

ME 1403 Engineering Practice & Graphics

Fall - 2017

# Lecture 1

Instructor:

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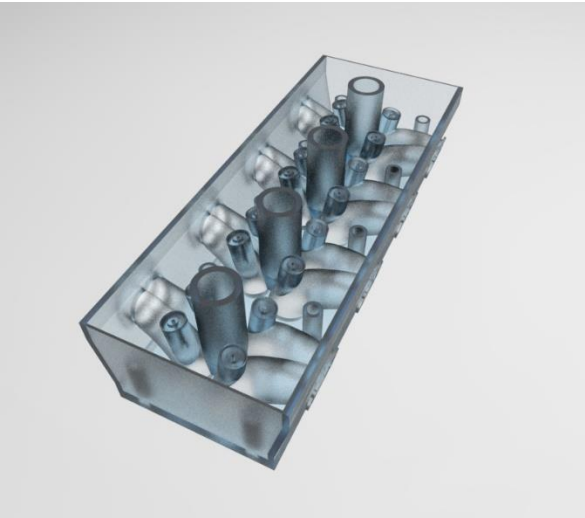
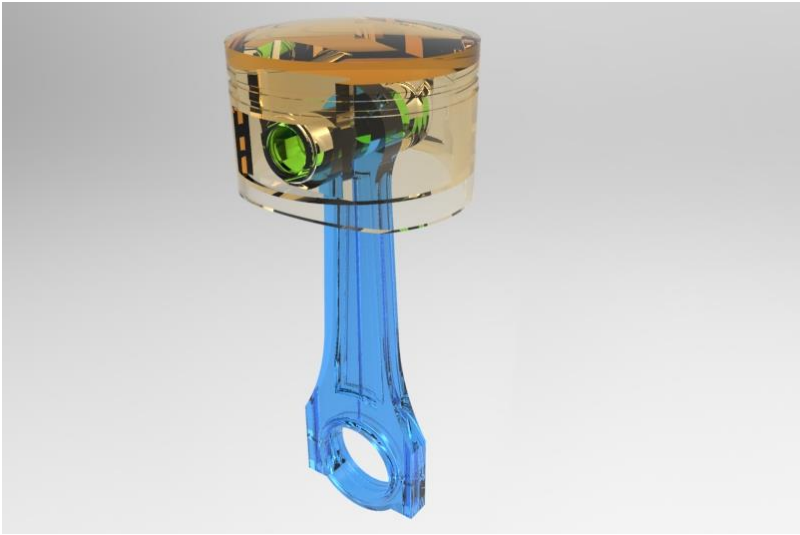
# Engineering CAD Software's

- Top End Market
  - a. CATIA by Dassault Systems
  - b. NX by Siemens PLM
- Mid level Market
  - a. **SolidWork** by Dassault Systems
  - b. SolidEdge by Siemens PLM
  - c. **Inventor** by Autodesk
  - d. PTC Creo (Pro-E) by PTC
  - e. Rhino
  - d. IronCAD
- Entry Level Market
  - a. **AutoCAD**
  - b. Google Sketchup Pro
  - c. DraftSight
  - d. SpaceClaim
  - e. Alibre
  - f. FreeCAD

# What is Solidworks?



# Samples



# Recommended Textbook

S. Tickoo, ***SolidWorks 2016 for Designers***, 14th ed., 2016, CAD/CIM Technologies, ISBN: 978-1-942689-18-8.

# Submission Rules

- Homework's are due **at the beginning of the first lab** of the following week (*More Discussion on next class*).
- Quiz's will be taken (*More Discussion on next class*).
- Submit everything via **Blackboard**.
- Copying your assignments are **prohibited**. If you do so, you and the individual you copied from will receive a **grade zero**, plus both of you will be referred for actions as described in the university's policy for academic dishonesty. ([Read Section 203 of the Student Code of Conduct 2013-2013 UTSA Information Bulletin.](#))

# Submission Rules

- Any submission after deadline **will not be accepted** and thus will receive a **grade of zero**.
- Grading Criteria for Late Submission:
  - Submission on Time : 100%
  - Submission a week late : 75%
  - Submission two week late : 0%

# Submission Rules

- Naming Convention for your submission files:
  - *(your myUTSA id)\_(Number/Name of the HomeWork)*
- For Example if your myUTSA id is “**abc123**” and You are submitting “**HW1**”. Then your submission file name should be “**abc123\_HW1**”



# Emailing Regarding Problems

- Email either
  - through **Blackboard**
  - or at [shafnehal@gmail.com](mailto:shafnehal@gmail.com)
- Email between: *8:00 A.M. to 5:00 P.M.*
- Subject line should follow the below mentioned convention:
  - *[ME 1403: Engineering Practice & Graphics Fall – 2017]\_(Your myUTSA ID)\_(Summary of your Issue)*
- For Example if your myUTSA id is “**abc123**” and You are emailing regarding problem in “**HW1**”. Then your email subject line should be:
  - *“[ME 1403: Engineering Practice & Graphics Fall – 2017]\_abc123\_HW1 problem”*
- Any email that doesn't follow the above convention will not be responded.

# Outline

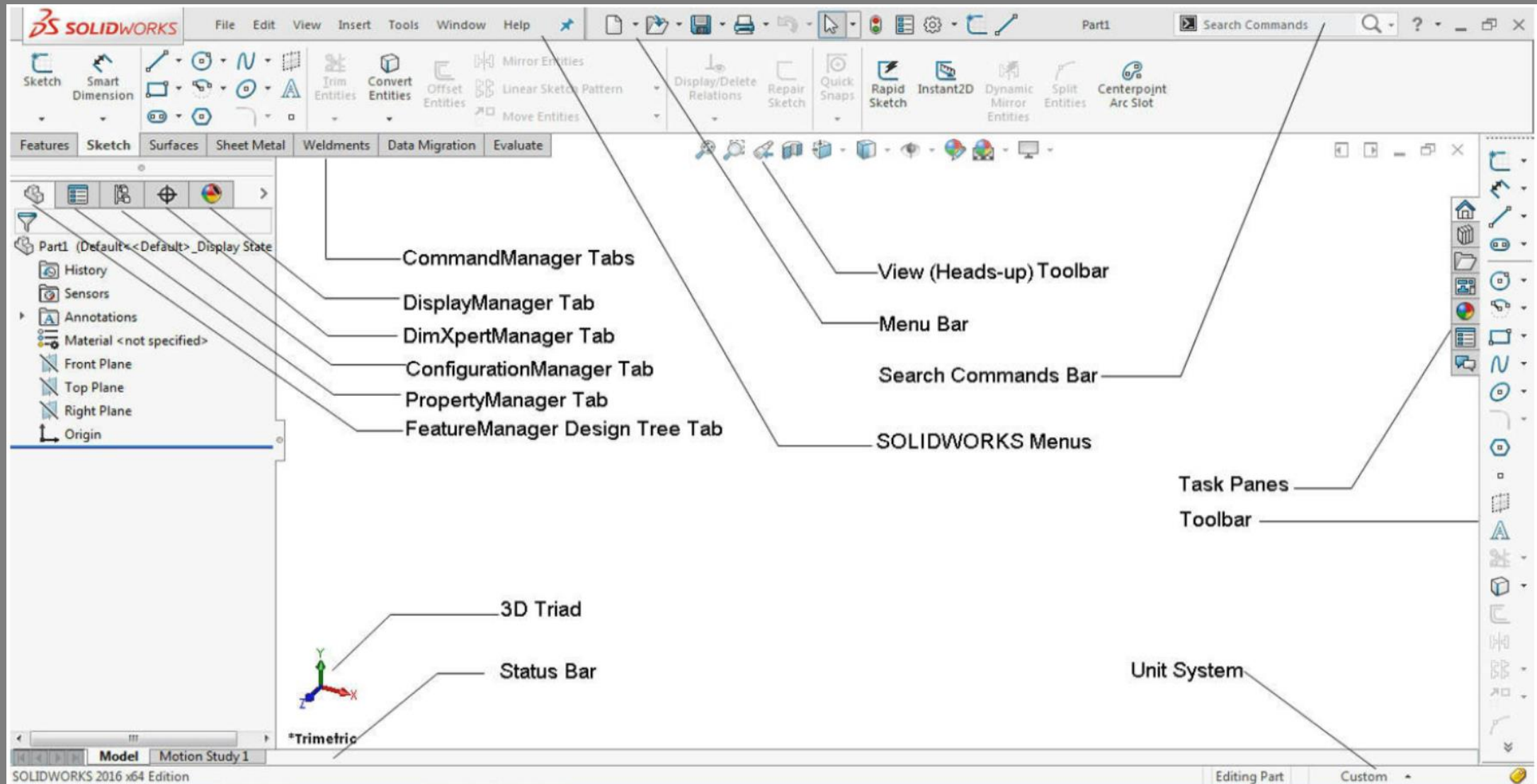
- Environment
  - Opening Solidworks
  - Introduction to Solidworks Environment
- What kind of Document?
  - Part
  - Assembly
  - Drawing
- Drawing Units (Use as per Instruction in the class)
  - Drawing Standard (**ISO/ANSI**)
  - Unit System (**MKS/MMGS**)

# Solidworks

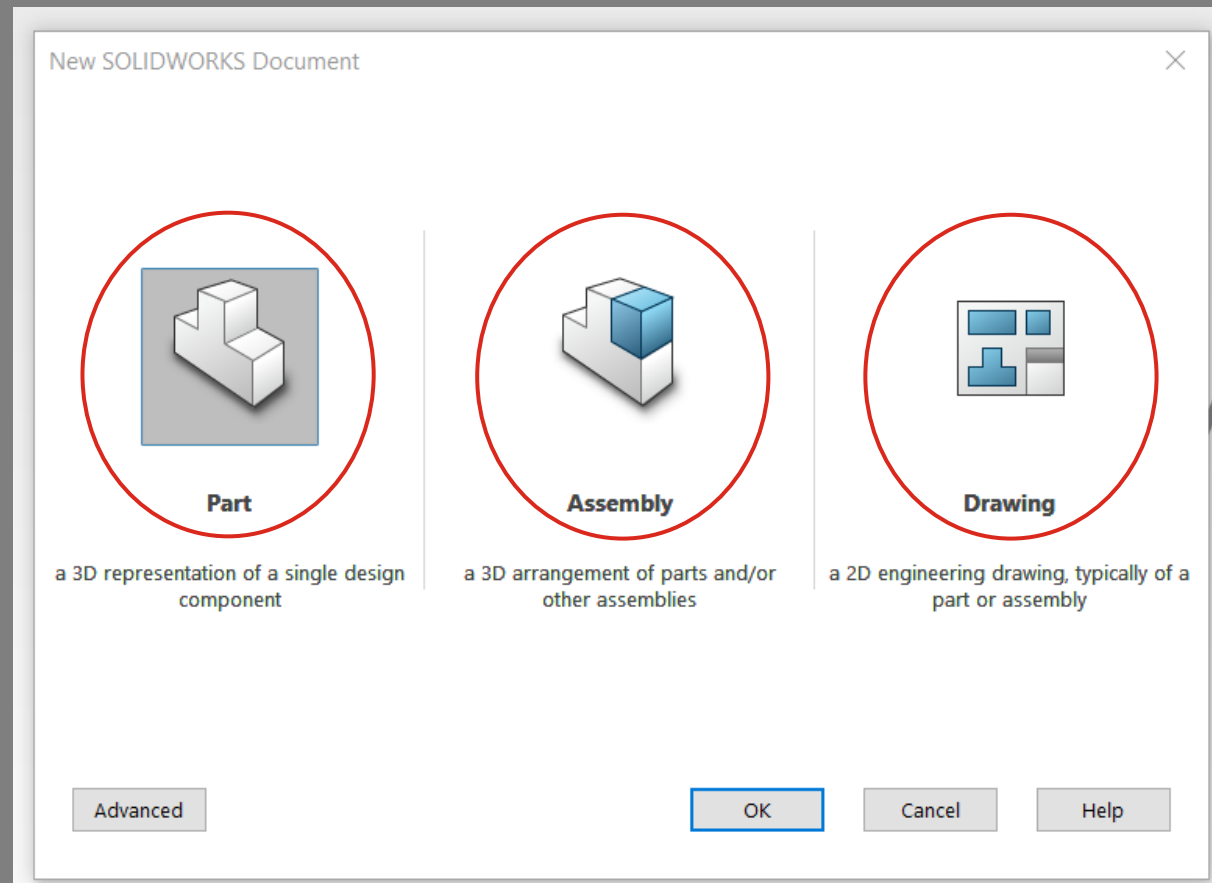
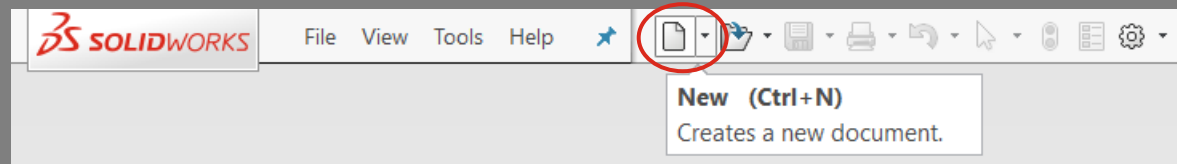
- You can get access to Solidworks via-
  - Lab Computers
  - myUTSA apps
    - Follow this [pdf file](#).



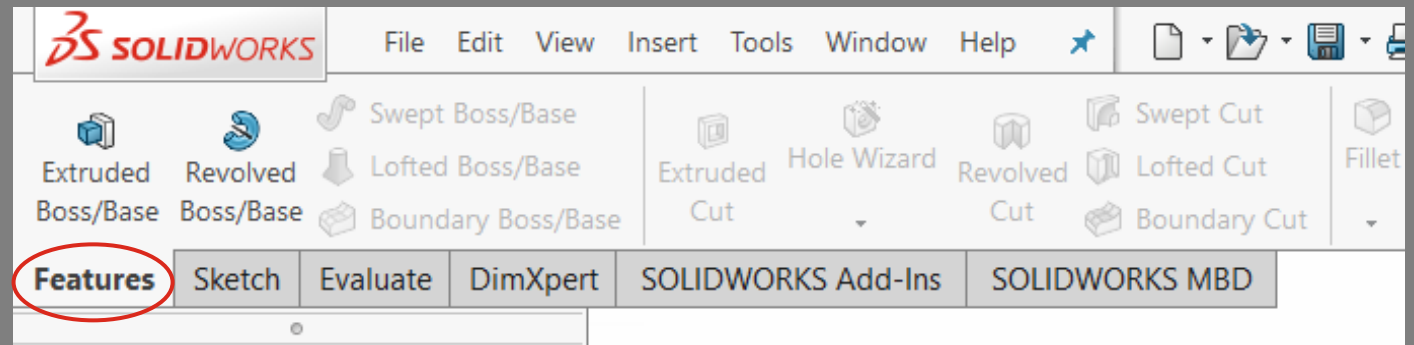
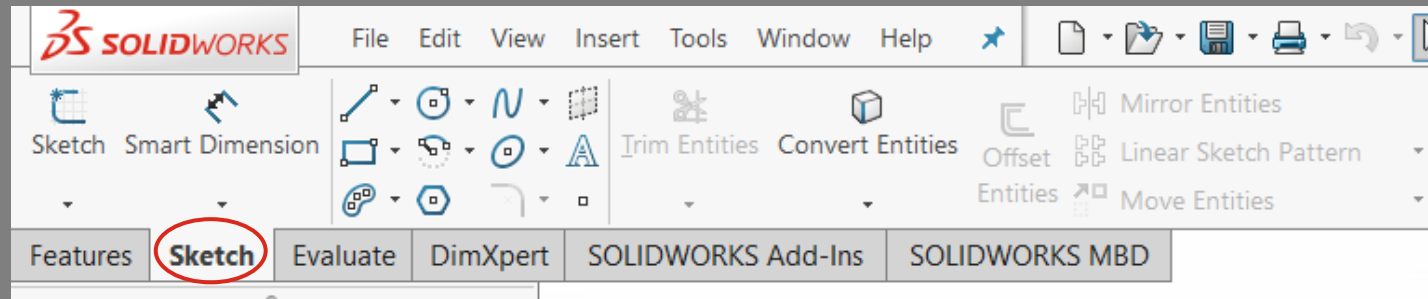
# Introduction to Solidworks Environment



# Creating New Documents



# User Tabs/Pans



# Changing the Unit of Document

The screenshot shows the SolidWorks interface with the 'Document Properties - Units' dialog box open. The 'Tools' menu is circled in red, and the 'Options...' option is also circled. The 'Document Properties' tab is selected, and the 'Unit system' section shows 'MMGS (millimeter, gram, second)' selected. A dropdown menu is open, showing 'MKS (meter, kilogram, second)', 'CGS (centimeter, gram, second)', 'MMGS (millimeter, gram, second)' (circled in red), and 'IPS (inch, pound, second)'. The 'OK' button is circled in blue. The status bar at the bottom shows 'Part' and 'MKS'.

**Document Properties - Units**

System Options **Document Properties**

Unit system

- MKS (meter, kilogram, second)
- CGS (centimeter, gram, second)
- MMGS (millimeter, gram, second)
- IPS (inch, pound, second)
- Custom

Type	Unit	Decimals	Fractions	More
<b>Basic Units</b>				
Length	millimeters	.12		...
Dual Dimension Length	inches	.12		...
Angle	degrees	.12		
<b>Mass/Section Properties</b>				
Length	millimeters	.12		
Mass	grams			
Per Unit Volume	millimeters <sup>^3</sup>			
<b>Motion Units</b>				
Time	second	.12		

Decimal rounding

- Round half away from zero
- Round half towards zero

OK Cancel Help

Part **MKS**

# Snap & Grid Setting

