

Course Code	Course Title	L	T	P	C
<b>BMEE411L</b>	<b>Society 5.0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>Pre-requisite</b>	<b>NIL</b>	<b>Syllabus version</b>			
		<b>1.0</b>			
<b>Course Objectives</b>					
<ol style="list-style-type: none"> <li>1. To understand the reasons and impacts of Society 5.0 and the kind of society it portrays.</li> <li>2. To inculcate the students in taking up society problems and use technology with knowledge to address them.</li> <li>3. To demonstrate the future of a data driven society.</li> </ol>					
<b>Course Outcomes</b>					
<ol style="list-style-type: none"> <li>1. Understand the four parallel key concepts of the society and the opportunities for cutting edge technologies to solve social issues without affecting individual's interest.</li> <li>2. Demonstrate the importance of citizen oriented sustainable and smart cities to Society 5.0.</li> <li>3. Examine the impact of technological advancement (from IoT to IoH) on Society 5.0 to attain happiness.</li> <li>4. Apply the methodologies to solve the societal problems through industry and academia collaboration.</li> <li>5. Comprehend the future of the data-driven society that Society 5.0 espouses.</li> <li>6. Interpret how various agencies collaborates to forge a richer society.</li> </ol>					
<b>Module:1</b>	<b>Introduction to Society 5.0</b>	<b>6 hours</b>			
Our Approach to Society 5.0 - Merging Cyberspace with Physical Space - Knowledge-Intensive Society - Data-Driven Society - Industry 4.0 and Society 5.0					
<b>Module:2</b>	<b>Habitat Innovation</b>	<b>6 hours</b>			
The Social Issues - Habitat Innovation Framework - Using the Habitat Innovation Framework to Solve Key Social Issues					
<b>Module:3</b>	<b>Smart City to Society 5.0</b>	<b>6 hours</b>			
Introduction to Smart City - Smart Energy Management Systems - Japan's Smart Communities/Cities - Sustainable Cities and Smart Cities - From Citizen-Led Smart City to Society 5.0					
<b>Module:4</b>	<b>Integrating Urban Data with Urban Services</b>	<b>6 hours</b>			
Architecture for Integrating Urban Information - Symbiosis of Urban Systems-Symbiotic Autonomous Decentralized System - Personal Data Protection-Anonymous Analysis Technology - Measuring Happiness-Internet of things-Internet of Humans transition- IoT driven digitization-Internet of Humans-Concept benefits and challenges.					
<b>Module:5</b>	<b>Impact of Industry–Academia Collaboration</b>	<b>8 hours</b>			
Transformation of Cities using Society 5.0 - Building a Habitat to Support the 100-Year Life - Carbon-Free Society: “Energy” × “Life” Management - Local Co-creation and Data-Driven Urban Planning					
<b>Module:6</b>	<b>Monetary to Nonmonetary Society</b>	<b>8 hours</b>			
Data-Driven and Nonmonetary Society - Digital Platforms in Society 5.0 - Role of Cash in a Data-Driven Society - Private Ownership to Collaborative Commons: Wealth in a Post-capitalist Society - Society 5.0 and “Human Co-becoming”					

<b>Module:7</b>	<b>Collaborative knowledge management for a richer society</b>	<b>3 hours</b>
Common Goal of Society 5.0 - Fostering the Mind-Set to Try Something New - Innovation from Melting Pot of Ideas - Industry–Academia–Government Collaboration for Building an Innovation Ecosystem - Linking Research Activities to Sustainable development goals (SDG)		
<b>Module:8</b>	<b>Contemporary Issues</b>	<b>2 hours</b>
<b>Total Lecture hours:</b>		<b>45 hours</b>
<b>Text Book(s)</b>		
1.	Hitachi-UTokyo Laboratory (H-UTokyo Lab.) Tokyo, Japan, Society 5.0- A People-centric Super-smart Society, 1 <sup>st</sup> edition, Springer, 2020.	
<b>Reference Books</b>		
1.	Salgues, Bruno - Society 5.0- Industry of the future, technologies, methods and tools, 1 <sup>st</sup> edition, ISTE Ltd. Hoboken, 2018.	
2.	Mahdi Fathi, M KhakiFirooz, P M Pardalos- Optimization in Large Scale Problems: Industry 4.0 and Society 5.0 Applications, 1 <sup>st</sup> edition, Springer, 2019.	
Mode of Evaluation: CAT / Assignment / Quiz / FAT / Project / Seminar		
Recommended by Board of Studies		03-03-2023
Approved by Academic Council		No. 69   Date   16-03-2023