



Industry Orientation Course

CAD Mastery

Duration: 4 Months

(100% Placement assistance)

Empowering students with practical skills through industry-led training and personalized support.

About this course:

Unlock your CAD mastery with Artem Academy's immersive course! Designed to empower students with in-depth knowledge and practical skills, our objective is to cultivate expertise in CAD software for real-world applications. From mastering Sketching, 2D & 3D modeling, assembly, Surface modeling, drafting and sheet metal to tackling complex design challenges, students/experienced professionals/Researchers gain hands-on experience and level up in engineering, architecture, and beyond. Join us to elevate your skills and conquer tomorrow's design challenges with confidence!

You will gain the knowledge and command of concepts along with functionality and working principles of real-world modeling starting from screws to complex components such as gear, blade, bolted joints, structural components, B-Pillar, disc, bearing, and much more which belong to aerospace, automotive, Bio-medical, Rail, structural and Heavy engineering.

Course Curriculum

1. GD & T

- Master geometric dimensioning and tolerancing (GD&T) principles in our comprehensive course. Learn to interpret engineering drawings accurately for precise manufacturing and assembly processes. Gain essential skills for industry success.
- Engaging in projects focused on specific industry domains, such as:
 - Why GD & T?, Terminology
 - Features & Rules of GD &T
 - Datum Controls

- Add to Design
- Tolerances – Form, Orientation, Profile, Location & Runout
- Summary
- Practical models of 3D, assembly and Sheetmetal

Select any 3 CAD courses based on the domain you wish to master from Series 2 to 6, AutoCAD is mandatory.

2. AUTOCAD for Mechanical Engineering:

- AutoCAD is a powerful drafting software used by mechanical engineers for designing, analyzing, and documenting mechanical systems and components in 2D and 3D. It streamlines the design process, facilitates collaboration, and enables the precise creation of technical drawings and models.
- CAD tool, editing tool, advanced features, two-dimensional, three-dimensional, isometric modeling, and overview.
- Engaging in projects focused on specific industry domains, such as:
 - Creation of layouts and views
 - Sorting and editing of features with layers
 - GD & T symbols are per drawing
 - 2D & 3D models creation
 - Exploring specialized tools based on industry

3. CATIA V5:

CATIA is a robust CAD software extensively used by mechanical engineers for product design, simulation, and manufacturing. It offers a comprehensive suite of tools for creating 3D models, performing basic finite element analysis, and generating production-ready drawings, enhancing efficiency and innovation in engineering workflows.

- Sketching, Modeling – 3D solid & surface, assembly, drafting, parametric modeling, surface design and sheet metal
- Engaging in projects focused on specific industry domains, such as:
 - Creation of sketch for gear, compressor disc & multi-sketch profiles
 - 3D models – chassis, clamp
 - B-pillar and turbine surface-based models
 - Bolted flange Models

- Drafting and detailing for components & sub-assemblies
- Sheet metal - enclosures

4. **SOLIDWORKS:**

- SolidWorks is a popular CAD software among mechanical engineers, providing intuitive tools for 3D modeling, simulation, and documentation. Its user-friendly interface and extensive feature set streamline design processes, fostering creativity and precision in engineering projects.
- Sketching, part modeling, surface modeling, sheet metal modeling, assembly, and drafting.
- Engaging in projects focused on specific industry domains, such as:
 - 3D Models of Brackets & housings
 - Surface modeling of car outer parts, composites
 - Drawing creations
 - Assembly components – Bolted Joints
 - Sheetmetal like frames, closers

5. **NX SIEMENS**

- NX CAD offers advanced capabilities for designing complex products, from concept to manufacturing. With its robust tools for modeling, simulation, and collaboration, NX CAD empowers engineers to innovate efficiently and bring high-quality products to market faster.
- Designing with NX, Getting Started with NX, Sketcher Module, Layers & Datums, Surface Modeling & Features, Assembly, Drafting, Sheet Metal Module.
- Engaging in projects focused on specific industry domains, such as:
 - Creation of sketch for gear assembly
 - Parametric modeling for optimization
 - Complex Surface creation of solid models
 - Gas turbine components and Surface-based Automotive features
 - Assembly of Bolted Joint Model and Drafting booklet
 - Sheetmetal Models of the enclosures

6. CREO CAD

- CREO CAD is a versatile software for mechanical engineers, providing powerful tools for 3D modeling, simulation, and product development. With its parametric design capabilities and integrated applications, CREO streamlines the design process and enables collaboration, facilitating the creation of innovative and manufacturable products

- Engaging in projects focused on specific industry domains, such as:
 - Creation of Solid modeling
 - Pipe connections in 3D
 - Complex casing parts
 - Assembly structures
 - Car Surface Modeling
 - Drawing & Drafting all components & assemblies
 - Sheetmetal features

7. Soft Skills:

- ✓ **Presentation Skills:** Engage confidently with visuals, conveying ideas effectively to captivate audiences and leave lasting impressions.
- ✓ **Leadership Skills:** Inspire teams, making decisive decisions, fostering growth, and leading by example with empathy and integrity.
- ✓ **Time Management:** Prioritize tasks, set goals, and maintain focus to achieve objectives efficiently within designated timeframes.
- ✓ **Communication:** Articulate thoughts clearly, actively listen, and adapt communication styles to effectively convey messages and build rapport.
- ✓ **Documentation:** Maintain meticulous records, ensuring accuracy and organization for clarity, accountability, and efficient workflow management.
- ✓ **Interview Answering:** Showcase skills and experiences succinctly, confidently articulating achievements and aligning strengths with employer needs.
- ✓ **Mock Interviews:** Simulate real-world scenarios, refining interview techniques, and building confidence through practice and constructive feedback.
- ✓ **Problem-solving:** Analyze challenges, devise creative solutions, and persevere with determination, leveraging critical thinking and resilience to overcome obstacles.

Streamline Deliveries and Tracking milestones:

1. Explore technical workshops led by industry and academic experts covering engineering design, materials, drawing, and GD&T.
2. Gain insights and soft skills guidance through seminars facilitated by industry professionals.
3. Engage with weekly assignments tailored to real-world scenarios for hands-on learning.
4. Your progress will be tracked weekly with proactive support for success.
5. Dive into practical, skill-building tasks in each course for dynamic learning experiences.

Benefits:

- Industry-led training with practical skills.
- Personalized support for student success.
- Cutting-edge tools and technologies access.
- Mentorship by experienced professionals.
- Networking with industry leaders.
- Internship/job placement assistance.
- Updated curriculum reflecting industry trends.

"Unlock your potential, embrace challenges, and become the architect of your extraordinary future. Dream big!"

Artem Academy, Hyderabad

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