

CAD/CAM
Engineering Course

BAVARSITY Campus
Paternoster



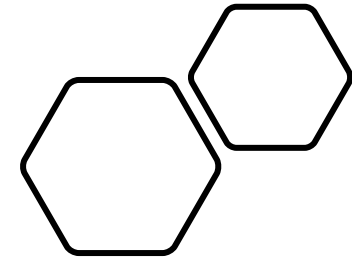
Course Overview

Are you an aspiring engineer, a tech-savvy student, or a professional looking to level up your skills? Our 20-module CAD/CAM Engineering Course is here to empower you with the expertise needed for precision engineering, 3D modelling, and simulation

What Awaits You:

- Master CAD software for precise 2D and 3D modelling
- Develop real-world engineering designs and simulations
- Understand materials, prototyping, and manufacturing
- Dive into 3D printing and additive manufacturing

- Explore robotics, automation, and sustainability
- Learn project management tailored to engineering
- Prepare a standout engineering portfolio





Course Overview

The CAD/CAM Engineering Course is a comprehensive program designed for individuals aspiring to become proficient in Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) for engineering applications

In this 20-module course, you will learn to create precise 2D models, detailed 3D designs, and simulations for various engineering disciplines

Whether you're a student, engineer, or a professional seeking to enhance your skills, this course will equip you with the knowledge and tools needed to excel in the field of CAD/CAM engineering

MODULE 1 INTRODUCTION TO CAD/CAM ENGINEERING

- Explore the role of CAD and CAM in engineering
- Familiarize yourself with CAD and CAM software

PRODUCTION
D/CAM





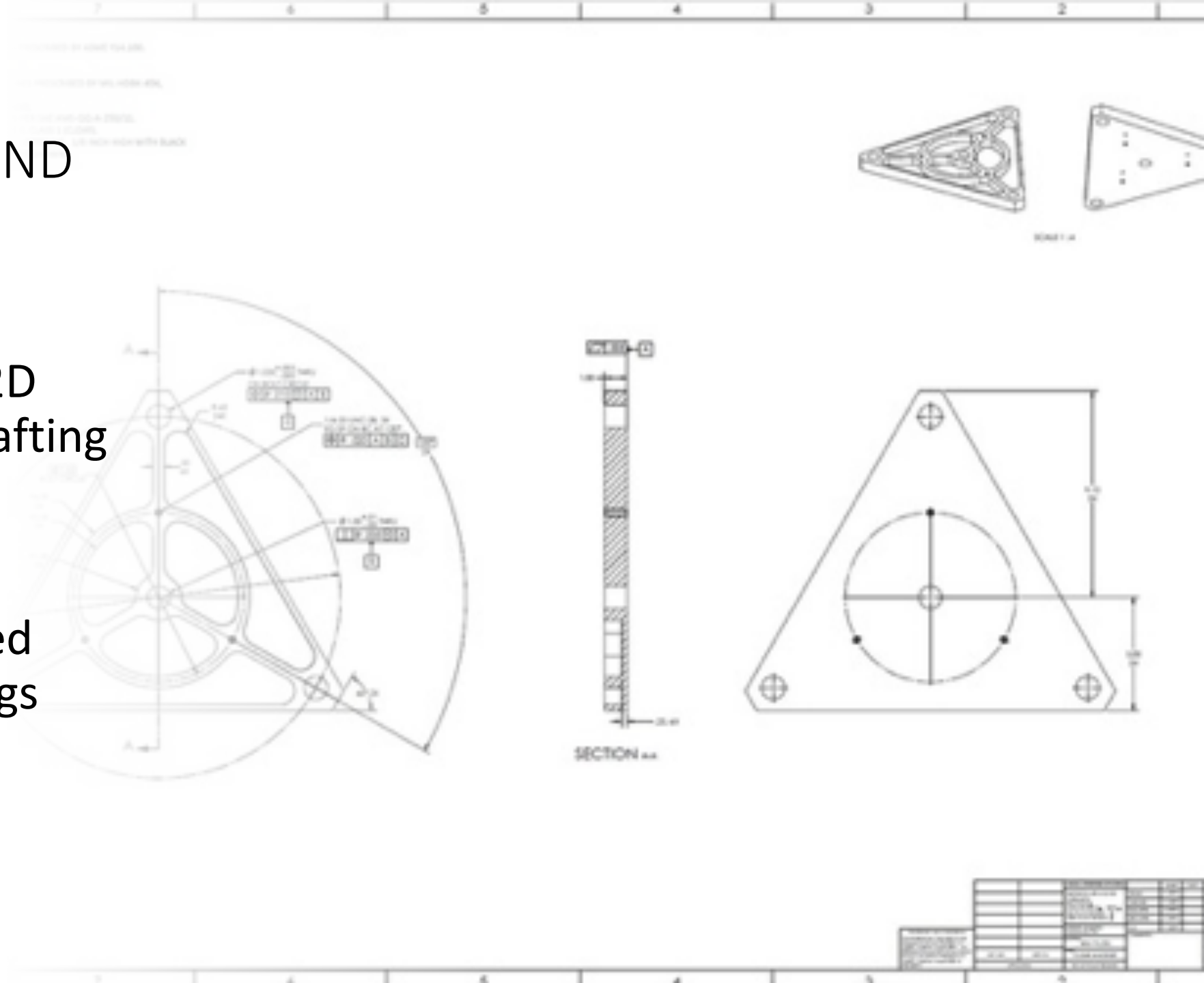
MODULE 2 ENGINEERING DRAWING FUNDAMENTALS

- Master the basics of engineering drawings
- Create detailed 2D technical drawings

MODULE 3

2D MODELLING AND DRAFTING

- Develop skills in 2D modelling and drafting
- Learn to create precise and scaled technical drawings



Module 4

Introduction to CAD Software

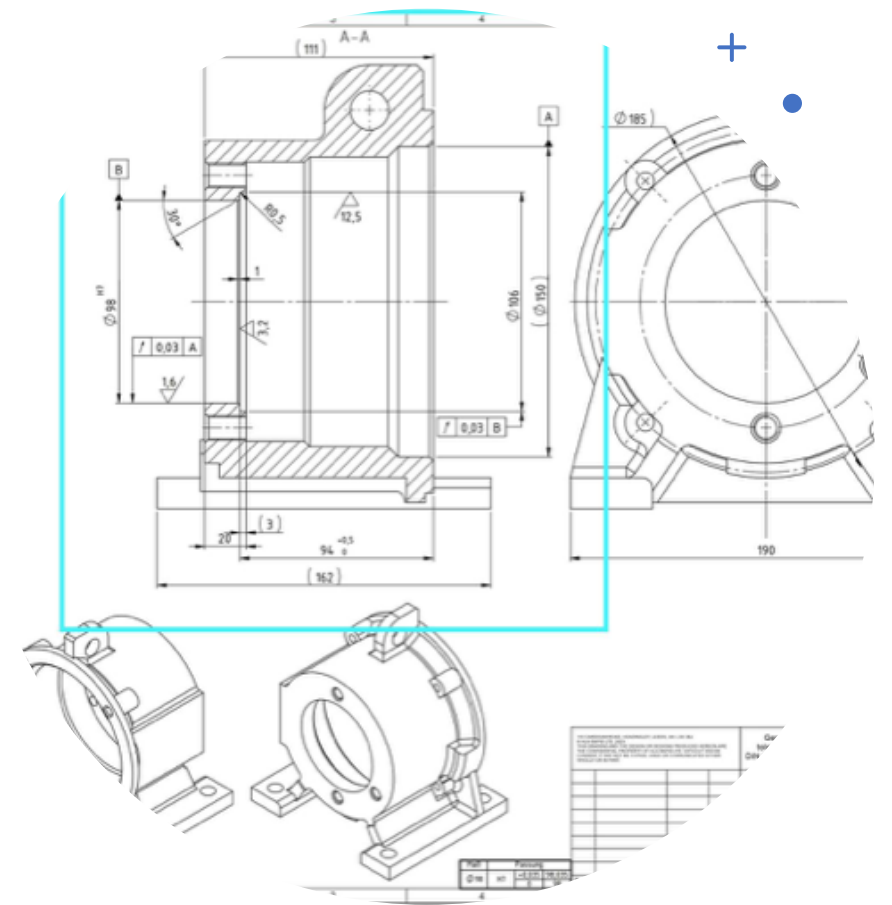
- Gain proficiency in CAD software interfaces
- Explore essential tools and commands


```
mirror_mod = modifier_ob.  
set mirror object to mirror.  
mirror_mod.mirror_object =  
operation == "MIRROR_X":  
mirror_mod.use_x = True  
mirror_mod.use_y = False  
mirror_mod.use_z = False  
operation == "MIRROR_Y":  
mirror_mod.use_x = False  
mirror_mod.use_y = True  
mirror_mod.use_z = False  
operation == "MIRROR_Z":  
mirror_mod.use_x = False  
mirror_mod.use_y = False  
mirror_mod.use_z = True  
selection at the end -add  
mirror_ob.select= 1  
modifier_ob.select=1  
context.scene.objects.active  
("Selected" + str(modifier_ob.  
mirror_ob.select = 0  
= bpy.context.selected_object  
data.objects[one.name].select  
print("please select exactly  
--- OPERATOR CLASSES ---  
types.Operator):  
on X mirror to the selected  
object.mirror_mirror_x"  
mirror X"  
context):  
context.active_object is not
```

Module 5

Creating Detailed 2D Sketches

- Learn to create intricate 2D sketches for engineering designs
- Apply dimensions, annotations, and symbols



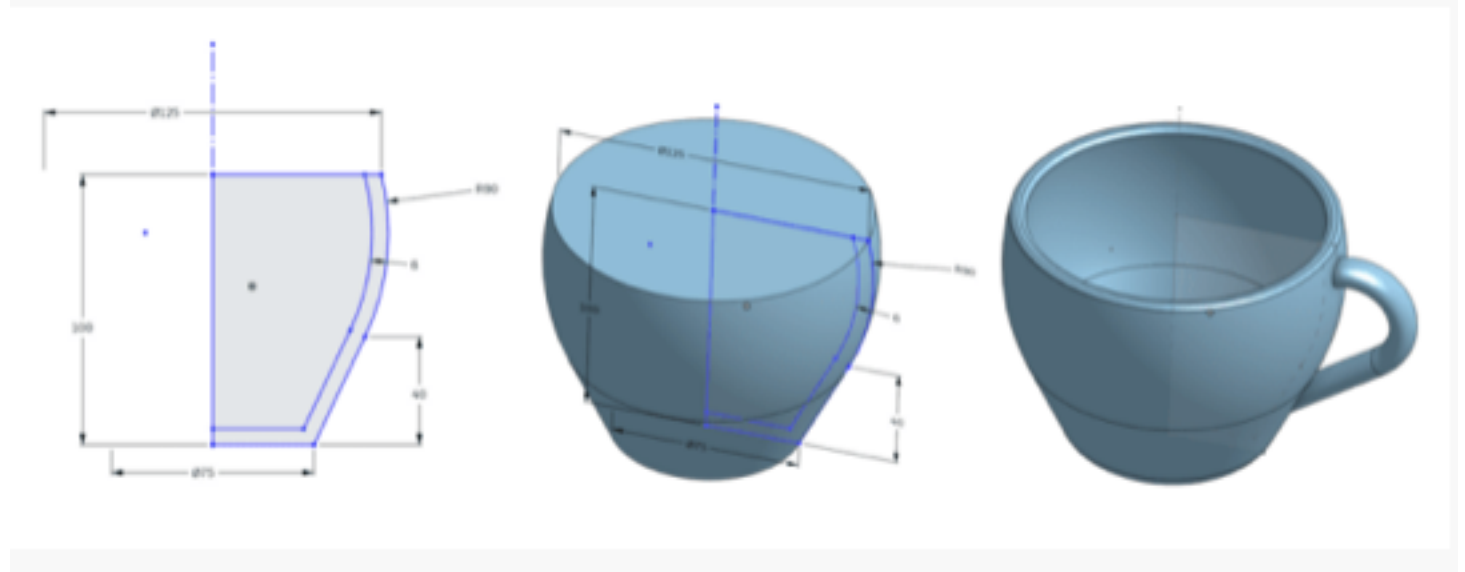
The image shows a 3D modeling software interface. On the left, a blue banner contains the text 'Various 3d Modeling Techniques That You Should Know'. In the center, a computer monitor displays a 3D model of a car chassis with two seats. To the right of the monitor, there are several 3D models of mechanical parts, including a large cylindrical component and a smaller one. In the background, there are various UI elements like a 'Stereo Controls' panel with 'Type' set to 'Target Camera', 'Camera Alignment' options (left, center, right), 'Field of view' set to '90.0', 'Base Parallel' set to '5.0', 'Toe-in' set to '0.0', and 'Interval' set to '0.0'. There are also some icons and a '3' in the top right corner.

Various 3d Modeling Techniques That You Should Know

Module 6 3D Modelling Techniques

- Dive into 3D modelling techniques
- Create complex 3D designs and assemblies

Module 7 Parametric Design and Solid Modelling



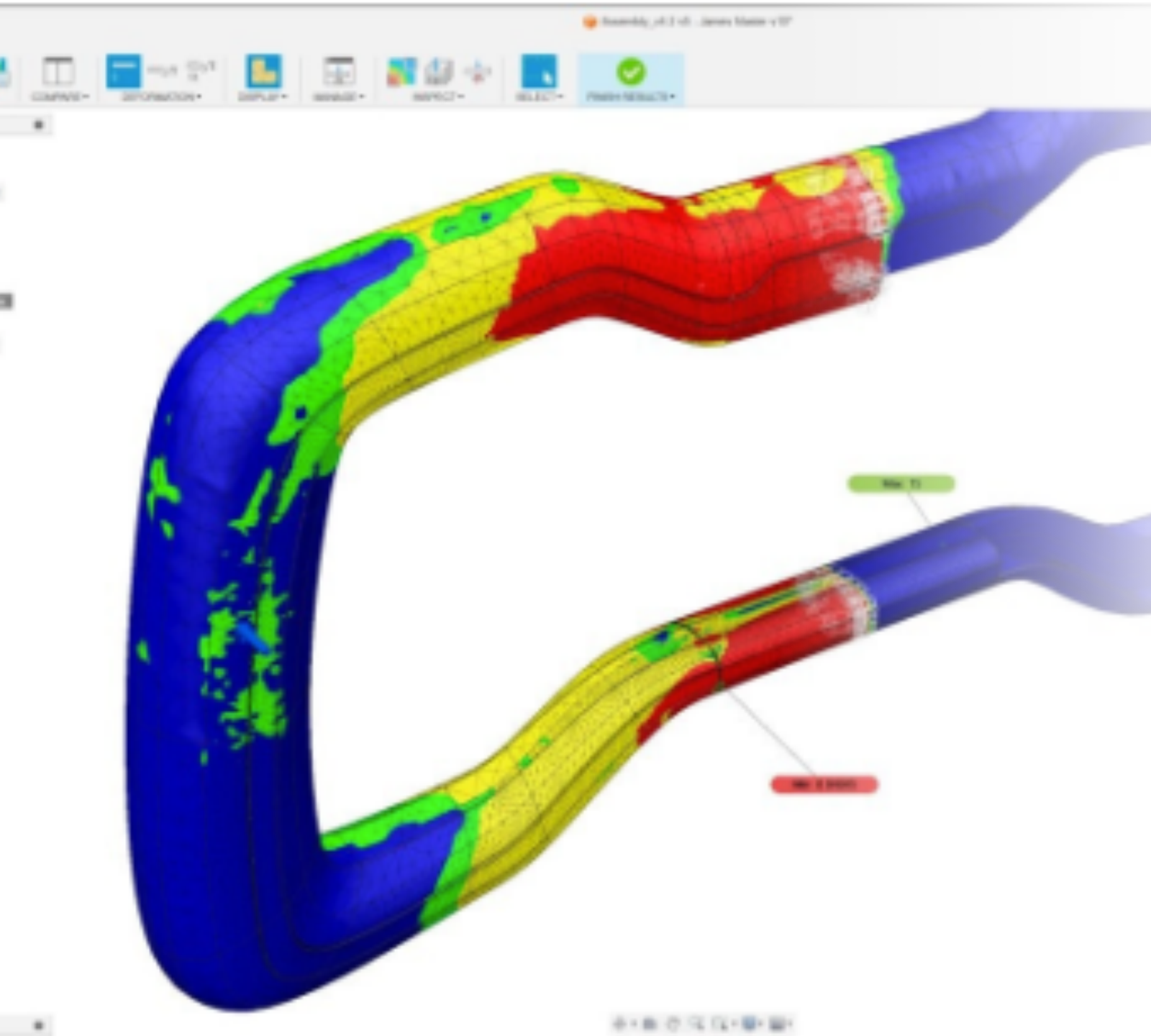
- Understand parametric design principles
- Create parametric models for engineering projects

Module 8

CAD Software Proficiency

- Enhance your CAD software skills
- Work on intricate engineering design projects





Module 9 Simulation and Analysis

- Explore the use of simulation and analysis tools in CAD
- Assess the structural and functional aspects of your designs

and Prototyping

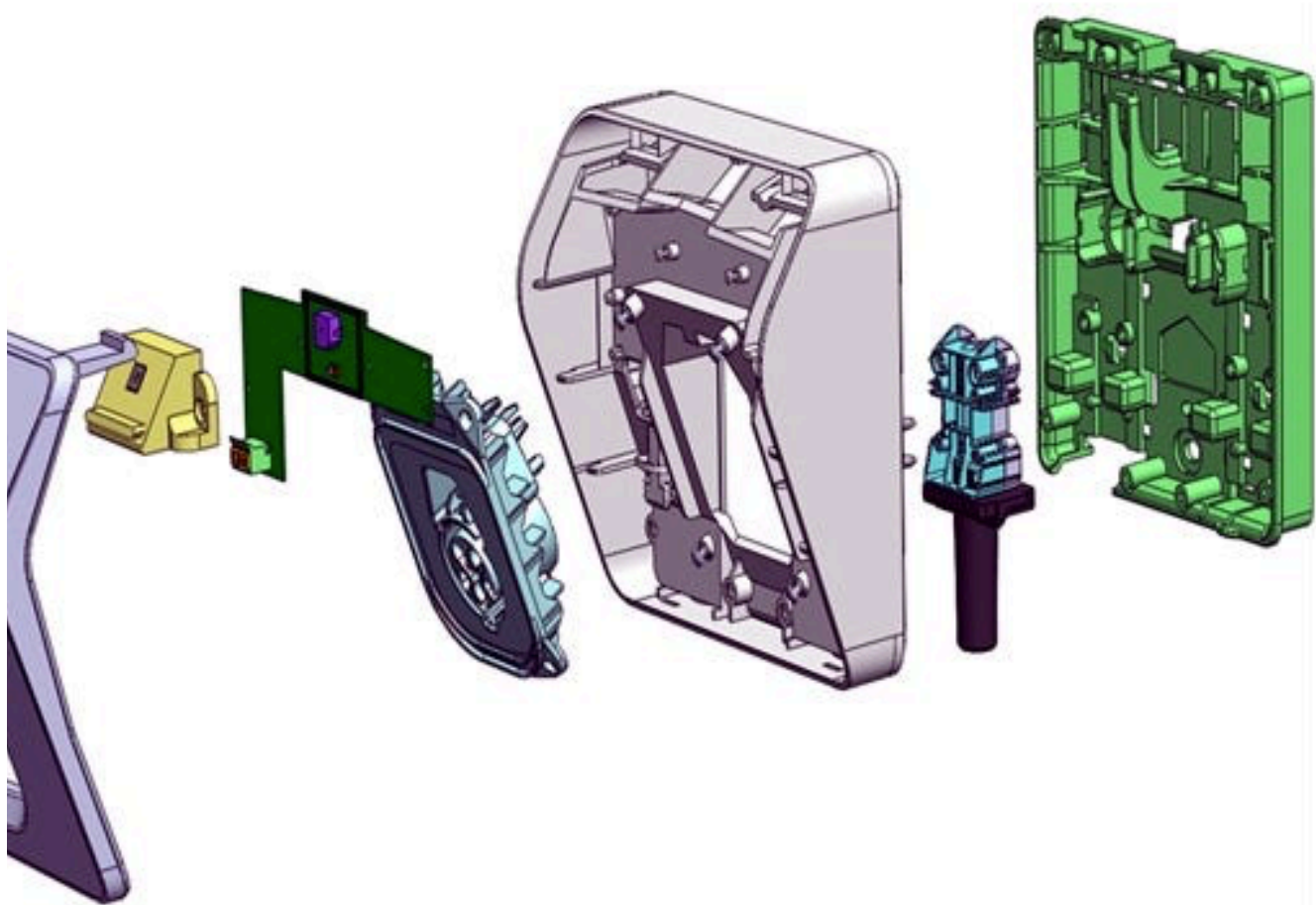
Prototype



▶ **Product**

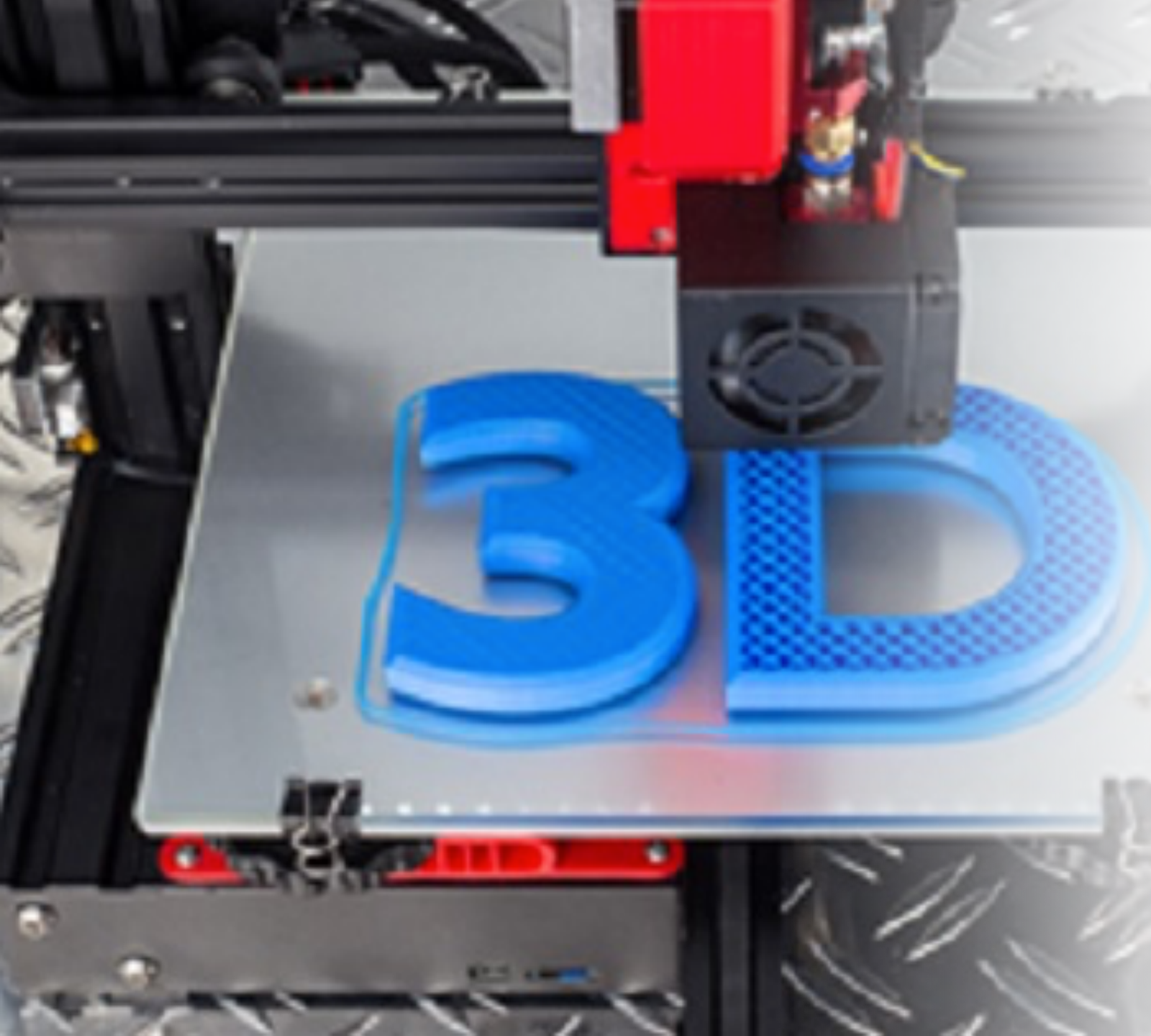
Module 10 Materials and Prototyping

- Understand the influence of materials on engineering designs
- Explore prototyping and rapid manufacturing



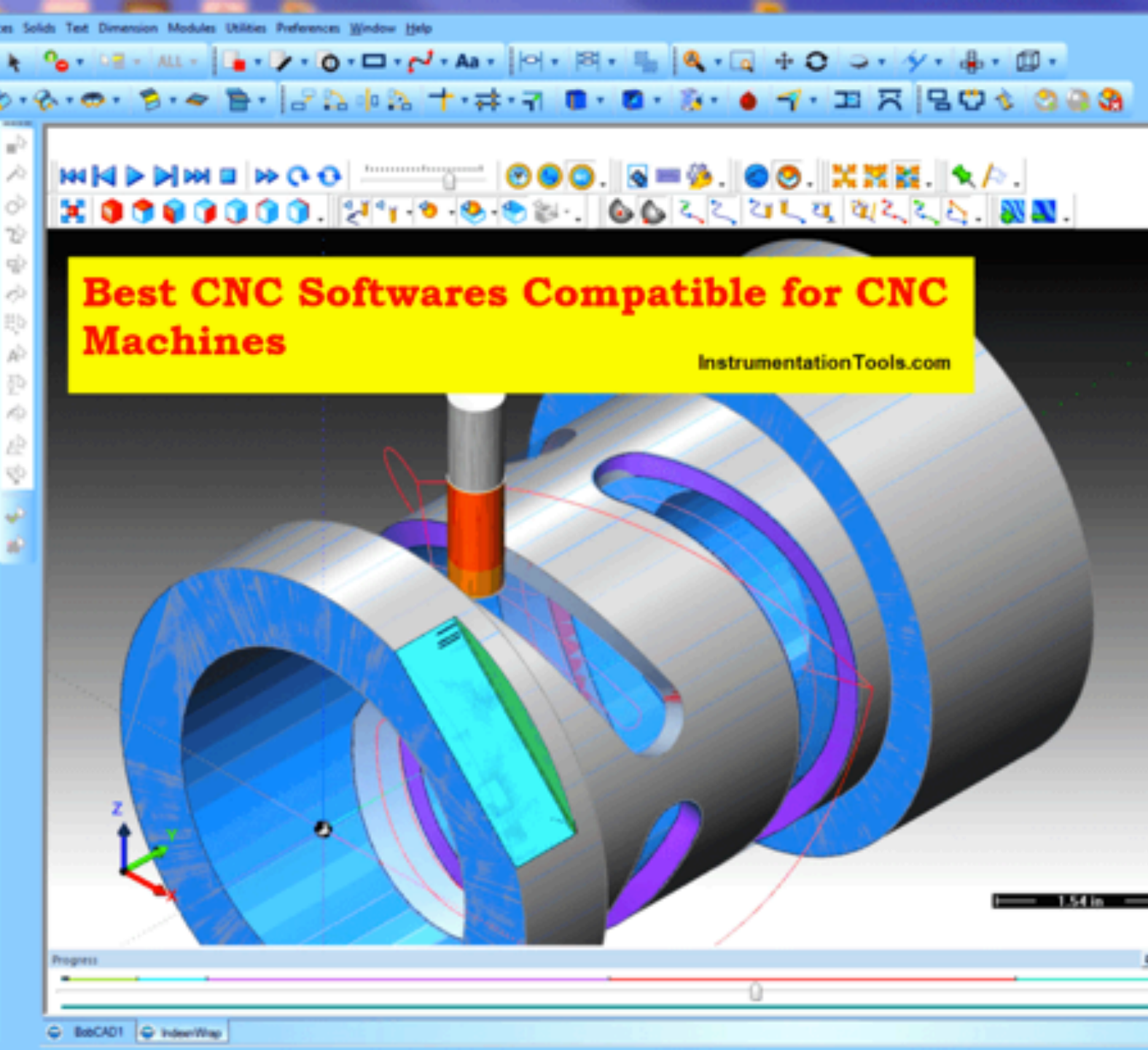
Module 11 Mechanical and Product Design

- Focus on mechanical and product design techniques
- Create innovative products and components



Module 12 3D Printing and Additive Manufacturing

- Learn about 3D printing and additive manufacturing
- Apply these technologies to your engineering projects



Module 13 CAM and CNC Machining

- Delve into CAM for computer numerically controlled (CNC) machining
- Generate toolpaths and G-code for manufacturing



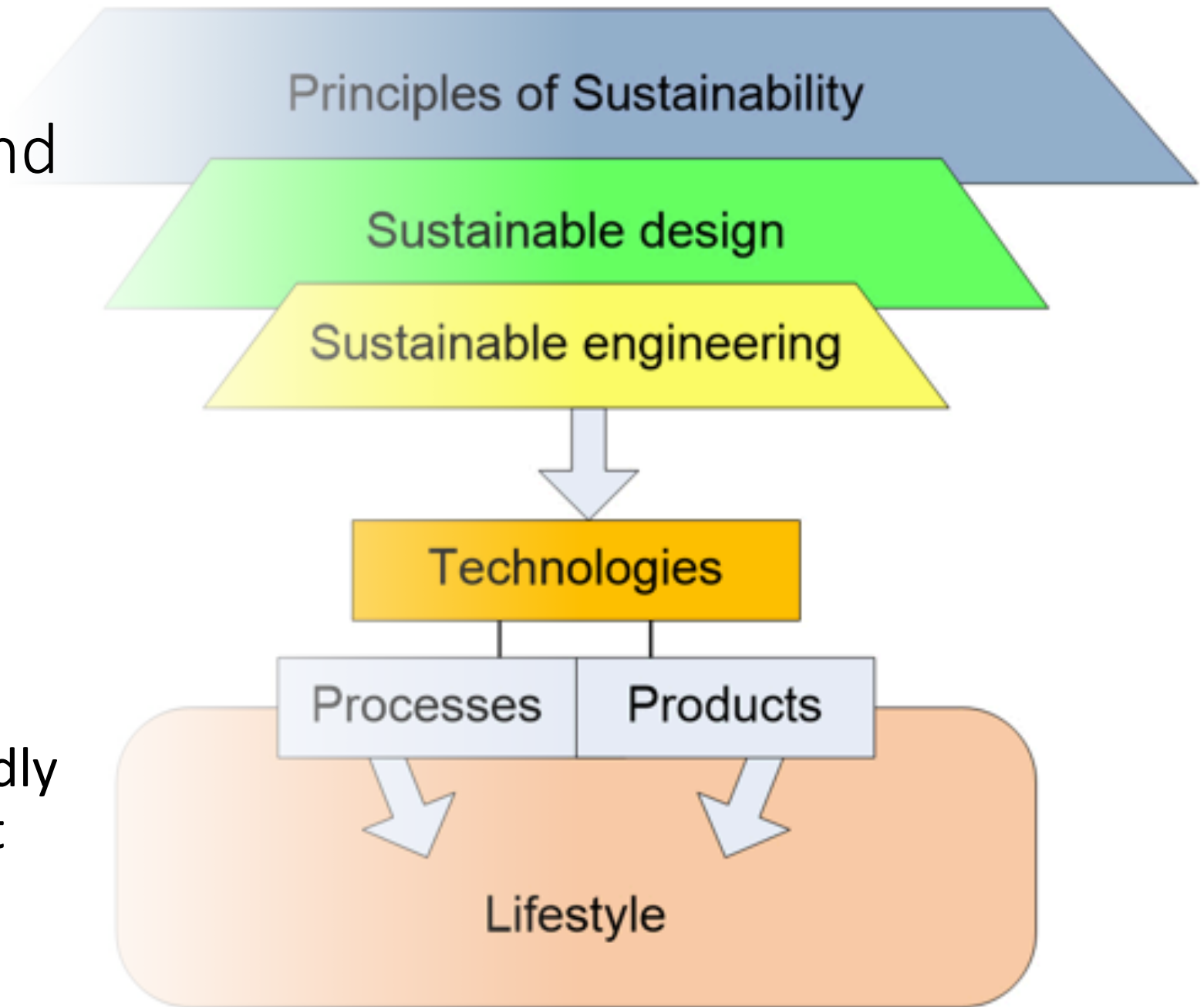
Module 14 Robotics and Automation

- Explore the application of CAD/CAM in robotics and automation
- Design robotic systems and components

Module 15 Sustainability and Eco-Friendly Engineering

- Understand sustainability in engineering design

- Develop eco-friendly and energy-efficient solutions



Module 16

Integration of CAD/CAM with Other Tools

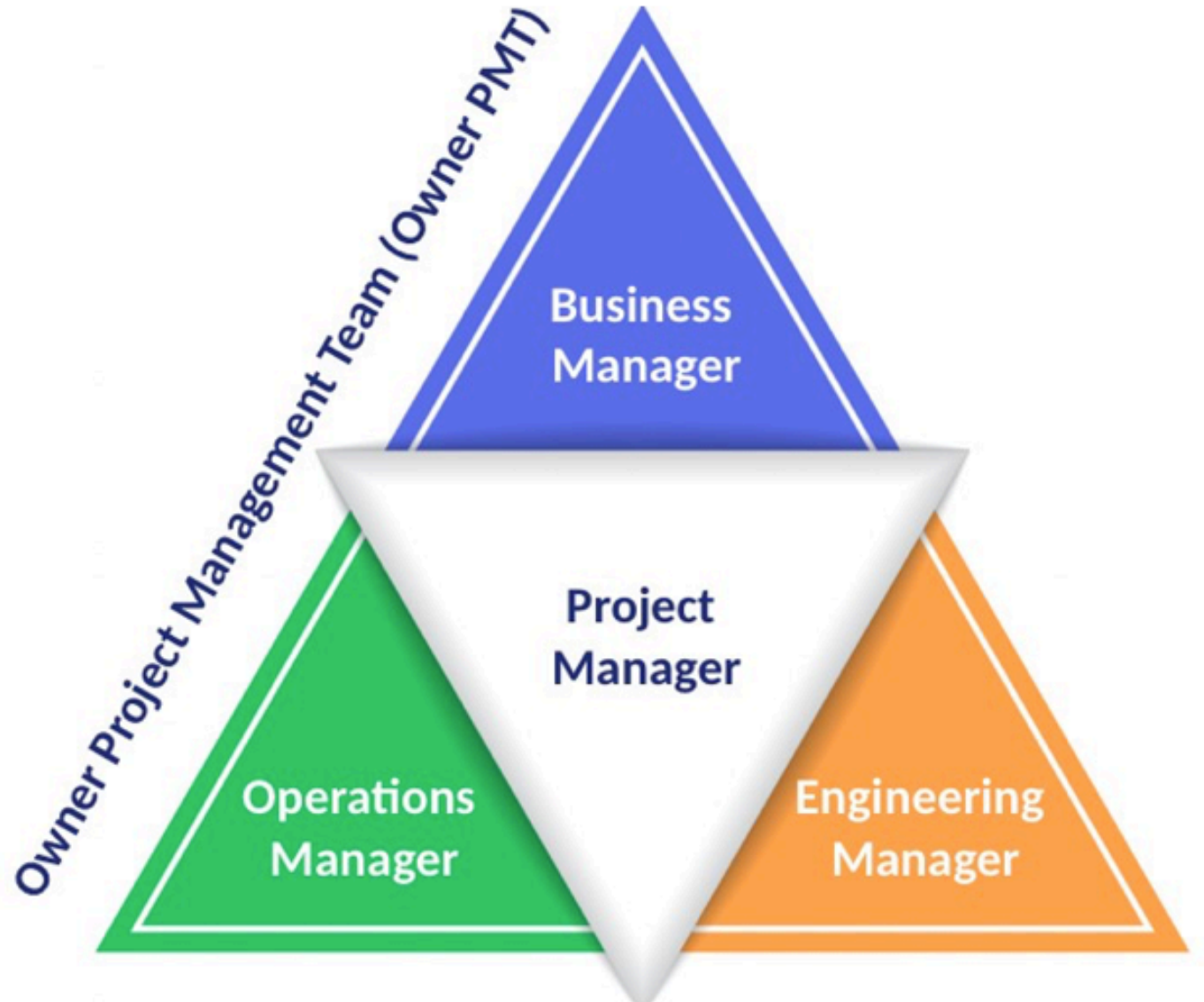
- Learn how to integrate CAD/CAM software with other engineering tools
- Enhance your workflow and productivity



Module 17

Project Management in Engineering

- Develop project management skills specific to engineering projects
- Plan, budget, and execute projects effectively



Module 18

Quality Control and Standards

- Understand engineering quality control and standards
- Ensure compliance and safety in your designs



Module 19 Engineering Portfolio Development

How to make an Engineering Portfolio



- Create an impressive portfolio showcasing your engineering work
- Prepare for job interviews and client presentations

Module 20

Capstone Project and Graduation



- Complete a comprehensive engineering design project



Upon completing this course, you will be well-prepared for a successful career in engineering, whether you are interested in mechanical, civil, electrical, or any other engineering discipline

You'll have the skills and portfolio to make your mark in the world of CAD/CAM engineering

**BAVARSITY Campus -
Paternoster**

BAVARSITY.COM WORKSHOP SCHEDULE PATERNOSTER 2024/2025

COURSE - CAD/CAM ENGINEERING COURSE

| | STARTING | ENDING |
|---|---------------|---------------|
| ED1.1 MODULE 1: INTRODUCTION TO CAD/CAM ENGINEERING | 4 March 2024 | 4 March 2024 |
| ED1.2 MODULE 2: ENGINEERING DRAWING FUNDAMENTALS | 5 March 2024 | 5 March 2024 |
| ED1.3 MODULE 3: 2D MODELLING AND DRAFTING | 6 March 2024 | 6 March 2024 |
| ED1.4 MODULE 4: INTRODUCTION TO CAD SOFTWARE | 7 March 2024 | 7 March 2024 |
| ED1.5 MODULE 5: CREATING DETAILED 2D SKETCHES | 8 March 2024 | 8 March 2024 |
| ED1.6 MODULE 6: 3D MODELLING TECHNIQUES | 11 March 2024 | 11 March 2024 |
| ED1.7 MODULE 7: PARAMETRIC DESIGN AND SOLID MODELLING | 12 March 2024 | 12 March 2024 |
| ED1.8 MODULE 8: CAD SOFTWARE PROFICIENCY | 13 March 2024 | 13 March 2024 |
| ED1.9 MODULE 9: SIMULATION AND ANALYSIS | 14 March 2024 | 14 March 2024 |
| ED1.10 MODULE 10: MATERIALS AND PROTOTYPING | 15 March 2024 | 15 March 2024 |
| ED1.11 MODULE 11: MECHANICAL AND PRODUCT DESIGN | 18 March 2024 | 18 March 2024 |
| ED1.12 MODULE 12: 3D PRINTING AND ADDITIVE MANUFACTURING | 19 March 2024 | 19 March 2024 |
| ED1.13 MODULE 13: CAM AND CNC MACHINING | 20 March 2024 | 20 March 2024 |
| ED1.14 MODULE 14: ROBOTICS AND AUTOMATION | 21 March 2024 | 21 March 2024 |
| ED1.15 MODULE 15: SUSTAINABILITY AND ECO-FRIENDLY ENGINEERING | 22 March 2024 | 22 March 2024 |
| ED1.16 MODULE 16: INTEGRATION OF CAD/CAM WITH OTHER TOOLS | 25 March 2024 | 25 March 2024 |
| ED1.17 MODULE 17: PROJECT MANAGEMENT IN ENGINEERING | 26 March 2024 | 26 March 2024 |
| ED1.18 MODULE 18: QUALITY CONTROL AND STANDARDS | 27 March 2024 | 27 March 2024 |
| ED1.19 MODULE 19: ENGINEERING PORTFOLIO DEVELOPMENT | 28 March 2024 | 28 March 2024 |
| ED1.20 MODULE 20: CAPSTONE PROJECT AND GRADUATION | 29 March 2024 | 29 March 2024 |

COURSE - CAD/CAM ENGINEERING COURSE**STARTING****ENDING**

| | | |
|---|----------------------------|-------------------|
| ED1.1 MODULE 1: INTRODUCTION TO CAD/CAM ENGINEERING - REMOTE ASSIGNMENTS | 1 April 2024 | 11 April 2024 |
| ED1.2 MODULE 2: ENGINEERING DRAWING FUNDAMENTALS - REMOTE ASSIGNMENTS | 11 April 2024 | 25 April 2024 |
| ED1.3 MODULE 3: 2D MODELLING AND DRAFTING - REMOTE ASSIGNMENTS | 6 May 2024 | 16 May 2024 |
| ED1.4 MODULE 4: INTRODUCTION TO CAD SOFTWARE - REMOTE ASSIGNMENTS | 20 May 2024 | 30 May 2024 |
| ED1.5 MODULE 5: CREATING DETAILED 2D SKETCHES - REMOTE ASSIGNMENTS | 3 June 2024 | 13 June 2024 |
| ED1.6 MODULE 6: 3D MODELLING TECHNIQUES - REMOTE ASSIGNMENT | 17 June 2024 | 27 June 2024 |
| ED1.7 MODULE 7: PARAMETRIC DESIGN AND SOLID MODELLING - REMOTE ASSIGNMENT | 1 July 2024 | 11 July 2024 |
| ED1.8 MODULE 8: CAD SOFTWARE PROFICIENCY - REMOTE ASSIGNMENT | 15 July 2024 | 25 July 2024 |
| ED1.9 MODULE 9: SIMULATION AND ANALYSIS - REMOTE ASSIGNMENT | 5 August 2024 | 15 August 2024 |
| ED1.10 MODULE 10: MATERIALS AND PROTOTYPING - REMOTE ASSIGNMENT | 19 August 2024 | 29 August 2024 |
| ED1.11 MODULE 11: MECHANICAL AND PRODUCT DESIGN - REMOTE ASSIGNMENT | 2 September 2024 | 12 September 2024 |
| ED1.12 MODULE 12: 3D PRINTING AND ADDITIVE MANUFACTURING - REMOTE ASSIGNMENT | 16 September 2024 | 26 September 2024 |
| ED1.13 MODULE 13: CAM AND CNC MACHINING - REMOTE ASSIGNMENT | 1 October 2024 | 10 October 2024 |
| ED1.14 MODULE 14: ROBOTICS AND AUTOMATION - REMOTE ASSIGNMENT | 14 October 2024 | 24 October 2024 |
| ED1.15 MODULE 15: SUSTAINABILITY AND ECO-FRIENDLY ENGINEERING - REMOTE | 4 November 2024 | 14 November 2024 |
| ED1.16 MODULE 16: INTEGRATION OF CAD/CAM WITH OTHER TOOLS - REMOTE ASSIGNMENT | 18 November 2024 | 28 November 2024 |
| ED1.17 MODULE 17: PROJECT MANAGEMENT IN ENGINEERING - REMOTE ASSIGNMENT | 2 December 2024 | 12 December 2024 |
| ED1.18 MODULE 18: QUALITY CONTROL AND STANDARDS - REMOTE ASSIGNMENT | 13 January 2025 | 23 January 2025 |
| ED1.19 MODULE 19: ENGINEERING PORTFOLIO DEVELOPMENT - REMOTE ASSIGNMENT | 3 February 2025 | 13 February 2025 |
| ED1.20 MODULE 20: CAPSTONE PROJECT AND GRADUATION - REMOTE ASSIGNMENT | 17 February 2025 | 27 February 2025 |

| JANUARY 2024 | | | | | | | FEBRUARY 2024 | | | | | | | MARCH 2024 | | | | | | | APRIL 2024 | | | | | | | MAY 2024 | | | | | | | JUNE 2024 | | | | | | | | |
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| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | |
| 29 | 30 | | | | | | 26 | 27 | 28 | 29 | | | | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 29 | 30 | | | | | | 27 | 28 | 29 | 30 | 31 | | | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
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| JULY 2024 | | | | | | | AUGUST 2024 | | | | | | | SEPTEMBER 2024 | | | | | | | OCTOBER 2024 | | | | | | | NOVEMBER 2024 | | | | | | | DECEMBER 2024 | | | | | | | | |
| M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | | |
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| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | |
| 29 | 30 | 31 | | | | | 26 | 27 | 28 | 29 | 30 | 31 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 28 | 29 | 30 | 31 | | | | 25 | 26 | 27 | 28 | 29 | 30 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | | | |
| | | | | | | | | | | | | | | 30 | | | | | | | | | | | | | | | | | | | | | 30 | 31 | | | | | | | |
| JANUARY 2025 | | | | | | | FEBRUARY 2025 | | | | | | | MARCH 2025 | | | | | | | APRIL 2025 | | | | | | | MAY 2025 | | | | | | | JUNE 2025 | | | | | | | | |
| M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | | |
| | | 1 | 2 | 3 | 4 | 5 | | | | | | 1 | 2 | | | | | | | 1 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | 1 | 2 | 3 | 4 | 5 | | | | | | | 1 | 2 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | |
| 27 | 28 | 29 | 30 | 31 | | | 24 | 25 | 26 | 27 | 28 | | | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 29 | 30 | | | | | | 27 | 28 | 29 | 30 | 31 | | | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| | | | | | | | | | | | | | | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |