SYST 101
Introduction to Systems Engineering
Spring 2011

Instructor: Marty Rothwell
Lecture: Tuesday & Thursday 3:00-4:15 S&T I Room 206
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Office Hours: Before or after class, or by appointment
Text: None: but there will be a $40 fee collected for lab materials

Description: The intent of this course is to provide a basic understanding of systems engineering and the systems engineering process. Students will become familiar with common SE terms and procedures. Students will also learn to use CORE, a systems engineering software program.

Students will participate in a mock SE design process starting from an RFP to a PDR. Students will also build an electronic device related to the process. This course is designed to give an overview of topics that will be covered in more detail in later classes.

SYST101 2011 Syllabus

Date		Day	Lesson	Lecture
25-Jan	T	1	Introduction	Lec 1- What is an engineer? What is a system?
27-Jan	TH	2	Requirements Definition	Lec 2 – Requirements Definition (WTSI RFP & SE Manual [SEM]) Read SEM 1-10
1-Feb	T	3	CORE Cost Exercise HW?	RFP Quiz Lec 3 – Learning CORE
3-Feb	TH	4	WTSI (Kickoff) RFP Response provided	Cost Exercise Due WTSI (Kickoff) Read SEM 11-18
8-Feb	T	5	RFP Response Review More on CORE	Create Context, Ext sys, Issues & Risks, study Mech & Elec Universe Read SEM 19-26
10-Feb	TH	6	Creating an ICD	WTSI Week 1
15-Feb	T	7	Requirements Definition	Lec 4 – Using CORE
17-Feb	TH	8	Requirements Definition	WTSI Week 2

Date	Day	#	Topic	Reading / Assignment
22-Feb	T	9	Requirements Definition into CORE CONOPS Peer Review	Read SEM 27-43
24-Feb	TH	10	Requirements Definition into CORE	CONOPS Peer Review Due, RVM Exercise Lec 5 - CORE modeling
1-Mar	T	11	ICD document	
3-Mar	TH	12	Decision Analysis	ICD Description, WTSI Week 3
8-Mar	T	13	Review for Mid-term	
10-Mar	TH	14	Mid-term exam	
15-Mar	T	Break		
17-Mar	TH	Break		
22-Mar	T	15	Guest Speaker	TBD Read SEM 44-49
24-Mar	TH	16	WTSI Project	GelRiv Exercise WTSI Week 4, RVM Due
29-Mar	T	17	Trade Study – In Class Exercise	
31-Mar	TH	18	PDR Review	ICD Due, WTSI Week 5
5-Apr	T	19	~~WTSI Project~~ Falcon Study In-Class Exercise	
7-Apr	TH	20	In Class PDR	
12-Apr	T	21	Verification & Validation	Lec 8 - Verification &Validation
14-Apr	TH	22	Project Mgmt	Lec 9 - Proj Mgmt
19-Apr	T	23	Project Mgmt	
21-Apr	TH	24	Cansat	Lec 10 - CANSAT
26-Apr	T	25	Cansat	Lecture on Rockets & Flight
28-Apr	TH	26	Cansat	Data gathering & Analysis
3-May	T	27	Cansat	Data gathering & Analysis
5-May	TH	28	Last lecture day	Lec 12 Building Quality into your system
10-May	T		Final Exam	

5% Weekly WTSI projects
5% RVM & ICD
5% Quizzes
5% In-Class Exercises
5% Homework
15% PDR
10% CANSAT Project

20% Mid-Term
30% Final Exam