of Disaster Risk Reduction and Management	4	Core
DEM112	Environmental and Climate Risk Engineering	4	Core
DEM113	Geotechnical Risk Engineering and Management	4	Core
DEM114	Flood Risk Engineering and Management	4	Core
Semester II (15 Credit Hours)			
DEM121	Earthquake Risk Engineering	4	Core
DEM122	Post Disaster Assessment and Response Planning	4	Core
DEM123	Geospatial Techniques / Technologies for Disaster Management	4	Core
	Elective 1	3	
DEME011	Disaster Waste and Debris Management		Elective
DEME012	Disaster Management Economics		Elective
DEME013	Hazard and Risk Modelling		Elective
DEME014	Disaster Communication and Early Warning Systems		Elective
Semester III (14 Credit Hours)			
DEM211	Research Methodology and Seminar	4	Core
DEM212	DRR Governance	4	Core
	Elective 2	3	
DEME021	Geo-hydro Informatics		Elective
DEME022	Structural Health Evaluation and Monitoring		Elective
DEME023	Water and Sanitation Engineering in Disaster		Elective
DEME024	Fire Safety Engineering		Elective
DEME025	Seismic Vulnerability Assessment		Elective
	Elective 3	3	
DEME031	Inclusive Disaster Risk Management		Elective
DEME032	Emerging Technologies for Disaster Management		Elective
DEME033	Geotechnical Design and Application		Elective
DEME034	Post Disaster Rapid Health Assessment		Elective
Semester IV (15 Credit Hours)			
DEM111	Thesis	15	Final year thesis
Total Credit Hours		**60**	