AUTODESK/AUTOCAD TRAINING

Autodesk Cam

Master Autodesk CAM to program CNC machines efficiently, optimizing your manufacturing workflows for precision.

DURATION
Flexible

LEVEL
Intermediate

FORMAT
Instructor-Led

- Globally Recognized Certification
- Expert-Led Hands-On Training
- Flexible Scheduling

Computer Pride | 1st Floor, ICEA Building, Kenyatta Avenue, Nairobi | www.computer-pride.co.ke

COURSE OVERVIEW

The Autodesk CAM course at Computer Pride is specifically designed to equip intermediate-level professionals with the critical skills required to transform digital designs into tangible products with precision and efficiency. This comprehensive program delves into the core functionalities of Autodesk's integrated CAM solutions, such as Fusion 360 CAM, Inventor CAM, or HSMWorks, focusing on generating optimal toolpaths for various CNC machining operations. Participants will master the art of bridging the gap between CAD models and physical prototypes, learning how to configure machining strategies, select appropriate cutting tools, simulate manufacturing processes, and generate robust G-code for milling, turning, and multi-axis machines. This course is indispensable for anyone looking to optimize their manufacturing workflow, reduce production errors, and accelerate product development cycles.

Level	Intermediate
Vendor	Autodesk/AutoCAD

COURSE CURRICULUM

01 Module 1: Introduction to CAM and Autodesk CAM Interface

- Overview of Computer-Aided Manufacturing (CAM) principles
- Understanding the Autodesk CAM ecosystem (Fusion 360 CAM, Inventor CAM)
- Navigating the CAM workspace and user interface
- Setting up machining jobs: stock definition, work coordinate systems (WCS)
- Importing CAD models and preparing them for CAM

02 Module 2: 2D Machining Strategies

- Fundamentals of 2D milling operations: facing, contouring, pocketing
- Drilling operations: spot drilling, deep drilling, tapping cycles
- Adaptive Clearing and High-Efficiency Machining (HEM) for 2D parts
- Tool selection and material considerations for 2D processes
- Generating and verifying 2D toolpaths

03 Module 3: 3D Machining Strategies and Surface Machining

- Introduction to 3D machining concepts and applications
- Parallel, scallop, spiral, and contour strategies for 3D surfaces
- Rest machining and avoiding air cuts for efficiency
- Optimizing toolpaths for complex geometries and intricate features
- Collision detection and avoidance in 3D machining

04 Module 4: Post-Processing, Simulation, and Verification

- Understanding G-code and M-code fundamentals
- Configuring and customizing post-processors for specific CNC machines
- Toolpath simulation and visualization for error detection
- Verification techniques: material removal simulation, gouge checking
- Outputting G-code and transferring to CNC controllers

05 Module 5: Advanced CAM Techniques and Multi-Axis Machining

- Introduction to multi-axis machining (3+2 axis, continuous 5-axis)
- Utilizing advanced machining strategies for complex parts
- Setup and programming for turning operations (lathe)
- Working with tool libraries and custom tool definitions

- Strategies for fixture design and workholding within CAM

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

> **CNC Programmer/Specialist**

> **Manufacturing Process Engineer**

> **Tooling and Fixture Designer with CAM Expertise**

FREQUENTLY ASKED QUESTIONS

Q: What foundational knowledge or prior certifications are recommended before enrolling in the intermediate Autodesk CAM course?

To get the most out of this intermediate Autodesk CAM course, participants should have a solid foundation in CAD software, preferably with some experience in Autodesk products like AutoCAD or Fusion 360 for design. Basic understanding of manufacturing processes, CNC machining concepts, and engineering drawings will be highly beneficial. While not strictly mandatory, prior exposure to a CAD environment will significantly enhance the learning experience and allow you to grasp CAM concepts more rapidly.

Q: How does proficiency in Autodesk CAM directly translate into improved manufacturing efficiency and cost savings for employers?

Mastering Autodesk CAM allows professionals to create highly optimized toolpaths, which directly reduces machining time, minimizes material waste, and extends tool life. By accurately simulating processes, errors are caught before production, preventing costly rework and scrap. This efficiency gain, coupled with the ability to program complex geometries quickly and precisely, translates into faster product-to-market cycles, reduced operational costs, and an overall increase in manufacturing productivity and profitability for employers.

Q: Will this course cover advanced CAM strategies for multi-axis machining or complex mold and die manufacturing?

Yes, this intermediate Autodesk CAM course includes dedicated modules on advanced machining techniques. You will learn the principles of multi-axis machining, including 3+2 axis positioning and an introduction to continuous 5-axis applications, allowing you to tackle more complex part geometries. The curriculum also delves into strategies applicable to mold and die manufacturing, focusing on surface finishing, intricate feature machining, and optimizing toolpaths for high-precision components often found in such industries.

ABOUT COMPUTER PRIDE

computerpride

East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading

technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+	10,000+	50+
Years of Excellence	Professionals Trained	Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

Location
1st Flr, ICEA Building
Kenyatta Ave, Nairobi

Email
info@computer-pride.co.ke

Phone
+254 705 900 900

www.computer-pride.co.ke