

MOOC APPROVAL REQUEST

As per KTU B.Tech Regulations 2024, Section 17

KTU COURSE

Code: HMCET502
Name: Project Management

NPTEL COURSE

Name: Project Management
Instructor: Prof. Ramesh Anbanandam
Institution: IIT Roorkee
Duration: 8 Weeks
Course ID: noc26-mg77

Semester: Jan-Apr 2026
Date: December 02, 2025

Document Contents:

1. KTU Course Syllabus (Complete)
2. NPTEL Course Details
3. Syllabus Comparison Report

KTU Syllabus not available



PROJECT MANAGEMENT

PROF. RAMESH ANBANANDAM

Department of Management Studies
IIT Roorkee

INTENDED AUDIENCE : 1. Undergraduate Engineering Courses-All discipline

2. Management Courses- All discipline

INDUSTRY SUPPORT : All software companies.

Manufacturing Companies

Construction companies

COURSE OUTLINE :

Many often question the significance of project management and the necessity of a manager overseeing diverse projects within organisations. A project manager plays a crucial role in unifying a team towards a common goal and ensuring the seamless progress of a project. Project management provides guidance, fosters a sense of direction, propels the team forward, eliminates obstacles, coaches team members, and motivates them to perform at their best. To excel in project management, one must possess diverse skills. Effective project managers should demonstrate exceptional organisational capabilities, swiftly solve problems and communicate clearly. This course focuses on imparting project management concepts and techniques, offering learners a structured approach to understanding these concepts step-by-step.

ABOUT INSTRUCTOR :

Prof. Ramesh Anbanandam has supply chain management and transportation expertise. Currently serving as Professor in the Department of Management Studies at the Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India, Prof. Ramesh's research interests revolve around transportation and supply chain management. He specialises in sustainable multimodal transportation logistics, humanitarian supply chains, healthcare supply chains and waste management, and the adoption of electric vehicles in India. Furthermore, he is enthusiastic about exploring the potential applications of artificial intelligence (AI) in transportation and supply chain management problems.

Prof. Ramesh is an accomplished teacher who has taught several courses in the management field, including supply chain management, data analytics, project management, and operations research. He is also passionate about teaching the latest topics, such as IoT applications in management, circular supply chains for sustainability, and data science and big analytics. He has supervised 10 PhD theses and 13 M. Tech projects and has been recognised for his outstanding teaching abilities with the Outstanding Teacher Award in 2022 from IIT Roorkee.

Prof. Ramesh has edited three books, including "Flexibility, Innovation, and Sustainable Business" in collaboration with Santosh Rangnekar, which was published by Springer in 2022. He has also edited "Lean and Green Manufacturing: Towards Eco-Efficiency and Business Performance" with M. Kallian, H. Vimal, and A. Agrawal, which was published by Springer in 2021. Additionally, he was a co-author of the Indian edition of the book "Project Management: A Strategic Managerial Approach" published by Wiley in 2022.

Besides his academic and teaching responsibilities, Prof. Ramesh has taken up several administrative responsibilities at the institute and department levels. He also organised two major conferences, the 18th Annual International Conference of the Society of Operations Management in 2014 and the 19th Global Conference on Flexible Systems Management, GLOGIFT-19, in 2019.

Prof. Ramesh is a Life Member of four professional societies, including the Indian Institution of Industrial Engineers, the Society of Operations Management, the Global Institute of Flexible Systems Management, and the Indian Society for Technical Education. He has received several accolades for his contributions to the field of management, including the Award for Excellence in PhD Research in 2020 from IIT Roorkee and the Literati Award for Excellence in 2011 and 2016 under the "Highly Commended Research Paper in the Year" category for his papers published in Emerald publications. He is currently the Associate Editor for the International Journal of Revenue Management, published by Inderscience Publishers and listed under the ABDC-C category.

COURSE PLAN :

Week 1:

Part-I Project Initiation

Lecture 1 - Introduction to project management - I

Lecture 2 - Introduction to project management -II

Lecture 3 - Agile project management

Lecture 4 - Project strategy and selection overview

Lecture 5 - Project selection models

Week 2:

Part-I Project Initiation

Lecture 6 - Project manager

Lecture 7 - Attributes of Effective Project Manager

Lecture 8 - Managing for stakeholders

Lecture 9 - Resolving Conflicts

Lecture 10 - Negotiation

Week 3:

Part-I Project Initiation

Lecture 11 - Project in the organization structure

Lecture 12 - Human factors and the project team

Part-II Project Planning

Lecture 13 - Traditional project activity planning

Lecture 14 - Agile project planning, Project charter

Lecture 15 - Coordination through integration management

Week 4:

Part-II Project Planning

Lecture 16 - Project feasibility analysis,

Lecture 17 - Estimating project budgets

Lecture 18 - Project risk management

Lecture 19 - Quantitative risk assessment methodologies

Lecture 20 - Critical path method (CPM)

Week 5:

Part-II Project Planning

Lecture 21 - Programme evaluation and review technique (PERT)

Lecture 22 - Risk analysis with simulation for scheduling

Lecture 23 - Gantt Chart, Scheduling with scrum

Lecture 24 - Crashing a project

Lecture 25 - Resource loading

Week 6:

Part-II Project Planning

Lecture 26 - Resource levelling, Case study on Statue of Unity

Lecture 27 - Goldratt's critical chain

Part-III Project Execution

Lecture 28 - Planning-monitoring-controlling cycle

Lecture 29 - Earned value analysis

Lecture 30 - Agile tools for tracking project

Week 7:

Part-III Project Execution

Lecture 31 - Three types of project-controlling

Lecture 32 - Control of change scope and scope creep

Lecture 33 - Project audit,

Lecture 34 - Essentials of an audit/evaluation

Lecture 35 - When to close a project

Week 8:

Part-III Project Execution

Lecture 36 - Benefits realisation, Case study on the success of Chandrayan-3

Part-IV IT for Project Management

Lecture 37 - Software for project management

Lecture 38 - Demo on project management software

Lecture 39 - Simulations software for project management

Lecture 40 - Course Summary

SYLLABUS COMPARISON

KTU: HMCET502 - Project Management
NPTEL: Project Management

| KTU SYLLABUS TOPICS | NPTEL SYLLABUS TOPICS | OK |
|---|--------------------------------------|----|
| Module 1: Project Planning, Scheduling | Project Planning, WBS, Scheduling | ▪ |
| Module 2: Resource Management | Resource Allocation, Cost Management | ▪ |
| Module 3: Risk Management | Risk Analysis, Quality Management | ▪ |
| Module 4: Monitoring, Control | Monitoring, Earned Value | ▪ |

CONTENT OVERLAP: $\geq 70\%$

The above comparison confirms that the NPTEL course content matches at least 70% of the KTU syllabus as required by R 17.4.