

HSHS3001 BUSINESS MANAGEMENT (3-0-0)

Course Objectives

By the end of this course, students will be able to:

- Understand fundamental management principles
- Learn project management techniques and its application
- Understand the financial aspects of engineering decisions
- Demonstrate leadership, communication, and team management skills
- Understand the basics of entrepreneurship and innovation management

Module-I: Management Foundations and Organizational Dynamics

Introduction to Management: Functions of Management; Evolution of management thought and its relevance to engineering; Management vs. Leadership: Key distinctions; Decision-making processes; Organizational design and structure; Team dynamics and group behaviour; Motivation theories and their application to technical teams; Organizational Communication; Cultural considerations in global business environment

Module-II: Project Management and Financial Decision Making

Project lifecycle and phases; Work breakdown structure and scheduling; Resource allocation and budgeting; Risk management in engineering projects; Quality management and control; Basic financial statements and their interpretation; Time value of money; Budgeting and cost control; Return on investment (ROI) and net present value (NPV); Funding sources for engineering projects; Cost-benefit analysis for technical decisions

Module-III: Leadership, Innovation and Entrepreneurship

Leadership styles and their effectiveness; Managing technical teams and professionals; Performance management and feedback; Recruitment and selection in engineering roles; Training and development of technical staff; Ethical leadership in engineering; Innovation management; Technology transfer and commercialization; Startup fundamentals; Intellectual property basics; Business model development

Course Outcomes

- CO1: Recall fundamental management principles, organizational theories, and project management methodologies, key financial concepts used in engineering decision-making.
- CO2: Explain the relationship between management functions (planning, organizing, leading, controlling) and their application.
- CO3: Demonstrate project management skills and apply financial analysis techniques for decision making.
- CO4: Analyse organizational behaviour patterns, team dynamics, and performance issues in engineering management contexts.
- CO5: Judge ethical implications of management decisions and leadership actions in professional engineering practice.
- CO6: Create integrated management solutions for solving complex business problems.

Reference Books:

1. "Management Theory and Practice" by C.B. Gupta
2. "Essentials of Management" by Koontz, Weihrich, and Aryasri (Indian Edition)
3. "Project Management for Engineering and Technology" by N.K. Sharma
4. "Financial Management: Theory and Practice" by Prasanna Chandra
5. "Organizational Behaviour" by Aswathappa K.
6. "Human Resource Management" by V.S.P. Rao
7. "Entrepreneurship Development" by S.S. Khanka
8. "Operations Management" by R. Panneerselvam