

Course Outcomes: Upon completion of this course, the students will be able to:

- CO1: Understand the key components and enablers of Industry 4.0 Technology
- CO2: Appreciate the smartness in Smart Factories, smart products and smart Services.
- CO3: Outline Smart Factory technologies and their role in an Industry 4.0 world
- CO4: Outline IoT technology and scope of implementing IoT in Industries and businesses.
- CO5: Comprehend distributed cyber-physical and digital manufacturing system
- CO6: Demonstrate the opportunities, challenges brought about by Industry 4.0 and how organizations and individuals should prepare to reap the benefits

Lesson Plan

1	Course Introduction		
2	Evolution of Industrial Revolutions	CO1	SP
3	Industry 4.0 Environment and Design Principle	CO1	SP
4	Core Technologies: AI	CO3	SP
5	Core Technologies: Big Data and Analytics	CO3	SP
6	Core Technologies: Cyber Physical Systems	CO3	SP
7	Core Technologies: Cloud Computing and Fog Computing	CO3	SP
8	Core Technologies: Block Chain and Cybersecurity	CO3	SP
9	Core Technologies: Additive Technology (CAD, 3D Printing)	CO3	Mech
10	Core Technologies: Augmented Reality and Virtual reality	CO3	SP
11	Internet of Services	CO4	A Pati
12	Basics of Industrial IoT	CO4	APati
13	Architecture of IIoT	CO4	A Pati
14	Industrial Internet System	CO4	A Pati
15	Value chain in manufacturing Industry	CO5	Mech
16	Sensing and Computing	CO5	Mech
17	Digital Twins	CO5	Mech
18	Digital and human work space	CO5	Mech
19	Collaboration platform and lifecycle management	CO5	Mech
20	Introduction to Smart Factory	CO5	Mech
21	Health 4.0	CO2	ELEC
22	Case Study: Agriculture	CO2	ELEC
23	Case Study: Oil and Petroleum	CO2	ELEC
24	Case Study: Energy and Smart Grid	CO2	ELEC
25	Case Study: Textile Industry/ Real Estate/ Maritime/ Tourism/ Forestry	CO2	ELEC
26	Infrastructure/ Food & Beverage/ Insurance/Legal/ HR/ Customer,	CO2	ELEC
27	Adaptation Challenges	CO6	Mech
28	Implementation Framework Challenges	CO6	Mech
29	Futuristic Opportunity	CO6	Mech
30	Economical Impact	CO6	Mech

Google Form Quiz1 30 questions: Pre Midsem, To be Conducted on same day (Scaled to 6 marks)

Google Form Quiz2 40 questions: Post Midsem (Scaled to 8 marks)

Case Study1: Report and Video of presentation (8-marks)

Case Study2: Report and Video of presentation (8--marks)