Introduction to Computer-Aided Design (ME 430-101)
Instructor: Dr. K. Russell, P.E.
e-mail:kevin.russell@njit.edu

Office: 333D MEC
Office Hours: Mon and Fri 4:00-5:30, no appointment for in-person visit (appointment needed for Zoom visit)

Course Summary
ME 430 introduces basic concepts of computer-aided design as applied to mechanical engineering design problems. The laboratory uses PTC Creo and MATLAB for mechanical design.

Perquisites
CIS 101, FED 101 and Math 222 and access to MATLAB®

Course Materials
Just type "PTC Creo Tutorials" in Google or use the following link:
https://support.ptc.com/help/creo/creo_pma/r11.0/usascii/tutorials_pma/pma_tutorials.html

DATES	TOPICS	EXERCISE	ASSIGNMENT
09/08	Introduction	Custom A and A2 Drawing Templates	
09/15	Modeling a Piston, Creating Drawings	Beginners Tutorial Exercises 1 and 5	A1.pdf
09/22	Creating Complex Parts with Patterns	Beginners Tutorial Exercise 2	A2.pdf
09/29	Creating Multibody Parts/Patterned Geom.	Multibody Tutorial Exercises 1 and 2	A3.pdf
10/06	Bolts and Nuts	Bolt-Nut Exercises	A4.pdf
10/13	Working with Assemblies	Beginners Tutorial Exercise 3	A5.pdf
10/20	Torsion Springs	Torsion and Spring Clamp Exercises	A6.pdf
10/27	Flexible Compression Springs	Compression Spring Exercise	A7.pdf
11/03	Flexible Extension Springs	Extension Spring Exercise	A8.pdf
11/10	Radial and Axial Cams	Cam Exercises	A9.pdf
11/17	Internal and External Spur Gears	Internal-External Spur Gear Exercises	A10.pdf
11/24	Internal and External Helical Gears	Internal-External Helical Gear Exercises	A11.pdf
12/01	Multibody Topic(s)	Multibody Tutorial Exercises 3, 4, 5, 6	A12.pdf
12/08	Miscellaneous Topic(s)	Miscellaneous Topic Exercises	

Grading
11 Assignments (7% each), Project 23%,
For all Assignments and Project: 70% of grade is based or accuracy and 30% of grade is based on format
Course Grade Scale: A≥90, 90>B+≥85, 85>B≥80, 80>C+≥75, 75>C+≥70, 70>D≥60, 60>F

Policies
Assignments submitted after due date will be penalized (**1/2 credit if one week late and no credit beyond one week**).
Any violation of the NJIT Honor Code (e.g., plagiarism and cheating on assignments) will be penalized.

Link for Downloads http://www.softalink.com/kruss/me430_101/*filename.pdf*
/*SYLLABUS.pdf*

The following MATLAB toolbox is needed for the 11/10 lecture:

1. MATLAB

The following naming approach should be used for homework PDF files using A1.pdf as an example:

A1_###.pdf (where ### are the last 3 digits of your NJIT SID number)

For example, if the student's NJIT SID last 3 digits are 123, the homework PDF file would be named A1_123.pdf (no spaces).