

# INDIAN INSTITUTE OF TECHNOLOGY KANPUR

## DEPARTMENT OF MANAGEMENT SCIENCES

### Proposal for New Course

1. **Course Title:** Digital Transformation: From Conceptualization to Realization
2. **Course Number:** DMSXXX
3. **Credits:** 3-0-0-1[10]
4. **Duration of the course:** Full semester
5. **Proposing Instructor:** Suvendu Naskar
6. **Proposing department:** Management Sciences
7. **Pre-requisite Courses:** None. Understanding of the technology landscape and overall business models and business processes will help.
8. **Other Interested Faculty:**

#### Course Description

This course provides a comprehensive understanding of digital transformation, exploring the journey from initial conceptualization to successful implementation. Students will delve into the theoretical foundations, strategic approaches, technological advancements, implementation processes, and practical case studies essential for leading digital transformation initiatives.

Emergence of Industry 4.0, Smart machines and constantly evolving technology landscape, every single organization is aiming to achieve the full potential of emerging technologies ahead of maturity. This not only ensures that they remain in the efficient frontier of the race but also ensures that they remain relevant to the constantly evolving business landscape. In today's date even the established businesses are constantly abreast of the potential competitions, which may come from any direction, making itself ready for technology backed process reengineering. For instance, an e-commerce firm can challenge the conventional business entity such bank or insurance. All these are possible due to the disruptive capability of digital technologies, that not only revamp existing business process often create new business process.

This course is designed keeping in mind senior MBA, M.Tech or senior UG's who are going to be the trailblazer of the current digital revolution. This course is highly case based, interactive and small class set up. In this experiential and participatory learning based course, external senior executives will

complement class room theories. The objective is to ensure that participants are not only involved understanding the nuances of digital transformation, by the end of the course they should be able to think business process from the lens of emerging technologies.

**Course Objective:**

- Understand the need and potential impact of digital, and learn to adapt to this fast-changing environment
- Build a strong foundation in the current competitive market through a high level digital-led strategy
- Explore emerging technologies like AI, Generative AI, IoT, Blockchain, Bigdata, Cloud Computing. The technologies that are expected to be covered are moving agenda and will be updated with time.
- Create strategic & operational plans across the value chain
- Use techniques to calculate risks and rewards of digital implementation in the changing industry landscape
- Analyze real-world case studies to understand the impact and challenges of digital transformation.

**Course Content**

Sl. No.	Broad Title	Topics	No. of Lectures
1.	Introduction to Digital Transformation	Overview, Historical background, trends and drivers of digital transformation	2
2.	Digital Transformation Frameworks and Strategies	Understanding popular frameworks, Strategic planning for digital transformation, Building a roadmap	2
3.	Technologies Enabling Digital Transformation	Introductory sessions of all critical technologies such as AI, Big-Data, IIoT, Cloud Computing, Additive Manufacturing, 3-D printing, Blockchain and any other as seem appropriate at the time of course	4
4.	Digital culture and Organization Change Management	Leading digital strategy and ensuring cultural change at the core. Skills and competency development, role of top management in leading the initiatives	2
5.	Implementing Digital Transformation	Design and execution, Managing transformation project, Measuring Success and ROI.	2
6.	Building Information capabilities for digital initiatives	Operating Models, Enterprise architecture, social circumstances and presence, innovation mechanisms	2
7.	Case studies and Best	Few critical digital transformation cases in retail,	5

	Practices	manufacturing, healthcare, banking, Insurance etc.	
8.	Risks and Mitigation Strategies	Potential risks	2
9.	Future of Digital Transformation	Sustainability and Digital Transformation, Digital Transformation in the emerging concept of Information economies	3
10.	Presentations/Business applications	Present your business plan	3

**Remark:**

This is a course which is intended to align and mimic current trends in the Industry. Therefore majority of the content will be picked from contemporary Industry reports, Company announcements and analyst’s reports. This is an application and Industry oriented course for students who intend to join industry as business analyst, functional analyst, management trainee or similar roles in another year or so.

- Students will read class material, study best and worst practices, compare and contrast real-world examples, engage in problem solving, and participate in discussions related to the course material.
- Majority of course materials, cases and frameworks will evolve over time and might change over the period.
- Industry practitioners will be invited to share their experience of digital journey in addition to on class theory and discussions.
- Students are not expected to just listen but start to think digitally. Therefore at the end of the course students will be asked to develop their own digital business plans based on class discussion. This is a major component of evaluation. This is to ensure the thought process is absorbed philosophically.

This course does not require any specific software, however access to several Industry reports and technology commentaries, assessments and consulting frameworks will be immensely helpful.

**Textbooks & References**

Listed below are some of the indicative books, other resources will be shared during class based on the expertise and ability of students/participants.

**Text Books:**

- "Leading Digital: Turning Technology into Business Transformation" by George Westerman, Didier Bonnet, and Andrew McAfee.
- “Digital Transformation: Survive and Thrive in an Era of Mass Extinction" by Thomas M.

Siebel.

- “Digital Business Models Perspectives on Monetisation” by Adam Jabłoński, Marek Jabłoński
- “EDGE: Value-Driven Digital Transformation “ by David Robinson, Jim Highsmith, and Linda Luu
- “Digital to the Core: Remastering Leadership for Your Industry, Your Enterprise, and Yourself” by Mark Raskino and Graham Waller

In addition to books mentioned above, this course will heavily rely upon latest conferences, research reports and contemporary research articles.

- **Articles and Papers:** Latest research and industry reports on digital transformation.
- **Online Resources:** Access to relevant webinars, podcasts, and online courses.
- **Case Studies:** Real-world case studies from Harvard Business Review, McKinsey & Company, and other reputable sources.

### Assessment Methods:

- **Assignments and Quizzes:** Analytical essays, case study analyses, strategic planning exercises, technology evaluations. (20%)
- **Projects:** Develop a comprehensive digital transformation strategy for a hypothetical or real organization, including detailed implementation plans and ROI analysis. (30%)
- **Examinations:** Mid-term AND/OR final exams covering theoretical and practical aspects of digital transformation. (30%)
- **Participation:** Active participation in discussions/attendance, group activities, and peer reviews.(20%)

Signature of Proposer:



Sd/- Suvendu Naskar [Date: 30 Nov 2024]

This course is Approved/ Not Approve

Convener, DoMS

This course is Approved/ Not Approved DPGC

Chairperson SPGC