

SYLLABUS:

Semester: Summer 2020

Course Name: MCE 181 Computer Aided Engineering II (2 credits)

Prerequisites: MCE180 Computer Aided Engineering I (2 credits)

Meeting Time: Tue/Thu 4:10p-5:45p(b)

Location: Remote

Professor: (Dan)Daniel Izadnegahdar, d.izadnegahdar@csuohio.edu

Technology Assistants(s):

(contact for help concerning solidWorks installation)

- (Loo)Louis T. Dregely, l.dregely@csuohio.edu

Description:

MCE 180 was the prerequisite for this class and focused primarily on basic solidworks techniques used in the machining industry. MCE181 focuses on advanced techniques used to model complex shapes in the casting, fabrication, and injection molding industries. A final project will replace the final exam. Students will learn to apply concepts learned in class to solve real-life engineering problems. These skillsets will allow students to communicate their designs to suppliers more effectively and implement value-adding mechanisms to the industry.

Objectives:

- Apply advanced modeling techniques using solidworks.
- Generate and assess FEA stress and displacement analysis on mechanical hardware.
- Interpret mechanical schematics to route lines on mechanical systems using solidworks.
- Identify optimal modeling method(s) to achieve desired geometry.
- Design basic mechanisms given engineering product requirements.

Policies:

- **Grading:**

numerical grade range		
min (inclusive)	max (exclusive)	letter grade
93	100	A
90	93	A-
87	90	B+
83	87	B
80	83	B-
77	80	C+
73	77	C
60	73	D
0	60	F

grade weight		
weight	exam	qty
30%	homework	5
30%	midterm exam	1
40%	final project	1

- **Withdrawal:** See CSU Academic Calendar for last day to add or withdraw.
- **Oswald:** All class files and submissions will occur through an application called "Oswald", which is found through this link: bit.ly/iamoswald
- **Exams:** Exams are open-notes and open-book but cell phones and laptops are not allowed. See exam sheet(s) for detailed instructions. Students are encouraged to save frequently during exams so that computer crashes won't affect their progress.

- **Homework:** All homework and projects are due at the time indicated on the chart at the end of this syllabus. The late penalty for homework is 15% per day it is late. All homework and projects must be submitted before the final exam day. The lowest HW grade of all 5 HW assignments will be dropped for the final grade. solidworks is not backwards compatible i.e. solidworks 2012 files can't be opened with solidworks 2010. Use the solidworks version of the school computers or earlier for the grading team to access your files.
- **Make-up/Extensions:** All students are expected to take each exam at the scheduled time and turn in homework at the expected deadlines. Accommodations may be made for illness, emergency, or unavoidable conflicts. Written documentation supporting the need for makeup must be signed by the appropriate person (physician, employer, or parent) with the appropriate contact information: name, e-mail, and telephone number. Notes must document the duration of time to exempt the student from the late penalty. Students approved for disability accommodations and assistance must request the CSU Office of Disabilities to e-mail the instructor with an approval letter.
- **Cheating:** All submissions go through a cheating assessment to assure files were not copied from other students or past classes.

Textbook:

- (Optional) Paul Tran, **Solidworks 2020 – Advanced Techniques**, Schroff Development Corp.(SDC) 2020

Supplies:

- none (use your gmail google drive to save your files)

Schedule and Topics:

id	semester	class	session	sequence	location	date	startTime	endTime	submission	main	side	topic	teacher
3270	summer2020	mce181	b	1	wh203	5/19/2020	4:10:00 PM	5:45:00 PM	n/a	ce15	sp02	3d sketching	dan
3271	summer2020	mce181	b	2	wh203	5/21/2020	4:10:00 PM	5:45:00 PM	n/a	ce16	sp30	weldments	dan
3272	summer2020	mce181	b	3	wh203	5/26/2020	4:10:00 PM	5:45:00 PM	n/a	ce17	sp18	sheet metal	dan
3273	summer2020	mce181	b	4	wh203	5/28/2020	4:10:00 PM	5:45:00 PM	hw06	ce18	sp29 + sp31	sweeps i	dan
3274	summer2020	mce181	b	5	wh203	6/2/2020	4:10:00 PM	5:45:00 PM	n/a	ce19	sp10 + sp27	sweeps ii	dan
3275	summer2020	mce181	b	6	wh203	6/4/2020	4:10:00 PM	5:45:00 PM	hw07	ce20	sp03	photoview	dan
3276	summer2020	mce181	b	7	wh203	6/9/2020	4:10:00 PM	5:45:00 PM	n/a	sg03	sp41	exam review	dan
3277	summer2020	mce181	b	8	wh203	6/11/2020	4:10:00 PM	5:45:00 PM	me02	n/a	n/a	midterm exam	dan
3278	summer2020	mce181	b	9	wh203	6/16/2020	4:10:00 PM	5:45:00 PM	n/a	ce21	sp09 + sp24 + sp25 + sp35	project intro + 3d printing	dan
3279	summer2020	mce181	b	10	wh203	6/18/2020	4:10:00 PM	5:45:00 PM	n/a	ce22	sp16	fea + cfd	dan
3280	summer2020	mce181	b	11	wh203	6/23/2020	4:10:00 PM	5:45:00 PM	n/a	ce23	sp05	surfacing i	dan
3281	summer2020	mce181	b	12	wh203	6/25/2020	4:10:00 PM	5:45:00 PM	hw08	ce24	sp04 + sp15	surfacing ii	dan
3282	summer2020	mce181	b	13	wh203	6/30/2020	4:10:00 PM	5:45:00 PM	fp01Stl	ce25	sp20	cores + cavities	dan
3283	summer2020	mce181	b	14	wh203	7/2/2020	4:10:00 PM	5:45:00 PM	hw09	ce26	sp12 + sp19	motion studies	dan
3284	summer2020	mce181	b	15	wh203	7/7/2020	4:10:00 PM	5:45:00 PM	hw10	ce27 + ce28	n/a	fastening features + miscellaneous	dan
3285	summer2020	mce181	b	16	wh203	7/9/2020	4:10:00 PM	5:45:00 PM	fp01	n/a	n/a	final project	dan