

TM105: Technology, Innovation & Society

Course Information

Particular	Details
Course Code	TM105
Course Title	Technology, Innovation & Society
Programme	MBA (Technology Management)
Category	Core/Foundation
Credits	4
L-T-P	3-1-0
Contact Hours	60
Semester	I
Prerequisite	None

Course Description

This course explores the dynamic relationship between technology, innovation, business, and society. It examines technological evolution, innovation management, sustainability, ethics, public policy, entrepreneurship, digital transformation, and the societal implications of emerging technologies. The course prepares future technology managers to make responsible, innovative, and sustainable decisions in a rapidly evolving global environment.

Course Objectives

After successful completion of the course, students will be able to:

1. Understand the role of technology and innovation in economic and social development.
 2. Examine the innovation ecosystem and technology management practices.
 3. Analyse the societal, ethical, legal, and environmental implications of technological advancements.
 4. Evaluate policies, entrepreneurship, and sustainability related to technological innovation.
 5. Develop responsible innovation strategies for technology-driven organizations.
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Course Outcomes (COs)

At the end of the course, students will be able to:

CO	Course Outcome	Bloom's Level
CO1	Explain the concepts of technology, innovation, and their role in socio-economic development.	K2 (Understand)
CO2	Apply innovation management frameworks and technology life cycle concepts to organizational contexts.	K3 (Apply)
CO3	Analyse the impact of emerging technologies on business, society, governance, and sustainable development.	K4 (Analyse)
CO4	Evaluate ethical, legal, environmental, and policy issues associated with technological innovations.	K5 (Evaluate)
CO5	Assess entrepreneurship, intellectual property, and technology commercialization strategies for innovation-driven enterprises.	K5 (Evaluate)
CO6	Design responsible innovation strategies addressing societal challenges through technology management.	K6 (Create)

Course Contents

Unit I: Technology and Society

Evolution of Technology, Technology and Economic Development, Industrial Revolutions, Industry 4.0 and Society 5.0, Technology and Social Change, Technology Adoption Models, Technology Diffusion, Digital Transformation, Inclusive Technology

Tutorials: Case Study on Industrial Revolutions, Technology Adoption Analysis

Unit II: Innovation Management

Concepts of Innovation, Types of Innovation, Innovation Process, Innovation Ecosystem, Technology Life Cycle, Design Thinking, Open Innovation, Disruptive Innovation, Innovation Strategy, Technology Road mapping

Tutorials: Innovation Canvas, Design Thinking Workshop

Unit III: Emerging Technologies and Society

Artificial Intelligence, Internet of Things (IoT), Block chain, Cloud Computing, Robotics, Digital Manufacturing, Smart Cities, Green Technologies, Biotechnology, Future of Work, Digital Economy

Tutorials: Emerging Technology Case Analysis, Technology Impact Assessment

Unit IV: Ethics, Policy and Sustainability

Technology Ethics, Responsible Innovation, Data Privacy, Cyber Security, Intellectual Property Rights, Technology Laws, Digital Governance, Environmental Sustainability, Circular Economy, ESG Framework, Sustainable Development Goals (SDGs)

Tutorials: Ethical Dilemma Discussion, ESG Reporting Case Study

Unit V: Technology Entrepreneurship and Commercialization

Tutorials: Start-up Business Model Development, Innovation Pitch Presentation

1. **Tidd, Joe & Bessant, John (2020).** *Managing Innovation: Integrating Technological, Market and Organizational Change* (7th Edition). **Wiley**.
2. **Schilling, Melissa A. (2023).** *Strategic Management of Technological Innovation* (8th Edition). **McGraw-Hill Education**.
3. **Rogers, Everett M. (2003).** *Diffusion of Innovations* (5th Edition). **Free Press**.
4. **Christensen, Clayton M. (2016).** *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Reprint Edition). **Harvard Business Review Press**.

1. **Drucker, Peter F. (2006).** *Innovation and Entrepreneurship: Practice and Principles* (Revised Edition). **HarperBusiness.**
2. **Chesbrough, Henry (2006).** *Open Innovation: The New Imperative for Creating and Profiting from Technology* (Updated Edition). **Harvard Business School Press.**
3. **Frey, Carl Benedikt (2019).** *The Technology Trap: Capital, Labor, and Power in the Age of Automation* (1st Edition). **Princeton University Press.**
4. **Schwab, Klaus (2017).** *The Fourth Industrial Revolution* (1st Edition). **Crown Business.**
5. **World Intellectual Property Organization (WIPO) (2020).** *WIPO Intellectual Property Handbook: Policy, Law and Use* (2nd Edition). **WIPO Publication.**
6. **OECD (2023).** *OECD Science, Technology and Innovation Outlook* (Latest Edition). **OECD Publishing.**

COs PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11 PO12

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