

GOVERNMENT POLYTECHNIC GARIYABAND

GARIYABAND (C.G.)

LESSION PLAN

SESSION - JAN-JUNE 2025

NAME OF FACULTY : CHANDRESH KUMAR DEWANGAN

DESIGNATION : LECTURER (MECHANICAL)

DEPARTMENT : MECHANICAL ENGINEERING

COURSE : COMPUTER AIDED MODELING
AND MANUFACTURING

COURSE CODE :
2037674(037)

SEMESTER : VI

SESSION STARTS FROM : 06.01.2025

| Lecture No. | Unit No. | Topic to be Covered | Planned Date | Execution Date | Remarks |
|-------------|----------|--|--------------|----------------|--|
| 1 | 1 | CAD – Definition, Concept & Need | 06.01.2025 | 08/01/25 | Lecture + PPT + Software Demonstration |
| 2 | 1 | CAD Process & Functional Areas | 08.01.2025 | 15/01/25 | Lecture + PPT + Software Demonstration |
| 3 | 1 | CAD Workstation – Types & Configuration | 13.01.2025 | 20/01/25 | Lecture + PPT + Software Demonstration |
| 4 | 1 | CAD Software – Types, Features & Limitations | 15.01.2025 | 22/01/25 | Lecture + PPT + Software Demonstration |
| 5 | 1 | CAM – Concept & NC, CNC, DNC | 20.01.2025 | 27/01/25 | Lecture + PPT + Software Demonstration |
| 6 | 1 | CNC Machines – Advantages, Limitations & Selection | 22.01.2025 | 29/01/25 | Lecture + PPT + Software Demonstration |
| 7 | 2 | 3D Working Environment & Coordinate System | 27.01.2025 | 03/02/25 | Lecture + PPT + Software Demonstration |
| 8 | 2 | Solid Modeling – Extrude, Revolve | 29.01.2025 | 10/02/25 | Lecture + PPT + Software Demonstration |
| 9 | 2 | Sweep, Loft, Draft & Advanced Features | 03.02.2025 | 15/02/25 | Lecture + PPT + Software Demonstration |
| 10 | 2 | Editing Tools – Trim, Extend, Chamfer, Round | 05.02.2025 | 24/02/25 | Lecture + PPT + Software Demonstration |
| 11 | 2 | Mirror, Pattern, Copy & Move | 10.02.2025 | 03/03/25 | Lecture + PPT + Software Demonstration |
| 12 | 2 | Parametric vs Non-Parametric Modeling | 12.02.2025 | 05/03/25 | Lecture + PPT + Software Demonstration |
| 13 | 2 | Assembly Modeling – Concepts & Constraints | 17.02.2025 | 10/03/25 | Lecture + PPT + Software Demonstration |

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|-------------|----------|---|--------------|----------------|--|
| 14 | 2 | Exploded View & Surface Modeling Basics | 19.02.2025 | 12/03/25 | Lecture + PPT + Software Demonstration |
| 15 | 3 | Orthographic Projections – All Views | 24.02.2025 | 17/03/25 | Lecture + PPT + Software Demonstration |
| 16 | 3 | Sectional & Auxiliary Views | 26.02.2025 | 19/03/25 | Lecture + PPT + Software Demonstration |
| 17 | 3 | Isometric Views & Visualization | 03.03.2025 | 24/03/25 | Lecture + PPT + Software Demonstration |
| 18 | 3 | Dimensioning & Geometrical Tolerancing | 05.03.2025 | 26/03/25 | Lecture + PPT + Software Demonstration |
| 19 | 3 | Assembly Drawing Preparation | 10.03.2025 | 02/04/25 | Lecture + PPT + Software Demonstration |
| 20 | 3 | BOM, Page Setup & Plot Commands | 12.03.2025 | 07/04/25 | Lecture + PPT + Software Demonstration |
| 21 | 4 | Introduction to CNC Turning Machine | 17.03.2025 | 09/04/25 | Lecture + PPT + Software Demonstration |
| 22 | 4 | CNC Milling Machine – Construction & Features | 19.03.2025 | 16/04/25 | Lecture + PPT + Software Demonstration |
| 23 | 4 | CNC Part Programming – Basics (G & M Codes) | 24.03.2025 | 21/04/25 | Lecture + PPT + Software Demonstration |
| 24 | 4 | Manual Part Programming Examples | 26.03.2025 | 23/04/25 | Lecture + PPT + Software Demonstration |
| 25 | 4 | Tool Offsets & Work Offsets | 31.03.2025 | 30/04/25 | Lecture + PPT + Software Demonstration |
| 26 | 4 | CNC Simulation & Applications | 02.04.2025 | 05/05/25 | Lecture + PPT + Software Demonstration |

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|-------------|----------|---|--------------|----------------|--|
| 27 | 5 | Introduction to Flexible Manufacturing System (FMS) | 07.04.2025 | 07/05/25 | Lecture + PPT + Software Demonstration |
| 28 | 5 | Computer Integrated Manufacturing (CIM) | 09.04.2025 | 13/05/25 | Lecture + PPT + Software Demonstration |
| 29 | 5 | Group Technology & Coding System | 14.04.2025 | 13/05/25 | Lecture + PPT + Software Demonstration |
| 30 | 5 | Automation in Manufacturing | 16.04.2025 | 14/05/25 | Lecture + PPT + Software Demonstration |
| 31 | 5 | Industrial Applications of CAD/CAM | 21.04.2025 | 14/05/25 | Lecture + PPT + Software Demonstration |
| 32 | 5 | Final Revision & Model Paper Discussion | 23.04.2025 | 14/05/25 | Lecture + PPT + Software Demonstration |



Chandresh Ku. Dewangan.



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SESSION STARTS FROM : 06.01.2025

| Practical No. | Unit No. | Experiment / Work Title | Planned Date | Execution Date | Remarks |
|---------------|----------|--|--------------|----------------|--------------------------|
| 1 | 1 | CAD Basics & Interface Practice – Exercise 1 (Hour 1) | 07.01.2025 | 07/01/25 | Hands-on Practice (1 hr) |
| 2 | 1 | CAD Basics & Interface Practice – Exercise 2 (Hour 2) | 07.01.2025 | 07/01/25 | Hands-on Practice (1 hr) |
| 3 | 1 | CAD Basics & Interface Practice – Exercise 3 (Hour 1) | 09.01.2025 | 09/01/25 | Hands-on Practice (1 hr) |
| 4 | 1 | CAD Basics & Interface Practice – Exercise 4 (Hour 2) | 09.01.2025 | 09/01/25 | Hands-on Practice (1 hr) |
| 5 | 1 | CAD Basics & Interface Practice – Exercise 5 (Hour 1) | 14.01.2025 | 14/01/25 | Hands-on Practice (1 hr) |
| 6 | 1 | CAD Basics & Interface Practice – Exercise 6 (Hour 2) | 14.01.2025 | 14/01/25 | Hands-on Practice (1 hr) |
| 7 | 1 | CAD Basics & Interface Practice – Exercise 7 (Hour 1) | 16.01.2025 | 16/01/25 | Hands-on Practice (1 hr) |
| 8 | 1 | CAD Basics & Interface Practice – Exercise 8 (Hour 2) | 16.01.2025 | 16/01/25 | Hands-on Practice (1 hr) |
| 9 | 1 | CAD Basics & Interface Practice – Exercise 9 (Hour 1) | 21.01.2025 | 21/01/25 | Hands-on Practice (1 hr) |
| 10 | 1 | CAD Basics & Interface Practice – Exercise 10 (Hour 2) | 21.01.2025 | 21/01/25 | Hands-on Practice (1 hr) |
| 11 | 1 | CAD Basics & Interface Practice – Exercise 11 (Hour 1) | 23.01.2025 | 23/01/25 | Hands-on Practice (1 hr) |
| 12 | 1 | CAD Basics & Interface Practice – Exercise 12 (Hour 2) | 23.01.2025 | 23/01/25 | Hands-on Practice (1 hr) |
| 13 | 2 | 3D Modeling & Assembly Practice – Exercise 1 (Hour 1) | 28.01.2025 | 28/01/25 | Hands-on Practice (1 hr) |
| 14 | 2 | 3D Modeling & Assembly Practice – Exercise 2 (Hour 2) | 28.01.2025 | 28/01/25 | Hands-on Practice (1 hr) |
| 15 | 2 | 3D Modeling & Assembly Practice – Exercise 3 (Hour 1) | 30.01.2025 | 30/01/25 | Hands-on Practice (1 hr) |
| 16 | 2 | 3D Modeling & Assembly Practice – Exercise 4 (Hour 2) | 30.01.2025 | 30/01/25 | Hands-on Practice (1 hr) |
| 17 | 2 | 3D Modeling & Assembly Practice – Exercise 5 (Hour 1) | 04.02.2025 | 06/02/25 | Hands-on Practice (1 hr) |
| 18 | 2 | 3D Modeling & Assembly Practice – Exercise 6 (Hour 2) | 04.02.2025 | 06/02/25 | Hands-on Practice (1 hr) |
| 19 | 2 | 3D Modeling & Assembly Practice – Exercise 7 (Hour 1) | 06.02.2025 | 13/02/25 | Hands-on Practice (1 hr) |
| 20 | 2 | 3D Modeling & Assembly Practice – Exercise 8 (Hour 2) | 06.02.2025 | 13/02/25 | Hands-on Practice (1 hr) |

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|---------------|----------|--|--------------|----------------|--------------------------|
| 21 | 2 | 3D Modeling & Assembly Practice – Exercise 9 (Hour 1) | 11.02.2025 | 18/02/25 | Hands-on Practice (1 hr) |
| 22 | 2 | 3D Modeling & Assembly Practice – Exercise 10 (Hour 2) | 11.02.2025 | 18/02/25 | Hands-on Practice (1 hr) |
| 23 | 2 | 3D Modeling & Assembly Practice – Exercise 11 (Hour 1) | 13.02.2025 | 20/02/25 | Hands-on Practice (1 hr) |
| 24 | 2 | 3D Modeling & Assembly Practice – Exercise 12 (Hour 2) | 13.02.2025 | 20/02/25 | Hands-on Practice (1 hr) |
| 25 | 2 | 3D Modeling & Assembly Practice – Exercise 13 (Hour 1) | 18.02.2025 | 25/02/25 | Hands-on Practice (1 hr) |
| 26 | 2 | 3D Modeling & Assembly Practice – Exercise 14 (Hour 2) | 18.02.2025 | 25/02/25 | Hands-on Practice (1 hr) |
| 27 | 2 | 3D Modeling & Assembly Practice – Exercise 15 (Hour 1) | 20.02.2025 | 27/02/25 | Hands-on Practice (1 hr) |
| 28 | 2 | 3D Modeling & Assembly Practice – Exercise 16 (Hour 2) | 20.02.2025 | 27/02/25 | Hands-on Practice (1 hr) |
| 29 | 2 | 3D Modeling & Assembly Practice – Exercise 17 (Hour 1) | 25.02.2025 | 04/03/25 | Hands-on Practice (1 hr) |
| 30 | 2 | 3D Modeling & Assembly Practice – Exercise 18 (Hour 2) | 25.02.2025 | 04/03/25 | Hands-on Practice (1 hr) |
| 31 | 2 | 3D Modeling & Assembly Practice – Exercise 19 (Hour 1) | 27.02.2025 | 06/03/25 | Hands-on Practice (1 hr) |
| 32 | 2 | 3D Modeling & Assembly Practice – Exercise 20 (Hour 2) | 27.02.2025 | 06/03/25 | Hands-on Practice (1 hr) |
| 33 | 3 | Drafting & Production Drawing Practice – Exercise 1 (Hour 1) | 04.03.2025 | 11/03/25 | Hands-on Practice (1 hr) |
| 34 | 3 | Drafting & Production Drawing Practice – Exercise 2 (Hour 2) | 04.03.2025 | 11/03/25 | Hands-on Practice (1 hr) |
| 35 | 3 | Drafting & Production Drawing Practice – Exercise 3 (Hour 1) | 06.03.2025 | 13/03/25 | Hands-on Practice (1 hr) |
| 36 | 3 | Drafting & Production Drawing Practice – Exercise 4 (Hour 2) | 06.03.2025 | 13/03/25 | Hands-on Practice (1 hr) |
| 37 | 3 | Drafting & Production Drawing Practice – Exercise 5 (Hour 1) | 11.03.2025 | 18/03/25 | Hands-on Practice (1 hr) |
| 38 | 3 | Drafting & Production Drawing Practice – Exercise 6 (Hour 2) | 11.03.2025 | 18/03/25 | Hands-on Practice (1 hr) |
| 39 | 3 | Drafting & Production Drawing Practice – Exercise 7 (Hour 1) | 13.03.2025 | 20/03/25 | Hands-on Practice (1 hr) |
| 40 | 3 | Drafting & Production Drawing Practice – Exercise 8 (Hour 2) | 13.03.2025 | 20/03/25 | Hands-on Practice (1 hr) |

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|---------------|----------|---|--------------|----------------|--------------------------|
| 41 | 3 | Drafting & Production Drawing Practice – Exercise 9 (Hour 1) | 18.03.2025 | 24/03/25 | Hands-on Practice (1 hr) |
| 42 | 3 | Drafting & Production Drawing Practice – Exercise 10 (Hour 2) | 18.03.2025 | 24/03/25 | Hands-on Practice (1 hr) |
| 43 | 3 | Drafting & Production Drawing Practice – Exercise 11 (Hour 1) | 20.03.2025 | 01/04/25 | Hands-on Practice (1 hr) |
| 44 | 3 | Drafting & Production Drawing Practice – Exercise 12 (Hour 2) | 20.03.2025 | 01/04/25 | Hands-on Practice (1 hr) |
| 45 | 3 | Drafting & Production Drawing Practice – Exercise 13 (Hour 1) | 25.03.2025 | 03/04/25 | Hands-on Practice (1 hr) |
| 46 | 3 | Drafting & Production Drawing Practice – Exercise 14 (Hour 2) | 25.03.2025 | 03/04/25 | Hands-on Practice (1 hr) |
| 47 | 4 | CNC Programming & Simulation Practice – Exercise 1 (Hour 1) | 27.03.2025 | 08/04/25 | Hands-on Practice (1 hr) |
| 48 | 4 | CNC Programming & Simulation Practice – Exercise 2 (Hour 2) | 27.03.2025 | 08/04/25 | Hands-on Practice (1 hr) |
| 49 | 4 | CNC Programming & Simulation Practice – Exercise 3 (Hour 1) | 01.04.2025 | 15/04/25 | Hands-on Practice (1 hr) |
| 50 | 4 | CNC Programming & Simulation Practice – Exercise 4 (Hour 2) | 01.04.2025 | 15/04/25 | Hands-on Practice (1 hr) |
| 51 | 4 | CNC Programming & Simulation Practice – Exercise 5 (Hour 1) | 03.04.2025 | 17/04/25 | Hands-on Practice (1 hr) |
| 52 | 4 | CNC Programming & Simulation Practice – Exercise 6 (Hour 2) | 03.04.2025 | 17/04/25 | Hands-on Practice (1 hr) |
| 53 | 4 | CNC Programming & Simulation Practice – Exercise 7 (Hour 1) | 08.04.2025 | 22/04/25 | Hands-on Practice (1 hr) |
| 54 | 4 | CNC Programming & Simulation Practice – Exercise 8 (Hour 2) | 08.04.2025 | 22/04/25 | Hands-on Practice (1 hr) |
| 55 | 4 | CNC Programming & Simulation Practice – Exercise 9 (Hour 1) | 10.04.2025 | 24/04/25 | Hands-on Practice (1 hr) |
| 56 | 4 | CNC Programming & Simulation Practice – Exercise 10 (Hour 2) | 10.04.2025 | 24/04/25 | Hands-on Practice (1 hr) |
| 57 | 5 | Mini Project / CIM / FMS Work – Exercise 1 (Hour 1) | 15.04.2025 | 29/04/25 | Hands-on Practice (1 hr) |
| 58 | 5 | Mini Project / CIM / FMS Work – Exercise 2 (Hour 2) | 15.04.2025 | 29/04/25 | Hands-on Practice (1 hr) |
| 59 | 5 | Mini Project / CIM / FMS Work – Exercise 3 (Hour 1) | 17.04.2025 | 01/05/25 | Hands-on Practice (1 hr) |
| 60 | 5 | Mini Project / CIM / FMS Work – Exercise 4 (Hour 2) | 17.04.2025 | 01/05/25 | Hands-on Practice (1 hr) |

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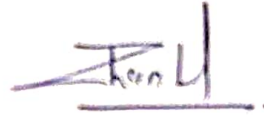
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|---------------|----------|---|--------------|----------------|--------------------------|
| 6.1 | 5 | Mini Project / CIM / FMS Work - Exercise 5 (Hour 1) | 22.04.2025 | 06/05/25 | Hands-on Practice (1 hr) |
| 6.2 | 5 | Mini Project / CIM / FMS Work - Exercise 6 (Hour 2) | 22.04.2025 | 08/05/25 | Hands-on Practice (1 hr) |
| 6.3 | 5 | Mini Project / CIM / FMS Work - Exercise 7 (Hour 1) | 24.04.2025 | 13/05/25 | Hands-on Practice (1 hr) |
| 6.4 | 5 | Mini Project / CIM / FMS Work - Exercise 8 (Hour 2) | 24.04.2025 | 15/05/25 | Hands-on Practice (1 hr) |



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