



PAVISION INNOVATIONS

CATIA BROCHURE

About Pavision Innovations

At Pavision, we are more than just a training platform we are a community of innovators in education. Our cybersecurity program equips you with the knowledge and skills to protect critical systems and networks in today's ever-evolving cyber landscape.

What is CATIA?

Description: CATIA (Computer-Aided Three-dimensional Interactive Application) is a world-leading software solution used for product design, engineering, and manufacturing. From aerospace to automotive and consumer goods, CATIA helps industries innovate by

Why Choose CATIA?

Comprehensive Tools: End-to-end solutions for design, simulation, and manufacturing.

Enhanced Collaboration: Connect teams across different departments for faster, more efficient workflows.

Proven Track Record: Trusted by top global companies across industries.

Cloud Integration: Accessible anywhere, anytime with cloud-based deployment options.

Course Outline

Module 1: Introduction to CATIA

- Introduction to 3D CAD: Overview of 3D modeling and design.
- User Interface: Understanding the CATIA workspace, toolbars, and customization.
- File Management: Handling CATIA files, versions, and data management.

Module 2: Part Design

- Creating Sketches: Introduction to sketch tools, sketch constraints, and dimensions.
- 3D Features: Extrude, revolve, sweep, loft, and other 3D solid modeling techniques.
- Editing Parts: Modifying sketches and features using tools like fillet, chamfer, mirror, and shell.

Module 3: Assembly Design

- Assembly Creation: Inserting parts and creating assemblies from components.
- Assembly Constraints: Applying and managing constraints (coincidence, offset, angle).
- Manipulation of Assemblies: Moving, rotating, and exploding assemblies for analysis.

Module 4: Surface Design

- Wireframe and Surface Tools: Creating complex shapes using wireframe geometry.
- Surface Modeling: Loft, sweep, and blend surfaces for advanced surface creation.
- Surface Analysis: Checking surface quality, curvature, and smoothness.

Module 5: Drafting

- 2D Drawings: Generating technical drawings from 3D models.
- Dimensioning and Annotations: Adding dimensions, annotations, and notes to drawings.
- Bill of Materials (BOM): Creating and managing BOM for assemblies.

Module 6: Sheet Metal Design

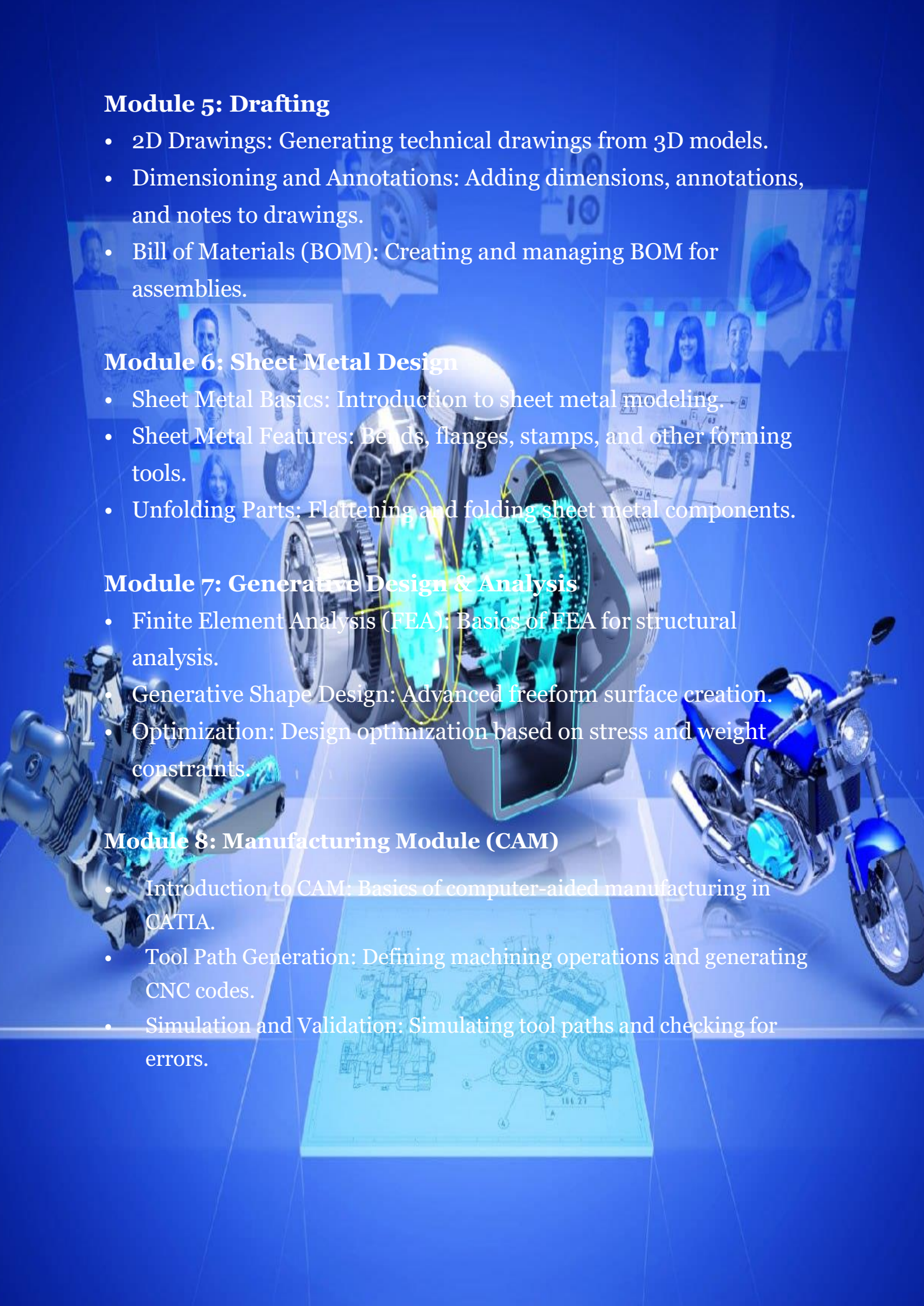
- Sheet Metal Basics: Introduction to sheet metal modeling.
- Sheet Metal Features: Bends, flanges, stamps, and other forming tools.
- Unfolding Parts: Flattening and folding sheet metal components.

Module 7: Generative Design & Analysis

- Finite Element Analysis (FEA): Basics of FEA for structural analysis.
- Generative Shape Design: Advanced freeform surface creation.
- Optimization: Design optimization based on stress and weight constraints.

Module 8: Manufacturing Module (CAM)

- Introduction to CAM: Basics of computer-aided manufacturing in CATIA.
- Tool Path Generation: Defining machining operations and generating CNC codes.
- Simulation and Validation: Simulating tool paths and checking for errors.



Module 9: CATIA for Industry Applications

- Aerospace: CATIA tools for aircraft design and simulation.
- Automotive: Vehicle body design, surface creation, and assembly management.
- Consumer Goods: Design of complex shapes for industrial products

Module 10: Final Project

- Project Work: Create a comprehensive 3D model and assembly based on a real-world product.
- Presentation: Document and present the design process, including sketches, parts, and assemblies.

These are sample projects only. Unique capstone projects will be discussed in the live class

Career Opportunities

Upon completing the CATIA Certification Program, students will be equipped for roles such as:

- Design Engineer
- CAD Engineer
- Product Design Engineer
- Mechanical Engineer
- Aerospace Engineer
- Automotive Designer
- Tool Designer
- Manufacturing Engineer

Certificates



Assured Interviews

As part of our placement support, we provide assured interview opportunities with leading companies in your field. Our dedicated placement team works tirelessly to connect you with the right employers based on your skills and interests.

The Course and Curriculum is designed by Mentors from

accenture



Microsoft

 **Mahindra**


TATA

Infosys


HYUNDAI

ORACLE  **Meta**

Get Started Today!

Contact Us:

Ready to take your career to the next level?

Contact us to learn more about our courses, flexible payment plans, and how we can help you achieve your career goals.

Phone: 6362243542

Email: help@pavision.in

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