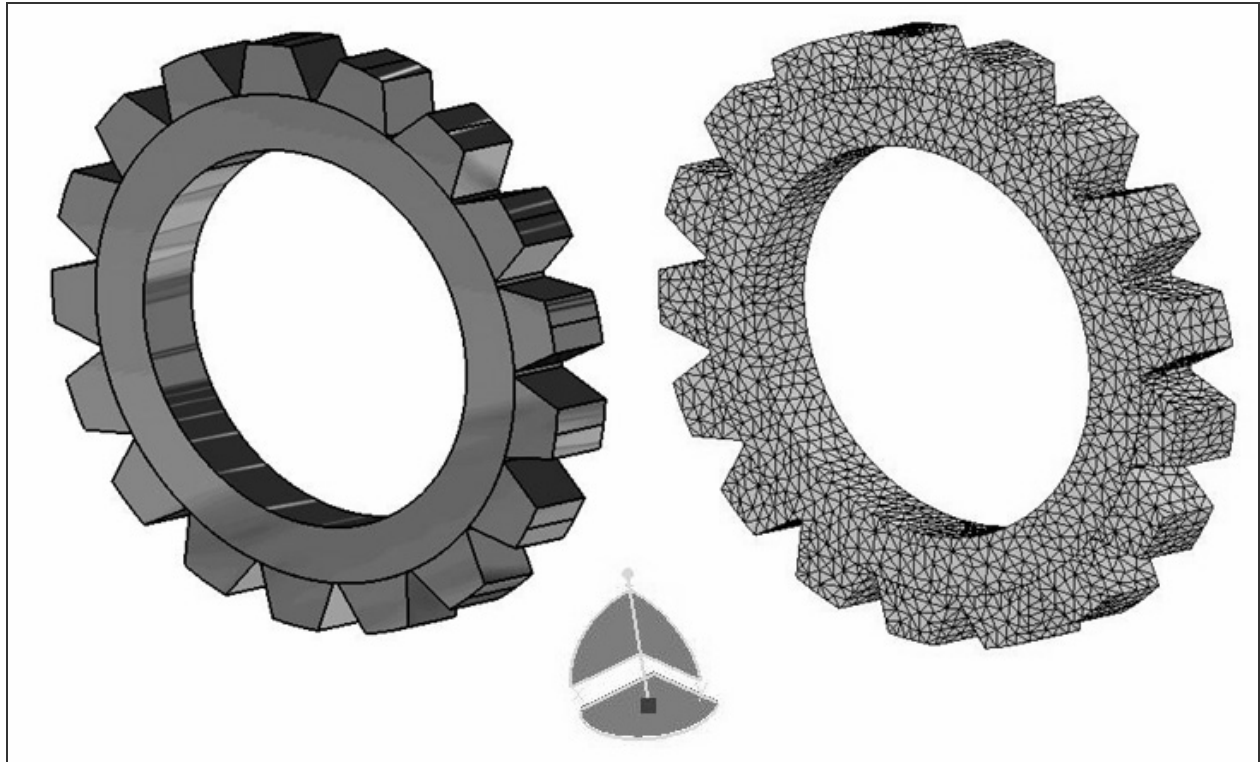


# CATIA V5

# FEA Tutorials

Release 16



**Nader G. Zamani**

University of Windsor

**SDC**  
PUBLICATIONS

Schroff Development Corporation

---

[www.schroff.com](http://www.schroff.com)  
[www.schroff-europe.com](http://www.schroff-europe.com)

## Table of Contents

Chapter 1	Introduction
Chapter 2	Analysis of a Bent Rod with Solid Elements
Chapter 3	Axially Loaded Block with Stress Concentration
Chapter 4	Stress Analysis of a Rotating Disk
Chapter 5	Deformation of an I-beam under Self-weight
Chapter 6	C-clamp Deformed with Enforced Displacement
Chapter 7	FEA Modeling of the Bent Rod with Beam Elements
Chapter 8	Beam Elements under Enforced Displacement
Chapter 9	Bending of a Notched Specimen with Smooth Virtual Part
Chapter 10	Analyzing a Loaded Bracket with Shell Elements, Surface Extraction Approach
Chapter 11	Modeling Mismatch in Shell Thickness and Surface Mesh
Chapter 12	Analysis of Thin Walled Pressure Vessel using Shell Elements
Chapter 13	Using the “Surface Mesher” to Simplify Geometry
Chapter 14	FE Model of a Bearing-Shaft Assembly using Analysis Connection
Chapter 15	Shrink Fit Analysis
Chapter 16	Analysis of a Tensile Specimen as an Assembly
Chapter 17	Analysis of a Fastened Assembly
Chapter 18	Thermal Stresses in a Bi-metallic Strip
Chapter 19	Hybrid Mesh Analysis
Chapter 20	Spring Elements
Chapter 21	Adaptive Refinement
Chapter 22	Free Vibration of a Simply Supported Beam
Chapter 23	Buckling Analysis
Chapter 24	A Simple Spot Weld Analysis
Chapter 25	Defining Restraints or Loads on Patches
Chapter 26	Limited Hexahedral Element Capabilities
Chapter 27	Frequency Response of a Simply Supported Beam
Appendix I	Miscellaneous Comments