COMPUTER-AIDED ANALYSIS AND DESIGN MAE 292

Professor Nick Gravish

L8 Cams + linkages

Logistics

- Midterm will be take-home exam, assigned Thursday after class and due Tuesday before class.
- Midterm will cover everything up to and including todays lecture.

Week	Day	Date		Lecture/Tutorial subject	HW assign	HW due
Week 1	Tues	3/31/2020	1	Course introduction & syllabus. Introduce points and transforms.		
	Thurs	4/2/2020	2	Continue points and transforms.	HW 1	
Week 2	Tues	4/7/2020	3	CAD workflow.		
	Thurs	4/9/2020	4	CAD Assemblies	HW 2	HW 1
Week 3	Tues	4/14/2020	5	Functions in CAD; Bezier, Hermite polynomials, Lagrangian polynomials, Splines		
	Thurs	4/16/2020	6	Introduction to motion design and cams	HW 3	HW 2
Week 4	Tues	4/21/2020	7	Designing Cam motions and surface profiles: analytical or computational (envelopes)		
	Thurs	4/23/2020	8	Closed-chain linkages: mobility, constraint equations		HW 3
Week 5	Tues	4/28/2020	9	Solving constraint equations in Matlab applied to four bar linkages		
	Thurs	4/30/2020		Motion design in linkage systems	Mid.	
Week 6	Tues	5/5/2020	10	Simmechanics workflow -- Simulating multibody physics for design	HW 4	Mid.
	Thurs	5/7/2020	11	Introduction to optimization in matlab (constrained and unconstrained)		
Week 7	Tues	5/12/2020	12	Introduction to finite elements	HW 5	HW 4
	Thurs	5/14/2020	13	FEA for trusses and beams		
Week 8	Tues	5/19/2020	14	FEA for beams	DC	HW 5
	Thurs	5/21/2020	15	Motion design challenge introduction		
Week 9	Tues	5/26/2020	16	Optimization + CAD + FEA: Integrating multiple design tools		
	Thurs	5/28/2020	17	Open chain linkages and robotics		
Week 10	Tues	6/2/2020		Design project presentations 1		DC
	Thurs	6/4/2020		Design project presentations 2		
Final	Tues	6/9/2020		Final exam		