Pokhara University Faculty of Science and Technology

Course Code.: MGT 320 Full marks: 100
Course title: Engineering Management (2-1-0) Pass marks: 45
Nature of the course: Theory Time per period: 1 hour

Total periods: 30

Level: Bachelor Program: BE

1. Course Description

This course is designed to provide essential understanding of basic management knowledge and enhance their managerial capabilities integrating technology and contemporary issues. It includes introduction of management, planning, organizing, staffing, leading and motivation, controlling and recent trends in management specially tailored for software, computer and IT engineering. The course delivery will consist of lecture sessions, case studies and presentations on professional management practices.

2. General Objective

The course is designed to impart knowledge on management and emerging engineering management trends and develop skills of the students to enhance their managerial capabilities and enable them to apply in a technology-based organization.

3. Contents in Detail

Specific Objectives	Contents			
To develop a	Unit I: Introduction (6 Hrs			
foundational	1.1 Management			
understanding of	1.1.1 Functions of management			
management,	1.1.2 Level and scope of management			
organization and	1.1.3 Principles of management			
engineering management	1.2 Organization			
	1.2.1 Characteristics of organization			
	1.2.2 Types of organization: formal and informal organizations, virtual organization			
	1.3 Engineering Management			
	1.3.1 Importance of management in technology-driven environments			
	1.3.2 Engineering functions in organizations: product			
	development, operations, IT systems, quality assurance and others			
	1.3.3 Roles and responsibilities of an engineering manager			
To familiarize students	Unit II: Planning and Organizing (6 Hrs.)			
with the planning and	2.1 Planning			
organizing and identify	2.1.1 Levels of planning: strategic, tactical and operational			
their emerging issues in	2.1.2 Steps in planning			
ICT enterprises	2.1.3 Tools for planning			
	2.1.4 Importance of planning			

	2.2 Organizing				
	2.2.1 Process of organizing				
	2.2.2 Organization structure				
	2.2.3 Types of organization structure				
	2.2.2.1 Traditional structure: line and functional				
	2.2.2.2 Modern structure: matrix, network, hybrid				
	2.4 Emerging planning and organizing issues for ICT enterprises				
To enable students to	Unit III: Motivation and Leadership (6 Hrs.)				
analyze and address key	3.1 Motivation				
issues in motivating and	3.1.1 Theories of motivation: Maslow's hierarchy, Herzberg's				
leading a technical	two factor, Expectancy, Equity				
workforce	3.1.2 Techniques for motivation				
	3.2 Leadership				
	3.2.1 Leadership styles: autocratic, democratic, servant and				
	transformational				
	3.2.2 Characteristics of learning organization in the ICT				
	industry				
	3.3 Challenges and strategies for motivating and leading technical				
	workforce				
To enhance students'	Unit IV: Human Resource Management and Control (8 Hrs.)				
knowledge of human	4.1 Human Resource Management				
resource management	4.1.1 Functions of human resource management				
and control functions,	4.1.2 Job analysis, job specification, job description				
emphasizing their	4.1.3 Recruitment and selection				
practical application for	4.1.4 Human resource training (on the job and off the job)				
managing ICT	4.1.5 Performance appraisal and methods				
organization	4.1.6 Challenges in managing people in ICT workforce				
	4.2 Control				
	4.2.1 Importance				
	4.2.2 Process and types				
	4.2.3 Techniques				
	4.2.4 ICT tools for effective control of engineering projects and				
	organizations.				
To expose students to	Unit V: Emerging trends in engineering management (4 Hrs.)				
emerging trends in	5.1 Participative management, conflict resolution, change				
engineering management	management, quality management, innovation management and				
and their application in	disruption				
ICT driven organizations	5.2 Recent engineering management concepts for managing ICT				
based projects and organizations					
	L Dased Droiects and Organizations				

4. Methods of Instruction

Lecture, Tutorials, Discussions, Assignments and Presentation

5. List of Tutorials

S.N.	Tutorials
1	IT companies case studies related to management functions
2.	Students' presentation on course contents, and relevant current management issues
3.	Identification and use of recent ICT based management tools

6. Evaluation system and Students' Responsibilities Evaluation System

In addition to the formal exam(s) conducted by the Office of the Controller of Examination of Pokhara University, the internal evaluation of a student may consist of class attendance, class participation, quizzes, assignments, presentations, written exams, etc. The tabular presentation of the evaluation system is as follows.

External Evaluation	Marks	Internal Evaluation	Marks		
Semester-End Examination	50	Class attendance and participation	10		
		Case Study Discussion	5		
		Quizzes/assignments and presentations	5		
		Internal Term Exam	30		
Total External	50	Total Internal	50		
Full Marks 50+50=100					

Students' Responsibilities:

Each student must secure at least 45% marks in the internal evaluation with 80% attendance in the class to appear in the Semester End Examination. Failing to obtain such a score will be given NOT QUALIFIED (NQ) and the student will not be eligible to appear in the End-Term examinations. Students are advised to attend all the classes and complete all the assignments within the specified time period. Students are required to complete all the requirements defined for the completion of the course.

7. Prescribed Books and References

Test and Reference Books

- 1. Harold Koontz and Heinz Weihrich, Essentials of Management
- 2. Prem Raj Pant, Principles of Management
- 3. Govinda Ram Agrawal, Organization and Management in Nepal.

Recommended Resources

- 1. Online resources on content and cases
- 2. Articles collected from various Journals and Periodicals