Introduction to SolidWorks

24-370 - Spring 2011
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Announcements

• Skill survey results
  – High variability, but some outliers (FBD, ode45)
• Questions on homework?
• Project 1 assigned today
  – Detailed description via email, web
  – Design part geometry under constraints
  – Build and test parts
  – Minimum mass contest!
  – Part designs due Monday Feb 7th, Reports 9th

SolidWorks

• Computer-Aided Design (CAD) software
• Design 3D parts and assemblies
  – Design part geometry
  – Put stuff together
• Analyze
  – Stress: static, fatigue, buckling...
  – Other: dynamics, thermal
• Communicate designs
  – Create engineering drawings
  – Export parts for manufacture

SolidWorks Demonstration

• Follow along as we go
• Tutorials are awesome!
• Build on experience of the experts
  – My habits are a subset
  – Other experienced people: chime in!
• The American’s unit dilemma

Today’s SolidWorks Topics

• Creating parts
  – Sketching
  – Sketch-based features
  – Other features
• Creating assemblies
  – Mating
• Creating engineering drawings
  – Adding views
  – Dimensions-lite

Today’s SolidWorks Demo Parts

• Create a shaft
• Create a bearing (to catalog spec)
• Create a bearing support block
• Assemble parts
• Create Engineering Drawing of Support Block