

UNIVERSITY OF MICHIGAN
CEE 501.067 – Deployable Structures

Winter 2020 – Tentative Course Schedule

Date		Contents	Homework		Topic
			Assign	Due	
Jan 8	WED	Lecture 1	Hw1&R1		Intro to Deployable and Reconfigurable Struct
Jan 13	MON	Lecture 2	Read 2		Intro to Origami Structures
Jan 15	WED	Lecture 3		Hw 1	Rigid Body Kinematics & Bndry. Conditions
Jan 20	MON	No class	Hw 2		No class - MLK Day
Jan 22	WED	Lecture 4		Read 1	Guest Lecture by SOM - TBD
Jan 27	MON	Lecture 5	Hw 3		Matrix Analysis of Deployable Structures
Jan 29	WED	Lecture 6		Read 2	Eigenvalue Analysis for Kinematics
Feb 3	MON	Lecture 7	Read 3		Pantographs (Scissor Mechanisms)
Feb 5	WED	Lecture 8		Hw 2	Kinematic Path and Deployment Paths
Feb 10	MON	Lecture 9	Hw 4		Unit Cells Analysis and Extended Frames
Feb 12	WED	Lecture 10		Hw 3	Origami Properties and Definitions
Feb 17	MON	Lecture 11	Read 4		The Miura-ori pattern and Derivatives
Feb 19	WED	Lecture 12	<i>Proj. 1</i>	Read 3	Bistable Origami, Tessellations, Metamaterial
Feb 24	MON	Lecture 13	Hw 5		Bar and Hinge Model for Analysis of Origami
Feb 26	WED	Lecture 14		Hw4	Curved Crease Origami w/ Bar/Hinge Model
Mar 2	MON	No class			No class - Spring Break
Mar 4	WED	No class			No class - Spring Break
Mar 9	MON	Lecture 15	Read 5	<i>Proj. 1</i>	Compliant Crease & Contact w/ Bar/Hinge M.
Mar 11	WED	Lecture 16		Read 4	Materials and Fabrication
Mar 16	MON	Lecture 17			<i>Project Proposal Presentations</i>
Mar 18	WED	Lecture 18		Hw 5	Forces, Stresses and Joints
Mar 23	MON	Lecture 19			Buckling and Other Considerations
Mar 25	WED	Midterm		Read 5	Load Cases and Basic Design for Deployment
Mar 30	MON	Lecture 20			Load Cases and Basic Design for Function
Apr 1	WED	Lecture 21			Actuation Methods
Apr 6	MON	Lecture 22			Midterm Exam (Date TBD)
Apr 8	WED	Lecture 23			Project work
Apr 13	MON	Lecture 24			Project work
Apr 15	WED	Lecture 25			Project work
Apr 20	MON	Lecture 26		<i>Proj. 2</i>	Out of Class Presentations – Time/Date TBD

Notes:

- Homework is due the Friday following the lecture indicated, by 5pm.
- Reading assignment summaries are due by class time on the lecture indicated.
- The lecture schedule is expected to change based on topics covered, student interests, instructor travel and other possible Guest Lectures.

Proj. 1 – Are the 1 page Projects Proposals

Proj. 2 – Are the final project reports, and project presentations.