Syllabus

FA2018 - SIE250

Introduction to Systems and Industrial Engineering

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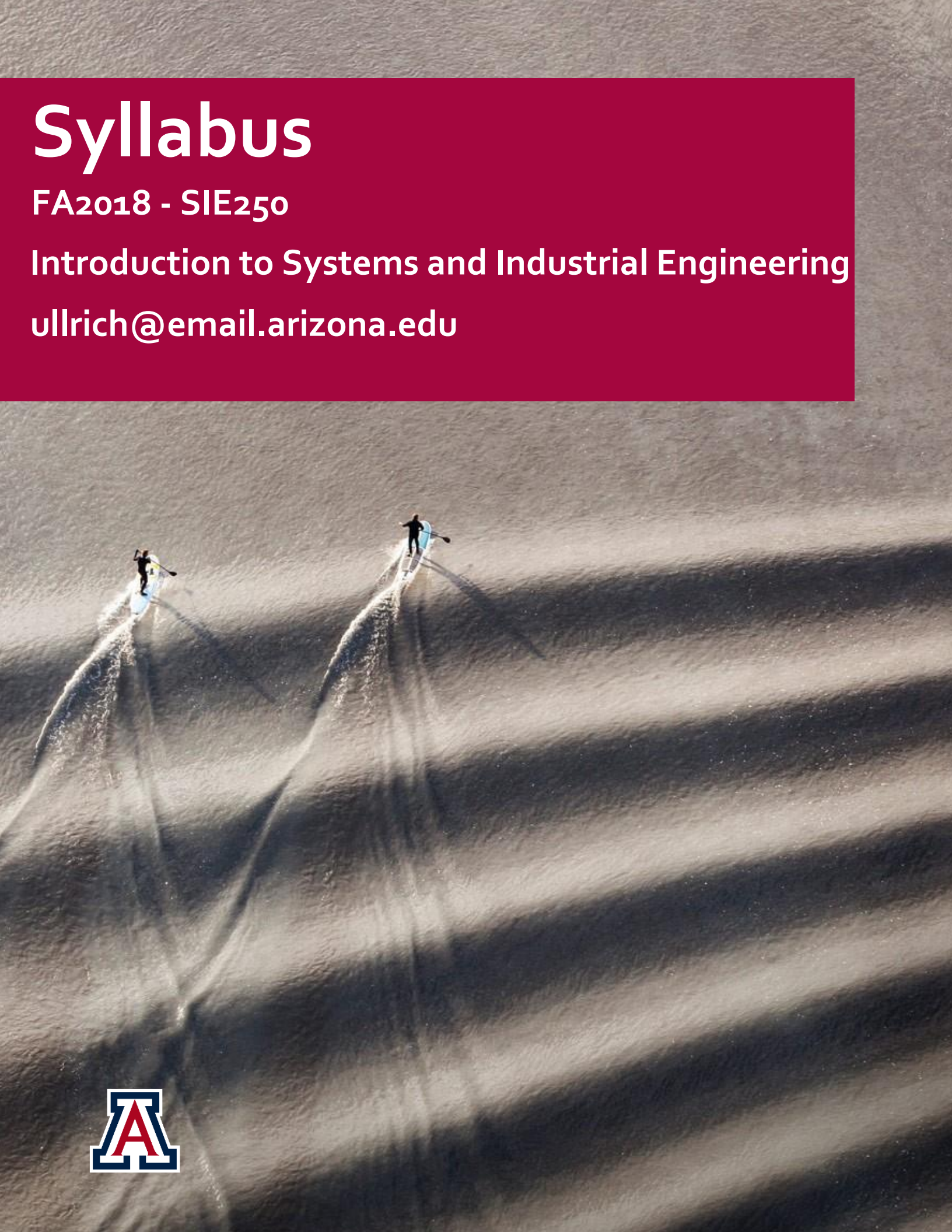

Instructor: John Ullrich (520.307.8820)

Website: Desire2Learn will be used for the class website http://d2l.arizona.edu

Textbook: There is no specified textbook for this class.
Panopto Video Lectures: Classes are recorded for our distance students and made available to everyone. See D2L.

Software: A variety of software will be used: MATLAB and SIMULINK, Excel, and other packages as needed.

Homework: Systems Foundations, Conceptual Development, Requirements Generation, Optimization

Team Design Project: Engineering design of a complex system. Systems Engineering Master Plan, Systems Requirements Review and a Critical Design Review with class presentation

Office Hours: Alternating Fridays (8am-2pm). Prior to class (as travel permits). Ullrich to provide a shared outlook calendar

Ethics/Code of Conduct: Reference University of Arizona guidelines for academic conduct

SIE FALL 2018			Grade (%):	45%	25%	10%	20%
Date	Module	Topic	Tools	Project	Exam	Simulink	Homework
8/20/2018	Intro	Intro					
8/22/2018	1.1	Modern Complex Systems	IPO				
8/24/2018	1.2	Systems Viewpoint					HW 1 Released
8/27/2018	1.3	Hierarchical Models	Block				
8/29/2018	1.4	Functional Models					
8/31/2018	1.5	Life Cycle Models	Context				
9/3/2018							
9/5/2018	1.6	Project Planning	Critical Chain				
9/7/2018	1.7	Development and Risk	Decision Tree			X	
9/10/2018	1.8	Organization Structure	Stakeholder Analysis				
9/12/2018					One		
9/14/2018	2.1	Operational Need Review		SEMP		X	HW 1 DUE
9/17/2018	2.2	Operational Requirements	N^2				HW 2 Released
9/19/2018	2.3	Concept Exploration					
9/21/2018	2.4	Analysis of Alternatives				X	
9/24/2018	2.5	Analysis of Alternatives	Trade Study				
9/26/2018	2.6	Requirements Generation					
9/28/2018	2.7	Requirements Derivation	Weighted Matrix			X	
10/1/2018	2.8	Systems Architecture					
10/3/2018	2.9	Modeling and Analysis					
10/5/2018				SRR	Two	X	
10/8/2018	3.1	Decision Making	Impact Matrix				HW 2 DUE
10/10/2018	3.2	Modeling Throughout Systems Development					HW 3 Released
10/12/2018	3.3	Simulation and Verification/Validation	SPC			X	
10/15/2018	3.4	Engineering Design					
10/17/2018	3.5	Critical Design Requirements					
10/19/2018				PDR			
10/22/2018							
10/24/2018							
10/26/2018							
10/29/2018	3.6	Functional Analysis and Design	Functional Flow				
10/31/2018	3.7	Component Design					
11/2/2018	3.8	Reliability	ANOVA	CDR		X	
11/5/2018	4.1	Producibility					HW3 DUE
11/7/2018	4.2	Producibility	Lean Tools				HW 4 Released
11/9/2018	4.3	Transition to Production	Lean Tools				
11/12/2018							
11/14/2018	4.4	Production Operations	Lean Tools				
11/16/2018	4.5	Manufacturing Technology				X	H4 DUE
11/19/2018	Lean	Team Presentations					
11/21/2018							
11/23/2018							
11/26/2018	UML	Team Presentations					
11/28/2018	SysML	Team Presentations					
11/30/2018		Team Presentations					
12/3/2018		Team Presentations					
12/5/2018					Final		