

Duration
40-60 Hours

Prerequisites
None

Modeling

This self-study tutorial is for Designers and Detailers who use Pro/ENGINEER. The Modeling course provides introductory learning in the basics of Pro/ENGINEER and progresses to advanced topics such as Sweeps, Blends and Parameter Driven Parts. Users who are new to Pro/ENGINEER should take this course. The Modeling course is a prerequisite for most of the other COACH courses.

Upon completion of this course, users will be able to create basic and complex Pro/ENGINEER parts as well as modify and maintain them. The user will also be able to trouble-shoot problems with parts and recover from regeneration failures.

Wildfire 2.0 Topics

- **General Interaction**
Manipulating the View
Reorient the View
Accessing Part Files
Multiple Part Windows
Erasing Parts and Exiting
- **Parametric Models**
Understanding Relationships
Planning Your Design
Model Templates
Managing Data
- **Basic Modeling**
Using a Template
Setting up a Sketch
Sketching a Protrusion
Cut Feature
Revolved Feature
Multiple Sketched Features
External Sketches
- **Intent Manager**
Arcs and Circles
Fillet
Creating Dimensions
Constraints
Use and Offset Edges Tools
- **Manipulating Sketches**
Trimming Sketch Curves
Mirroring Curves
Construction Curves
Move and Scale
Importing Sketches
- **Rounds**
Edge Rounds
Surface to Surface
Through Curve
Full Round
Variable Radius
Round All
- **Basic Modifications**
Edit
Drag Section Sketch
Edit Definition
Edit Sketch
Undo/Redo
- **Datums**
Single Constraint
Multiple Constraints
Datum Axis
- **Holes**
Linear Placement
Radial Placement
Coaxial Placement
Sketched Holes
- **More Features**
Shell Feature
Chamfer Feature
Draft Feature
Split Draft
Rib Feature
Thicken Sketch Option
- **Sweeps and Blends**
Linear Sweeps
Parallel Blends
Rotational Blends
General Blends
- **Modifying References**
Change Sketch Plane
Edit References
Reorder Features
Insert Mode
- **Duplicating Features**
Copying a Feature
Linear Dimension Pattern
Radial Dimension Pattern
Direction and Axis Patterns
- **Resolve Features**
Undoing Changes
Investigate a Failure
Redefine References
Reroute Feature
Troubleshooter Dialog
- **Parameter Driven Parts**
Parameter Names
Adding Relations
User-Defined Parameters
- **Getting Information**
Using Info
Using Set Up
Using Analysis
Buried Features
Compare Part
- **Projects**
The Molded Part
The Tooling Plate
The Locking Strap

Duration
40-48 Hours

Prerequisites
COACH for Modeling
COACH for Assemblies

Advanced Modeling

This self-study tutorial is for Designers who use Pro/ENGINEER to create and manipulate complex parts and assemblies. The Advanced Modeling course takes the user into the most complex Pro/ENGINEER tasks in using Relations and Parameters to define Family-of-Parts applications.

This course also teaches users to utilize User Defined Features, Pattern Tables and Pro/PROGRAM to enhance the flexibility of the overall design environment and greatly reduces repetitive engineering techniques. Furthermore, this course teaches users how to apply engineering standardization and avoid the many pitfalls associated with re-using design data across their organization.

Wildfire 2.0 Topics

- **Object Display**
Hide Objects
Hide Layer
Add Items to a Layer
Isolate Layer
Suppress by Layer
- **Datum Points**
Single Reference
Multiple References
Sketched Points
Offset Points
- **Datum Curves**
Sketched Datum Curves
Datum Curves Thru Points
Sweep Curves
Projected on a Surface
Copy Curve
Curves from Equations
- **Relations**
Documenting Design Intent
Section Relations
Analysis Datum
- **Sketcher**
Text
Conics and RHO Value
Splines
Replace Curve
- **Variable Sect Sweep**
Basic Sweep
Section Plane Control
Trajectory Parameter
Using Datum Graphs
- **Standard Holes**
Hole Shape
Hole Callout
Thread Surface
- **User Defined features**
Using a UDF
Storing a UDF
Variable Dimensions
- **Advanced Patterns**
Creating a Pattern Table
Pattern to Pattern Table
Area Fill
Multiple Dimensions
- **Family tables**
Creating a Family Table
Adding Features
- **Pro/PROGRAM**
Creating a Program
Prompt for User Input
- **Advanced Rounds**
Round Sets
Corner Transitions
Other Transitions
Intent Edges
- **Helical Sweeps**
Linear Profile
Tapered Profile
Variable Pitch
- **Customize the Window**
Creating a Mapkey
Adding Commands
Controlling Toolbars
Adding Mapkeys
- **Projects**
The Angular Fitting
The Keyboard Key
The Wrench Socket
The Nylon Roller

Duration

30-40 Hours

Prerequisites

COACH for Modeling

Detailing

This self-study tutorial is for Designers and Detailers who use Pro/ENGINEER to create production drawings. The Detailing course teaches users the basic concepts of creating drawings from Pro/ENGINEER solid models. The course also teaches users how to quickly display and manipulate dimensions on a drawing. Users learn to show and format parametric, bi-directionally associative dimensions, views and parameters.

Upon completion of this course, users will be able to create fully associative, parametric drawings in Pro/ENGINEER.

Wildfire 2.0 Topics

- **Creating a Drawing**
 - Creating a New Drawing
 - Placing the First View
 - Projecting Views
 - Auxiliary Views
 - Detail Views
 - Isometric Views
 - Partial Views
 - Broken Views
- **Sections**
 - Planar Sections
 - Offset Sections
 - Revolved Sections
 - Breakout Sections
- **Detailing**
 - Show Dimensions
 - Switch View
 - Moving Dimensions
 - Displaying Centerlines
 - Erasing Dimensions
 - Extension Lines
 - Other Annotation
 - Dimension Properties
- **Tolerances**
 - Displaying Tolerances
 - Tolerance Format
 - Tolerance Value
- **GD&T**
 - Setting Datums
 - Creating Frames
- **Text**
 - Parameters & Dimensions
 - Parameters & Notes
- **Formats**
 - Drawing a Border
 - Adding Text
 - Editing Text
- **Assembly Drawings**
 - Assembly Formats
 - Section View Display
 - Adding BOM Data

Duration

40-50 Hours

Prerequisites

COACH for Modeling

COACH for Detailing

Advanced Detailing

This self-study tutorial is for Designers and Drafters who use Pro/ENGINEER to create and manipulate complex part and assembly drawings. The Advanced Detailing course teaches users the most complex detailing techniques. Users learn to customize the display of views, parametric notes and labels, symbols and drawing tables. Users also learn to create standard company formats and custom family-of-parts drawings.

Upon completion of this course, users will be able to create virtually any drawing to meet engineering documentation requirements while enforcing and maintaining company and industry standards.

Wildfire 2.0 Topics

- **Modifying Views**
 - Modifying a Drawing
 - View Boundary
 - Recovering a Lost Drawing
 - View Reference Point
 - Applying Z Clipping to a Drawing View
 - Modifying Crosshatching
 - Changing the Format of Detail View Notes
 - Align General Views
- **View Display**
 - Drawing View Display
 - Edge Display in Drawing Views
 - Component Display
- **Layers in Drawings**
 - Layer Display on Drawings
 - Layers by Drawing Views
 - Layers in Assemblies on Drawings
 - Drawing Layers
- **Multi-Sheet Drawings**
 - Adding Sheets
 - Switch Sheets
 - Switch Detail and Section Views to Another Sheet
 - Add Drawings
- **Drafting Geometry**
 - Sketching Curves
 - Manipulating Geometry
- **Relating Drafting Geometry to Views**
 - Editing Imported Drawings
- **Using Symbols**
 - Creating Symbols
 - Placing Symbols
 - Symbol Palettes
 - Symbols in Notes
 - Symbols with Variable Text
 - Dimensions in Symbols
 - Groups in Symbols
 - Making Changes to Symbols
- **Shown Dimensions**
 - Showing Dimensions
 - Using the Clean Dims Option
 - Creating Snap Lines
 - Creating Jogs in Extension Lines
 - Adding Text to Dimensions
 - The Impact of Changing the Number of Digits in a Shown Dimension
 - Hole Tables
- **Created Dimensions**
 - Creating Dimensions
 - Replacing Dimension Text in a Created Dimension
 - Manipulating Bolt Circles
 - Using Symmetry Lines
 - Extended Dimensions to Objects off the Drawing
- **Ordinate Dimensions**
 - Showing Ordinate Dimensions
 - Creating Ordinate Dimensions
 - Cleaning Up Ordinate Dimensions
 - Auto Ordinate Dimension
- **Explode States**
 - Creating an Explode State
 - Adding Offset Lines
 - Modifying Offset Lines
 - Sketching Assembly Lines
- **Model Manipulation**
 - Showing Components Out of Position
 - Using Family Tables to Show Components in Multiple Positions
 - Copy from Another Drawing
- **Tabulated Drawings**
 - 2D Repeat Regions
 - Merging Cells
- **Advanced Parts Lists**
 - Repeat Region Attributes
 - Fixing an Index in a Repeat Region
 - Replacing Index and Quantity with Dashes
 - Adding Comments
 - Bulk Items

Duration
24-32 Hours

Prerequisites
COACH for Modeling

Assemblies

This self-study tutorial is for Designers who use Pro/ENGINEER to create assemblies. The Assemblies course teaches the basics of assembly design and constraint. Users learn how to assemble existing parts in a Bottom-Up Design methodology. They also learn how to build a Design-In-Context, or Top Down Design structure. In doing so, users learn how to create, apply and manipulate Skeletons and Map Parts.

Upon completion of this course, users will be able to create team design environments with Pro/ENGINEER to share engineering data and apply distributed referencing techniques. Users will be able to manipulate and trouble-shoot assemblies to recover from failures and make complex changes. They will also be able to create exploded views.

Wildfire 2.0 Topics

- **Bottom Up Design**
Using Coordinate Systems
Other Constraints
Automatic Constraint
Using Templates
Using Datum Planes
- **Other Techniques**
The Model Tree
Getting Information
Component Dragging
Repeating Components
Component Interfaces
- **Editing Assemblies**
Patterning Components
Reference Patterns
Assembly References
Changing Constraints
Using Package
Assembly Features
- **Top Down Design**
Layers
Creating a Skeleton
Using a Start Part
Using a Skeleton
Creating Map Parts
Using Map Parts
- **Visualizations**
Style States
Exploded State
Reset Position
Copy Position
- **Part Merge**
Merging Parts
Mirrored Components
Mirroring a Merge

Duration
40-48 Hours

Prerequisites
COACH for Modeling

Advanced Assemblies

This self-study tutorial is for Designers who use Pro/ENGINEER to create and manipulate complex parts and assemblies. The Advanced Assemblies course takes users to the next level of complexity in interoperability and interchangeability of components with an eye to design families. This course also stresses Top-Down design techniques such as Master Model.

Upon completion of this course, users will be able to create and manipulate complex assemblies which depend upon reliable references between components. Users will also have the skills necessary to define standard practices in data sharing and design team collaboration.

Wildfire 2.0 Topics

- **Component Display**
Hiding Components
Layers
Display States
- **Using Programs**
Programs
Adding Relations
Analysis Datum
Suppression Using
Programs
- **Advanced Patterns**
Pattern Tables
Converting to Pattern Tables
Patterning Points
- **Skeleton Parts**
Creating a Skeleton Part
Animating a Skeleton Part
Using a Skeleton Part
Linking Components
Other Uses
- **Simplified Representations**
Using Reps
Creating Reps
Part Simplified
Representations
- **Interchange Assemblies**
Functional Groups
Creating Groups
Manipulating Members
Simplify Groups
- **Component Variations**
Replacing Instances
Creating Family Tables
Flexible Models
- **Master Model & Inheritance**
Using Master Model
Creating a Mold Cavity
Using Datum Curves
Inheritance
- **Assembly Drawings**
Creating a Parts List
Multi-Model Drawings
BOM Balloons
Parametric Notes

Duration
32-40 Hours

Prerequisites
COACH for Modeling

Surfaces

This self-study tutorial is for Designers who use Pro/ENGINEER to create and manipulate free-form surfaces. The Surfacing course teaches users basic surfacing techniques as well as complex surface manipulation such as trimming, extending, editing and tweaking. Users also learn to control surface display and tangency conditions.

Upon completion of this course, users will be able to create complex surfaces and manipulate them relative to solids. Users will also be able to modify surface attributes and display settings.

Wildfire 2.0 Topics

- **Datum Points**
Single Reference
Multiple References
Sketched Points
Offset Points
- **Datum Curves**
Sketched Datum Curves
Datum Curves Thru Points
Sweep Curves
Projected on a Surface
Copy Curve
Curves from Equations
- **Basic Surfaces**
Basic Surfaces
Capped Ends
Flat Surfaces
Surface Display
Variable Section Sweep
- **Blended Surfaces**
Two Parallel Curves
Several Parallel Curves
Non-Parallel Curves
Curves in 2 Directions
Swept Blend
- **Working with Surfaces**
Merge
Trim
Solidify
Offset
Mirror
Thicken
- **Advanced Surfaces**
Rounds
Blend Control Points
Tangency Conditions
Extend Surface
Extension Distance
Warp Feature
- **Projects**
The Engine Cover
The Camera Body

Duration
24-32 Hours

Prerequisites
COACH for
Advanced Modeling

COACH for
Advanced Assemblies

Behavioral Modeling (BMX)

This self-study tutorial is for Engineers and Designers who use Pro/ENGINEER analysis functions to optimize the design of complex parts and assemblies. The Behavioral Modeling course teaches users to leverage their engineering skill by applying it directly in the Pro/ENGINEER models. In doing so, users permanently capture design intent and engineering expertise within their Pro/ENGINEER models and make it available, in a consistent manner, to their entire team.

Upon completion of this course, users will be able to enhance their Pro/ENGINEER models and assemblies with the engineering computational science required to modify and optimize the design.

Wildfire 2.0 Topics

- **Behavioral Modeling Introduction**
Using Analysis Features
Analysis Display
Behavioral Modeling Example
- **Analysis Features**
Measurement Analysis
Model Analysis
Curve Analysis
Surface Analysis
Relations
- **Advanced Analyses**
User Defined Analysis
Motion Analysis
Excel Analysis
- **Design Studies**
Sensitivity Design Studies
Feasibility and Optimization Design Studies
Optimization Feature
Multi-Objective Design Studies
Approximation in Multi-Objective Design Studies
- **Project**
The Chip Heat Sink

Duration
32-40 Hours

Prerequisites
COACH for
Advanced Modeling

COACH for
Advanced Assemblies

Large Assemblies

This self-study tutorial is for Designers and Engineers who create and manipulate large Pro/ENGINEER assemblies (200+ components). The Large Assemblies course teaches the extensive use of complex Skeletons and the advanced concept of using an Engineering Notebook. The course also stresses the use of Global Parameters to drive designs and communicate Design Intent.

Upon completion of this course, users will be able to create complete engineering strategies, which take advantage of the parametric power of Pro/ENGINEER. This course prepares users to survive in the real world of enterprise design and engineering.

Wildfire 2.0 Topics

- **Using Large Assemblies**
Using Layers
Component Display
Using Layouts
Using Skeletons
Creating Zones
Creating Envelopes
- **Layouts**
Creating a Layout
Adding Parameters
Using a Layout
Declaring Multiple Parts
When Layouts Are Missing
- **Advanced Applications**
Datum Planes
Adding Datum Curves
Using Layouts and Skeletons
Using Auto Assembly
Global Reference Tables
- **Simplified Representations**
Bounding Box
Using Zones
Using Model Names
Using Size
Substituting Reps
Rules and Conditions
On Demand Reps
- **Family Tables**
Interchange Assemblies
Multiple Table Entries
Nested Family Tables

Duration
20-24 Hours

Prerequisites
COACH for Modeling

Intralink

This self-study tutorial is for users who need to manage Pro/ENGINEER parts, assemblies, drawings and other related files. The course teaches users the fundamentals of interacting with Pro/INTRALINK and Pro/ENGINEER.

Upon completion of this course, users will be able to utilize Workspace and Commonsense in conjunction with Pro/ENGINEER to manage their part, assembly and drawing files.

Wildfire 2.0 Topics

- **Overview**
Getting Started
Workspace Introduction
Commonspace Introduction
General Interaction
Check In
- **The Workspace**
Creating New Objects
Table Display
Setting Preferences
Setting Status
Workspace and Pro/E
Multiple Workspaces
- **The Commonsense**
Using the Commonsense
Design Changes
Promoting Objects
Using Briefcase
- **Working In Intralink**
Baselines
Frames
Family Tables
Formats
Concurrent Engineering
- **Other Functions**
Reports
Using Locate
Recommended Practices

Duration

16-24 Hours

Prerequisites

COACH for Modeling

COACH for Assemblies

Cabling

The Cabling course is for Designers and Engineers who create and manage cables and harnesses in their Pro/ENGINEER electro-mechanical assemblies. The Cabling course teaches users how to define cabling diagrams and how to import wiring references from other CAD systems. The course also teaches users how to route cables and bundle harnesses using cosmetic features as attachments.

Upon completion of this course, users will be able to design cable systems and route wire through them. Users will also be able to create and manage wire harnesses.

Wildfire 2.0 Topics

- **Environment Customization**
Display Settings
User Interface
Model Tree Settings
- **Component Creation**
Creating a Model
Entry Ports
- **Assembly Management**
Skeleton Model
Data Sharing Techniques
Populate the Assembly
- **Using Logical References**
Importing References
Modifying the Diagram
Importing Wire Lists
Creating Mapkeys
- **Routing without References**
Routing Cables
Creating Sheath Spools
Creating the First Bundle
- **Autorouting**
Creating the Network
Autoroute Cables and Wires
- **Modifying Cables**
Modifying Locations
Modifying a Harness
Modifying a Bundle
Change Cable Segment
- **Other Applications**
Cosmetic Features
Using Info in Cabling
Using Analysis in Cabling
- **Harness Manipulation**
Flatten a Harness
Add Connectors to a Harness
Optimize the Harness Shape
- **Harness Drawings**
Nailboard Drawings
Using Reports in Cabling

Duration

16-24 Hours

Prerequisites

COACH for Modeling

COACH for Assemblies

Piping

This tutorial is for the engineers who need to route pipelines through a Pro/ENGINEER assembly.

Upon completion of this course, users will be able to design pipelines utilizing Skeletons and standard pipe line stock and library fittings. Users will also be able to edit pipelines and create documentation.

Wildfire 2.0 Topics

- **Environment**
Display Settings
Pipeline System Tree
Model Tree Settings
- **Components**
Creating Line Stock
Constructing Models
- **Routing Techniques**
To Pnt/Port and Follow
Creating Pipe Solids
- **Routing**
Branch and Extend
Using a Coordinate System
- **Fittings**
Library Fittings
Entry Ports
Inserting A Fitting
- **Modifying Pipelines**
Routing Process
Changing a Pipeline
- **Assembly Management**
Piping Assembly
Skeleton Use
Line Assemblies
- **Piping Drawings**
Information Tools
User Interface
Using Pro/REPORT

Duration
16-24 Hours

Prerequisites
COACH for
Advanced Modeling
COACH for Surfaces

Style Surfaces (ISDX)

The ISDX course is for Industrial Designers and Engineers who use Style Surfaces in their Pro/ENGINEER parts. The ISDX course teaches users how to create and manipulate Style Surface features in complex design models. The course also shows users how to incorporate these surfaces as Pro/ENGINEER features.

Upon completion of this course, users will be able to create and edit complex Style Surface features in Pro/ENGINEER parts. Users will also be able to apply parametric constraints and redefine/edit Pro/ENGINEER models containing Style Surfaces.

Wildfire 2.0 Topics

- **Style Features**
Style Features
Four View Layouts
Soft Points Overview
Hybrid Modeling Overview
Active Plane
Style Preferences
- **Basic Geometry**
Creating Curves
Curvature
Creating Points
Editing Points
Editing Curves
Creating Surfaces
- **More Geometry**
Internal Curves
Curve on Surface
Drop Curves
Proportional Update
Moving and Copying Curves
- **Surface Continuity**
Curve to Curve Connections
Curve-Edge and Curve-Surface Connections
Surface Continuity
Side Surface Influence
- **Hybrid Modeling**
Using Style Parametrically
Copying Style Features
Patterns
Replacing Surfaces
- **Complex Surfaces**
Complex Surfaces
Split Surfaces
Scoops and Bulges
Special Scoops
- **Project**
Phone Body
Finishing Touches

Duration
24-32 Hours

Prerequisites
COACH for Modeling
COACH for Assemblies
COACH for Surfaces

Mold Design

This self-study tutorial is for Engineers and Designers who use Pro/MOLDESIGN to create and manipulate single and multi-cavity molds. The Mold Design course teaches basic mold design techniques as well as advanced concepts such as part analysis, User Defined Features, and designing complex slides.

Upon completion of this course, users will be able to define complex parting line surfaces, split molds into cavity and core inserts, lay out single and multi-cavity molds and runners systems, and use standard mold base components to complete a design.

Wildfire 2.0 Topics

- **Mold Mode**
Assembling a Workpiece
Adding Shrinkage
Automatic Workpiece
Parting Surface
- **Creating the Cavity and Core**
- **Mold Layout Mode**
Cavity Layout
Adding a Mold Base
Cavity Pocket
Runner System
Ejector Pins
Waterlines
- **Parting Line Applications**
Saddle Shutoffs
Loop Selection
Slides
Splitting Volumes
Skirt Surface Options
- **Custom Components**
Slide Components
Sprue Bushing and Loc Ring
Mold Base Components
Adding Gates
- **Part and Mold Analysis**
Check Draft
Check Thickness
Creating a Molding Part
Opening the Mold
- **Project**

Duration
40-60 Hours

Prerequisites
COACH for Modeling
COACH for Assemblies

Manufacturing Milling

This self-study tutorial is for NC Programmers who create and manipulate manufacturing data for 3 axis milling machines. The Milling course teaches the basics as well as complex surface and volume milling techniques. Users learn how to plan and implement comprehensive manufacturing strategies to create and maintain associative, feature based manufacturing files. The use of standards and tips and techniques is also stressed.

Upon completion of this course, users will be able to use Pro/ENGINEER solid models and assemblies to create complex NC Operations and Sequences. Users will also be able to create Material Removal features in support of process planning.

Wildfire 2.0 Topics

- **Basic Machining**
Creating a Manufacturing Model
Beginning an NC Sequence
Setup and Clearance
Tool Definition
Specifying Parameters
Machining Surfaces
- **Profiling**
Creating a Basic Path
Specifying Step Depth
Lead In & Lead Out
Multiple Passes
- **Using a Workpiece**
Assembling the Workpiece
Machine Coord System
Using NC Check
Material Removal
- **Volume Milling**
Defining a Volume
Trimming a Volume
Offsetting Surfaces
Gathering a Volume
Mill Window
- **Manipulating a Mill Path**
Scan Type
Approach Wall
Modifying a Volume
Optimizing Regions
Multiple Cuts
- **Surface Milling**
Conventional Surface Mill
Conventional Mill
Parameters
Creating a Mill Surface
Cut Line Surface Mill
- **Other Milling Types**
Face Milling
Pocket Milling
Local Milling
Trajectory Milling
- **Holemaking**
Holemaking Cycles
Hole Depth
Specifying Holes
- **Customize**
Approach & Exit Cuts
Retract & GOHOME
Postprocessor Commands
- **Projects**
Artificial Hip
Mold Cavity

Duration
24-32 Hours

Prerequisites
COACH for Modeling
COACH for Assemblies
COACH for Milling

Manufacturing Turning

This self-study tutorial is for NC Programmers who create and manipulate manufacturing data for 2 axis lathes and VTL's. The Turning course teaches the basics of the Turning Operations as well as complex holemaking, threading and boring techniques.

Upon completion of this course, users will be able to create complex Operations and NC Sequences for 2 axis lathes.

Wildfire 2.0 Topics

- **Introduction**
Output Coordinate System
Cut Geometry By Sketching
Cut Geometry By Surfaces
Stock Boundary
Tool Orientation
Material Removal
- **Area Removal**
Outside Area
Face Area
Inside Area
- **Profiling**
Inside Profile
Face Profile
Outside Profile
- **Grooving**
Outside Groove
Face Groove
Inside Groove
- **Threading**
Outside Thread
Face Thread
Inside Thread
- **Holemaking**
Drill Holemaking
Countersink Holemaking
Tap Holemaking
Bore Holemaking
Ream Holemaking
- **Project**
The Needle Valve

Duration
32-40 Hours

Prerequisites
COACH for Modeling
COACH for Surfaces

Sheet Metal Design

This self-study tutorial is for Designers and Detailers who use Pro/SHEETMETAL to create and manipulate formed metal parts. The Sheet Metal Design course teaches users the basics of operating in the Sheet Metal Mode in Pro/ENGINEER as well as advanced techniques such as User-Defined Shapes and complex rips and corner reliefs.

Upon completion of this course, users will be able to create sheet metal parts and create sheet metal drawings, which include the flat state and bend tables. Users will also be able to convert solids to sheet metal parts.

Wildfire 2.0 Topics

- **Basic Concepts**
Creating a Part
Using Extrude
Driving Surface
Apparent Intersection
Thicken
Converting Solids
Converting Thin Solids
- **Attached Walls**
Basic Flange Walls
Sketching a Profile
Offset From Edge
Flat Walls
Hem Flange Walls
Swept Flange Walls
Twist Walls
- **Bend Features**
Bend Features
Bend Relief
Unbend and Bend Back
Bending a Flat Sheet
- **Removing Material**
Sheetmetal Cuts
Solid Cuts
Notch and Punch
Rip Along a Line
Edge and Surface Rip
- **Advanced Features**
Deformation Areas
Using Solid Rounds
Bend Tables
Flatten Form Feature
- **Drawings**
Flat State
Creating the Drawing
Bend Order Table
- **Project**

Duration
16-24 Hours

Prerequisites
COACH for
Advanced Assemblies

Pro/PROCESS for Assemblies

This tutorial is for Engineers who need to establish and document Assembly Process information using Pro/ENGINEER assemblies.

Upon completion of this course users will be able to define and edit Process Assemblies using Explode States and Simplified Reps. Users will also be able to create and edit drawings containing process views and process parts lists.

Wildfire 2.0 Topics

- **Process Assemblies**
Process Steps
Obtaining Information
Component Display
BOM and Parts Lists
- **Process Steps**
Assemble Step
Disassemble/
Reposition Steps
General Steps
Reassemble Steps
- **Exploding Assemblies**
Moving Components
Explode States
Redefining States
Offset Lines
- **Fabrication Units**
Fabrication Unit
Functionality
- **Simplified Representations**
Process Reps
Creating Simplified Reps
- **Documenting a Process**
Exploded Views
Drawing Tables
Report Parameters
Member Display
- **Using Process Effectively**
- **Practice**
Process Plan Practice
Practice Drawing

Duration
32-40 Hours

Prerequisite
COACH for Modeling is helpful, but not required

Mechanica Structure

This course is designed to introduce MECHANICA Structure to designers and engineers. The student will be introduced to the Finite Element Analysis (FEA) process and the most common analysis types using step-by-step commands on a broad range of models. In addition, the difference between P and H element types will be covered in the course. Prior experience with Pro/ENGINEER is not a requirement.

Wildfire 2.0 Topics

- **Overview**
Units
Mechanica Environment
Independent Mode
- **FEA Process**
Using Layers
Layer Suppression
Feature Management
- **Boundary Conditions**
Managing Materials
Loads
Constraints
Boundary Conditions Sets
- **Creating Analyses**
Static and Modal
Large Deformation and Contact
Stiffening and Buckling
Convergence and Analysis Quality
- **Running Analyses**
Run Settings
Summary and Log
Post Processing Results
- **Design Studies**
Parameters and Relations
Measures
Standard Studies
Sensitivity Studies
Optimization Studies
- **Simplified Elements**
Shell Models
Beam Elements
Mixed Element Modeling
- **Thermal**
Material Properties
Boundary Conditions
Combined Structure/
Thermal
- **Assembly Modeling**
Shell Modeling
Merge Model
End Welds
Perimeter Welds
Spot Welds

Duration
24-32 Hours

Prerequisite
COACH for Modeling

COACH for Assemblies

Introduction to Mechanisms

This self-study tutorial is for Engineers and Designers who use Pro/ENGINEER to design mechanisms. The Introduction to Mechanisms course covers the Mechanism Design environment as well as the creation of Joints, Servo Motors, Gears and Cams. Motion output and Measures are also covered.

Upon completion of this course, users will be able to investigate the motion of basic and complex Pro/E assemblies, output movie files for use in presentations and investigate space claims using Motion Envelopes and Trace Curves.

Wildfire 2.0 Topics

- **Overview**
Terminology
User Interface
Mechanism Example
- **Creating Mechanisms**
Defining Bodies
Joint Connections
Degrees of Freedom
Joint Axis Settings
- **Simulating Motion**
Dragging Components
Snapshots
Controlling Components
Using Snapshots in Drawings
- **Advanced Connections**
Cam-Follower Connections
Slot-Follower Connections
Gear Connections
- **Servo Motors**
Defining Servo Motors
Defining Motion
The Graphtool
- **Analyses**
Creating Analyses
Animating
Motion Output
Measurements

Duration
32-40 Hours

Audience
Existing Pro/ENGINEER Wildfire 1.0 users with a minimum of 500 hours of experience.

Update Training: Wildfire 1.0 to Wildfire 2.0

This self-study tutorial is designed for users who are currently working with Wildfire 1.0 and will be upgrading to Wildfire 2.0. Ideally, the user should have a minimum of 500 hours of experience with Wildfire 1.0 prior to taking this course.

Wildfire 2.0 Topics

- Detailing Updates
- Large Assemblies Updates
- Mechanica Structure Updates
- Modeling Updates
- Mold Design Updates
- Sheet Metal Updates
- Style Surfaces (ISDX) Updates
- Surfaces Updates
- Additional Update Information

Duration
32-40 Hours

Audience
Existing Pro/ENGINEER 2001 users with a minimum of 500 hours of experience

Update Training: Pro/ENGINEER 2001 to Wildfire 2.0

This self-study tutorial is designed for users who are currently working with Pro/ENGINEER 2001 and will be upgrading directly to Wildfire 2.0. Ideally, the user should have a minimum of 500 hours of experience with Pro/ENGINEER 2001 prior to taking this course.

Wildfire 2.0 Topics

- Advanced Assemblies Updates
- Advanced Modeling Updates
- Assemblies Updates
- Detailing Updates
- Large Assemblies Updates
- Mechanica Structure Updates
- Modeling Updates
- Mold Design Updates
- Piping Updates
- Sheet Metal Updates
- Additional Update Information

Duration
4-6 Hours

Prerequisites
None

Wildfire 2.0 Primer

The Wildfire Primer is designed for either new Pro/ENGINEER users or casual users who want a brief overview into the capabilities and the philosophy of Pro/ENGINEER Wildfire and parametric solid modeling.

The Primer contains approximately 4 hours of interactive instruction and is available for both the commercial version of Wildfire as well as the Student Edition.

The Primer provides part files and assemblies which you will open with your Pro/ENGINEER software. The Primer teaches you how to model solids, manipulate features, make modifications, assemble components and create a drawing.

The Primer is also ideal for the Managers of designers and engineers who utilize Pro/ENGINEER. The Primer gives Managers working knowledge of the Pro/ENGINEER functionality and terminology and helps them understand the skills necessary to make their users successful.

Wildfire 2.0 Topics

- **Introduction**
- **General Interaction**
 - Manipulating the Display
 - Reorient the View
 - Accessing Part Files
 - Multiple Part Windows
 - Erasing Parts and Exiting
- **Creating Features**
 - Using a Template
 - Setting Up a Sketch
 - Sketching a Profile
 - Inserting a Round
 - Removing Material
- **Construction**
 - Datum Planes
 - Feature Depth
 - Revolved Features
 - Copying Features
 - Using Symmetry
- **Assemblies**
 - Style States
 - Exploded Assemblies
 - Assembly by Coordinate Systems
 - Assembly by Constraints
 - Component Interfaces
- **Detailing**
 - Defining a New Drawing
 - Projecting Views
 - Section Views
 - Detail Views
 - Adding Dimensions
 - Drawing Templates