KETIV

TRAINING SERVICES

GIVE YOUR TEAM THE TARGETED SKILLS TO BE MORE EFFICIENT AND PRODUCTIVE.
Every year, with every new software release, more becomes possible with the technologies of our trade. But to get the most from those tools, your team must continue to learn about the new capabilities, systems, and workflows that are available.

We offer a range of specialized and advanced courses on the latest Autodesk software and targeted industrial applications. In just a day or two, you can give your team the skills and knowledge to not only become more efficient in their work, but also more innovative. Our trainers are highly trained, certified by Autodesk on the latest software releases, and can tailor the course to your business objectives.

FEED THE CREATIVITY OF YOUR EMPLOYEES AND SUPPORT THEIR DEVELOPMENT WHILE ALSO DRIVING BETTER RESULTS FOR YOUR BUSINESS.
We have used KETIV for quite a few years now and they are the best for getting access to products and recommendations for problem solutions. They continue to perform above expectations.

EVERETTE SPORE,
Angelo & Newton
# COURSE CATALOG

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## FORMATS AND PRICING

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PRODUCT DESIGN
Manufacturing and 3D Printing Technology

PREPARE YOUR INVENTOR AND FUSION 360 DESIGNS FOR PRINTING AND IMPROVE MANUFACTURABILITY BY AVOIDING ERRORS AND BROKEN PARTS.

“Nicole Morris is a great instructor and I really enjoyed taking the online class at the Ketiv location. I think you can get more out of this class if you have some familiarity with AutoCAD Electrical” – Isaac Fuentes

TOPICS INCLUDE:

- 3D printing
  i. Avoiding thin walls and shells
  ii. Solving structural problems
  iii. Print preview

- CAM with Autodesk HSM Express
  i. Toolpath strategies for drilling and milling
  ii. 2D and 3D contouring
  iii. CAM Simulation setup
  iv. Tool travel and cycle-time optimization
  v. Adaptive clearing
  vi. Tool Library setup and use

DURATION: 3 Days
Visualization and Rendering

Explore the aesthetic and functional aspects of your designs and enable stakeholders to experience designs before production with visualization and rendering tools.

TOPICS INCLUDE:

- Apply lighting, cameras, styles, and backgrounds in Inventor for realistic rendering
- Apply real-world materials, surfaces, and environment settings in Showcase
- Create interactive walkthroughs and presentations with Showcase
- Publish renderings and movies for peers and customers
- Introduction to 3DS Max
- Render multiple designs simultaneously using Autodesk Cloud

DURATION: 3 Days
Multi-cad Interoperability and Collaboration

SHARE DATA CONFIDENTLY WITH VENDORS AND PARTNERS USING AUTOCAD, SOLIDWORKS, PTC/CREO, OR CATIA.

TOPICS INCLUDE:
• Browser-based file viewing and sharing with Autodesk A360
• Conduct 3D design reviews with Inventor Connected Design
• Manage complete sets of files with Pack and Go
• Avoid translation errors and achieve interoperability between multiple CAD systems using AnyCAD
• Learn data management workflows using multiple CAD system files

DURATION: 1 Day
Product Design

Inventor Accelerated

Designed for experienced 3D CAD users, this provides a fast-paced introduction to Autodesk Inventor for 3D modeling and 2D documentation. This class is also designed to accommodate experienced SolidWorks users.

Topics Include:
- Introduction to interface and user settings
- Best practices for 2D sketch creation
- Generating 3D models:
  - Extrusions & revolving
  - Sweeps & lofts
- Creating Secondary features
  - Fillets & chamfers
  - Ribs, shells, & holes
  - Patterns
- Working in the assembly environment
  - Assembly parts and sub-assemblies
  - Working with Bill of Materials
- Documenting your design with 2D drawings
  - Creating standard and detail views
  - Annotations and dimensions
  - Displaying Bill of Materials

Duration:
- 3 Days
  - For those with no prior 3D modeling experience
- 2 Days
  - For those with prior SolidWorks, Creo, or other parametric modeling experience
PRODUCT DESIGN

Tube and Pipe Routing

CREATE, MANAGE, AND DOCUMENT PIPE RUNS FOR RIGID PIPE, RIGID TUBE, AND FLEXIBLE HOSE DESIGNS WITH INVENTOR TUBE AND PIPE ENVIRONMENT.

TOPICS INCLUDE:

- Routing
  - i. 3D sketching
  - ii. Auto-route
  - iii. Node manipulation
- Part Library
  - i. Content Center
  - ii. Virtual Components
- Pipe styles
  - i. Create templates
  - ii. Assign rules
- Part naming and file management
- Isometrics
  - i. Bill-of-Material
  - ii. Cut-lists
  - iii. Dimensioning

DURATION: 2 Days
Inventor Update Training

**DISCOVER HOW YOU CAN TAKE IMMEDIATE ADVANTAGE OF THE DESIGN, INTEROPERABILITY, AND COMMUNICATION TOOLS THAT HAVE BEEN ADDED TO AUTODESK INVENTOR OVER THE YEARS.**

**TOPICS INCLUDE:**

- Interface and display enhancements
- Design enhancements
  - 3D Sketch controls
  - Patterns and feature relationships
  - Shape Generator for generative design
- Interoperability improvements
  - ANYCAD support
  - Mesh (STL/Obj) handling
- Communication Capabilities
  - A360 Connected Design

**DURATION:** 4 Hours
AutoCAD Update

Bring your team up to speed and drive innovation by utilizing tools that have been added to AutoCAD over the years.

TOPICS INCLUDE:
- Interface and display enhancements
- Connectivity & Usability
  - Enhanced PDF workflows
  - Working with Revision Clouds
  - Dynamic measurements
  - Sharing design views to the cloud
  - 3D printing
- Documentation & files
  - Migration and update tools
  - Importing and working with PDF’s
  - 3D model file import

DURATION: 4 Hours
Sheet Metal Design

MASTER THE CREATION, EDITING, AND DOCUMENTATION OF SHEET METAL PARTS WITH CUSTOM ENVIRONMENTS FOR YOUR APPLICATION.

TOPICS INCLUDE:
- Custom material properties and styles
- Flange and hem design
- Split parts and multi-body part support
- Generate and edit flat patterns
- Reuse existing 3D models
- Cuts, rips, seams, and punches
- Conical parts
- Sheet Metal Documentation for manufacturing

DURATION: 2 Days
Frame Generator

Avoid costly production delays when you create internal and external frame assemblies for machines with the Frame Generator. Minimize shipping overhead with accurate weights and cost calculations.

Topics include:
- 2D and 3D frame skeleton modeling
- Frame Members
  - Content center
  - End treatments
  - Data management best practices
    - File naming
    - Data reuse
- Structural Analysis
  - Frame analysis
  - Nastran In-CAD
- Frame documentation
  - Dynamic BOM's
  - Cut-lists
  - Fabrication details

Duration: 1 Day
Large Assembly Workflows

OPTIMIZE PERFORMANCE AND CAPACITY WHEN YOU ARE WORKING WITH THOUSANDS OF UNIQUE PARTS IN AN Autodesk Inventor assembly. Understand how you can reduce long open and geometry-display times and edit complex assemblies efficiently.

TOPICS INCLUDE:
- Operating system and environment settings
- Derived parts and shrink wrap
- Skeletal modeling
- Component simplification
- Workspace envelope
- Level of details and design view representations
- Assembly strategies and breakdowns
- Best practices for documenting large assemblies
- Large Assembly Data Management workflows
  i. Copy Design
  ii. Folder hierarchy
  iii. Opening and check in recommendations

DURATION: 2 Days
Advanced Documentation

CREATE ASSOCIATIVE AND NON-ASSOCIATIVE INVENTOR DRAWINGS THAT ACCURATELY AND CONSISTENTLY CONVEY YOUR DESIGNS.

TOPICS INCLUDE:

- Dimension and text styles
- Custom title block templates
- Inventor layers and line types
- Re-using AutoCAD blocks and formats
- Parts lists and ballooning
- Assembly documentation including exploded view
- Custom tables including hole tables

DURATION: 1 Day
**Content Center**

**CREATE AND MANAGE STANDARD PARTS LIBRARIES IN AN INDIVIDUAL OR WORKGROUP ENVIRONMENT.**

**TOPICS INCLUDE:**
- Input standard part numbers
- Automated part descriptions
- Control standard part availability
  - Using Projects
  - Using Vault
- Publish standard content including:
  - Tube and pipe
  - Nuts and bolts
  - Structural parts
  - Electrical components
- Note: Content Center, Tube and Pipe, Frame Generator topics can be added on as modules.

**DURATION:** 1 Day
Design Automation with iLogic

CAPTURE YOUR DESIGN CRITERIA AND REUSE YOUR WORK WITH RULES-BASED DESIGN. USE iLOGIC TO STANDARDIZE AND AUTOMATE DESIGN PROCESSES AND PRODUCT CONFIGURATION.

TOPICS INCLUDE:
- Workflow overview
- iLogic interface and best practices
- General rule syntax
- Using iLogic to manipulate models
- Using iLogic to create and edit drawings
- Creating rules for parts, assemblies, and drawings
- Internal and external rule usage and triggers
- Custom form creation
- Automation Training

DURATION: 3 Days
KETIV is a great partner and is actively involved with our company to provide tools and services to benefit our environment. I believe they are doing all the right things.

IVAN PEREZ, Extron Electronics
DESIGN VALIDATION AND SIMULATION
Basic Design Validation

OPTIMIZE AND VALIDATE DESIGNS USING INVENTOR’S STATIC AND MODAL ANALYSIS ENVIRONMENT AS WELL AS SHAPE GENERATOR FOR GENERATIVE DESIGNS.

TOPICS INCLUDE:

• Modal/Static Stress:
  i. Setup
  ii. Mesh settings
  iii. Run
  iv. Results interpretation
  v. Convergence validation

• Static Stress:
  i. Parametric design study
  ii. Shape Generator

DURATION: 1 Days
Dynamic Design Validation – Sim

SETUP, RUN, ANALYZE, AND EXPORT KINEMATIC SIMULATIONS USING AUTODESK INVENTOR’S DYNAMIC SIMULATION ENVIRONMENT.

TOPICS INCLUDE:
- Dynamic Simulation environment
  - Setup
    i. Joint creation
    ii. Loads
    iii. Prescribed motions and loading
  - Running results
    i. Output grapher
  - Export results for Static Stress analysis

DURATION: 3 Days
Great program, much more to learn. I’d like to thank Rich Sanchez for his deep knowledge, experience, and teaching abilities.

RICHARD LONDRES, SAFE Boats International
DATA MANAGEMENT
Vault Basic Training

THIS IS A TWO-PART CLASS.

PART ONE: TEACHES USERS THE FUNCTIONALITY IN A STANDARD VAULT IMPLEMENTATION.

PART TWO: TEACHES VAULT ADMINISTRATORS TO APPLY BEST PRACTICES TO OPTIMIZE VAULT PERFORMANCE AND PROTECT THE INTEGRITY OF YOUR DATA.

TOPICS INCLUDE:
- Copy design
- Tracking version history
- Pack and Go
- Search capabilities
- Renaming files and folders
- Maintaining relationships while reorganizing data
- Monitor and maintain SQL server database
- Optimal SQL server settings
- Schedule and manage data backups
- Optimize server disk space
- Conduct administrative tasks

DURATION: 1 Day
Vault Professional for Administrators

For Vault Professional Administrators, develop the tools needed to implement and maintain a healthy deployment in a production environment.

Topics include:
- Lifecycle definitions and states
- Lifecycle configuration
- Revision management
- Creating and managing categories and rules
- Property mapping
- Automated part numbering
- Report creation
- Job server functionality
- Project sync

Duration: 1 Day
Vault Professional User Training

BECOME FAMILIAR WITH THE ADVANCED DATA MANAGEMENT TOOLS INCLUDED WITH VAULT PROFESSIONAL FOR USERS.

TOPICS INCLUDE:
- Working with lifecycle states
- Working with BOMs
- Items
- Setup of Buzzsaw project
- Out-of-the-box reporting
- Inventor data mapping
- Working with revisions
- Editing ECO routing
- Redline markups

DURATION: 4 Hours
DATA MANAGEMENT

Fusion Lifecycle for Administrators

For Fusion Lifecycle Administrators, develop the skills needed to configure, implement and deploy PLM processes that connect your departments in a single system.

TOPICS INCLUDE:

- Introduction to Fusion Lifecycle
- Working with Bills of Materials
- Overview of Change Management
- Overview of Quality Management
- Classification
- Creating Workspaces
- Security Model in Fusion Lifecycle
- Introduction to Scripting

DURATION: 4 Hours
Overall great course and Alex was a great instructor. Paced well and very knowledgeable of the program. He has also been consistently offering assistance outside of course hours to help answer questions we have with the software.

SA’ AMIR ANDERSON
Open Apps
FACTORY LAYOUT DESIGN

Factory Design Suite for AutoCAD and Inventor Users

OPTIMIZE YOUR WORKFLOWS AND EQUIPMENT PLACEMENT BY INTEGRATING 2D LAYOUTS WITH 3D MODELS. MAKE INFORMED DECISIONS BEFORE EQUIPMENT IS INSTALLED AND COMMISSIONED ON THE FACTORY FLOOR.

TOPICS INCLUDE:
- Expedite designs with automated workflows
- Build 3D models from 2D drawings
- Test multiple layout scenarios
- Analyze material flow directly in AutoCAD
- Author and publish smart assets
- Combine data from various CAD systems
- Create a digital factory model anyone can review
- Detect interferences
- Integrate point cloud workflows

DURATION: 2 Days
Nicole Morris at KETIV ran a webinar for Inventor Training, specific to handling large assemblies. It was immediately clear that she knows her stuff. It was organized, clear, stopping to answer questions and explain everything she was teaching.

CLAUDIO IBARRA
Retech Systems LLC, Engineering Manager
ELECTRICAL DESIGN
ELECTRICAL DESIGN

Essentials of 2D Electrical Design

LEARN BASIC AUTOCAD ELECTRICAL PRINCIPLES, BUILD INTELLIGENT LADDER LOGIC, DISCOVER POINT-TO-POINTER SCHEMATIC AND 2D PANEL- LAYOUT TECHNIQUES, AND IMPROVE PROJECT MANAGEMENT.

TOPICS INCLUDE:

• Interface review
• Project Manager interface
• File management best practices
• Schematic drafting
  i. Single and three-phase wiring
  ii. Components
  iii. Terminals
  iv. Annotations
• Panel layouts
• Bill-of-Material and report generation

DURATION: 2 Days
ELECTRICAL DESIGN

AutoCAD Electrical Administration

STANDARDIZE YOUR ELECTRICAL DOCUMENTATION, ANNOTATIONS, REPORTS, AND LIBRARIES FOR CONSISTENCY AND EFFICIENCY.

TOPICS INCLUDE:

- Projects
  - i. Project properties
  - ii. Multi-user projects
  - iii. Template projects
  - iv. Sharing libraries and databases
- Report template configuration
- Symbol creation
- Customizing icon menu
- Database configuration
- Data management with Vault Basic and Vault Professional

DURATION: 2 Days
Electro-Mechanical Design

Use Inventor’s electro-mechanical connection and wire harness design environment to incorporate bi-directional AutoCAD electrical point-to-point layouts to create accurate 2D nailboard layouts.

TOPICS INCLUDE:
- AutoCAD Electrical – Inventor bi-directional workflow
- 3D wire harnessing
- Wire harness editing
- 2D wire harness annotation
- Create/manage wire libraries
- Create/author standard electrical components

DURATION: 2 Days
Plant 3D Project Configuration

Build a strong foundation for your AutoCAD Plant 3D user group by administering and configuring your software to facilitate the design process.

TOPICS INCLUDE:
- Customize Plant 3D component properties
- Best practices for creating templates
  - Project settings
  - File organization
  - Styles configuration
  - Defaults & standards
  - Title block and general arrangements configuration
- Custom symbol creation
- Configure custom report formats
- Create company specifications

DURATION: 2 Days
Plant 3D User Training

Explore basic AutoCAD Plant 3D principals to efficiently and effectively capture facility design intent.

TOPICS INCLUDE:
- Interface and navigation overview
- Working with the Project Manager
- 3D Model creation
  - Creating plant structure
  - Adding equipment to your design
  - Routing your piping
- Communicate design intent through 2D orthographic drawings
- Create Fabrication drawings with Isometric views
- Create Bill of Materials and customer equipment list

DURATION: 2 Days
PROCESS & PIPING DESIGN

P&ID Project Configuration for Administrators

Administer and configure your AutoCAD P&ID deployment so administrators can better facilitate the design process.

TOPICS INCLUDE:
• Customize P&ID component properties
• Best practices for creating templates
  - Project settings
  - File organization
  - Styles configuration
  - Defaults & standards
• Title block configuration
• Custom symbol creation
• Configure custom report formats

DURATION: 2 Days
P&ID User Training

Explore basic AutoCAD P&ID principals to efficiently and effectively capture process and instrumentation diagrams.

TOPICS INCLUDE:
- Introduction to interface and navigation
- Working with the Project Manager
- 2D process diagram creation
  - Creating and placing P&ID components
  - Annotating and tagging your P&ID
  - Validate your P&ID
- Pipe routing and property definition between equipment
- Configuration of instrumentation loops
- Utilizing data manager and reports

DURATION: 2 Days
Instructor is definitely knowledgeable inside out about Inventor and shows ways to do in Inventor that I struggled throughout my 10+ years use with other 3D software.

JASON CHANG
BIM FOR PRODUCT MANUFACTURING
BIM for Building Product Manufacturing

USE AUTODESK NAVISWORKS FOR PROJECT COLLABORATION ON LARGE MODELS. DEVELOP TECHNIQUES FOR SIMPLIFYING AND EXPORTING ASSEMBLY MODELS FOR BIM PROJECTS.

TOPICS INCLUDE:
• Model “simplification” tools
• Make your model BIM-ready
  i. Authoring tools for MEP and Revit
  ii. UCS alignment
  iii. Design checking
  iv. Building components properties
• Navisworks
  i. File types
  ii. Viewing capabilities
  iii. Measurement tools
  iv. Clash detection

DURATION: 2 Days
Their training programs have become my company’s go-to when needed. Looking forward to continuing my company’s growth with KETIV’s help.

CARLOS VELA
Hannibal Industries Design Manager
Formats

Our classes can be held either in our training center in Brea, CA, or can be attended virtually online. They can be purchased individually or as a package. Each class includes:

- **Lecture**: Our instructors present the material and your team takes notes, with plenty of time for Q&A throughout the day.

- **Hands-on lab**: Our instructors work collaboratively with your team, first presenting the material, then applying the techniques directly to both sample data sets and real use cases from your company.

* All courses will be taught on current versions of Autodesk software. Requests for training on prior versions of software may result in an additional fee.

$1995 / DAY

Up to 5 users, $100/day for each additional user, Trainings can be broken up into half days
Autodesk Virtual Academy

The learning doesn’t have to end when your training program wraps up.

Join us every Thursday morning at 10am PT for Autodesk Virtual Academy (AVA), a free online training program taught by our own experts, users, as well as our partners at Autodesk.

Get tips and tricks, information on new releases and capabilities, and insight on how to make your processes more effective and efficient.

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