

## Department of Mechanical Engineering

### Course Outcomes of all courses of B Tech 8<sup>th</sup> semester MECHATRONICS

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C411- Automated Manufacturing–II	C 411.1	<i>Define</i> the basic elements of automation, advance automation function, and levels of automation. <b>(Level-1)</b>
	C 411.2	<i>Classify</i> NC/CNC systems and part programming. <b>(Level-2)</b>
	C 411.3	<i>Describe</i> the concept of Group Technology and part classification and coding. <b>(Level-2)</b>
	C 411.4	<i>Recognize</i> Flexible Manufacturing Systems and its elements. <b>(Level-2)</b>
	C 411.5	<i>understand</i> computer aided production management, <i>describe</i> the role and function of various department and importance of computer integrated manufacturing. <b>(Level-2)</b>

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Course	COURSE OUTCOMES	
<b>C412- Production and Product Management</b>	<b>C412.1</b>	<i>Describe</i> the functions of production management and costing and cost analysis. ( Level 1,2,4 )
	<b>C412.2</b>	<i>Describe</i> the <i>Analyze</i> the different methods of sales forecasting. (Level 2,5 )
	<b>C412.3</b>	<i>Describe</i> and <i>Analyze</i> the methods of Production Planning and Control and also distinguish the material handling methods. (Level 3,4)
	<b>C412.4</b>	<i>Describe</i> and <i>Analyze</i> the process of store keeping and inventory control. (Level 2)
	<b>C412.5</b>	<i>Describe</i> and <i>Analyze</i> the methods of quality control. (Level 6)

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Course	COURSE OUTCOMES	
<b>413- Industrial Automation</b>	<b>C413.1</b>	Understand the fundamentals of Process Control and Control System Evaluation Level: Understand (2)
	<b>C413.2</b>	Describe Data Acquisition Systems (DAS) and their components Level: Understand (2)
	<b>C413.3</b>	Explain Controller Principles and Modes Level: Analyze (4)
	<b>C413.4</b>	Discuss Analog Controllers and Programmable Logic Controllers (PLC) Level: Evaluate (5)
	<b>C413.5</b>	Understand Distributed Control Systems (DCS) Level: Understand (2)

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Course	COURSE OUTCOMES	
<b>C414- Flexible Manufacturing System (Lab)</b>	<b>C414.1</b>	Demonstrate knowledge of interfacing and automation techniques. Level: Understand (2)
	<b>C414.2</b>	Explain the concepts of automation combined with advanced manufacturing. Level: Understand (2)
	<b>C414.3</b>	Analyze sequence planning, process planning, and shop floor layout generation. Level: Analyze (4)
	<b>C414.4</b>	Evaluate offline/online sequence execution techniques. Level: Evaluate (5)
	<b>C414.5</b>	Apply data acquisition and process techniques effectively. Level: Apply (3)

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Course	COURSE OUTCOMES	
<b>C415 Mechatronics Systems Design (Lab)</b>	<b>C415.1</b>	Demonstrate understanding of mechanical linear translation systems. Level: Understand (2)
	<b>C415.2</b>	Explain the function and application of special purpose actuators in pneumatics. Level: Understand (2)
	<b>C415.3</b>	Analyze various types of sensors and their application areas. Level: Analyze (4)
	<b>C415.4</b>	Evaluate the construction and usage of various types of conveyors in automation. Level: Evaluate (5)
	<b>C415.5</b>	Design and simulate palletizing systems in conveyor systems for high-speed production. Level: Create (6)



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# Chhatrapati Shivaji Institute of Technology

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Course	COURSE OUTCOMES	
C416- Project (Phase-II)	C416.1	Demonstrate proficiency in using relevant software tools for data analysis. <b>Level: 3</b>
	C416.2	Analyze and interpret experimental results to draw meaningful conclusions. <b>Level: 4</b>
	C416.3	Critically evaluate existing research literature related to the project topic. <b>Level: 5</b>
	C416.4	Design and implement a solution to address a specific problem identified in the project. <b>Level: 6</b>
	C416.5	Communicate project findings effectively through written reports and oral presentations. <b>Level: 5</b>