

SYST 101
Introduction to Systems Engineering
Spring 2013

Instructor: Marty Rothwell

Lecture: Tuesday & Thursday 3:00-4:15 Rob A 111

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Office Hours: Before or after class, or by appointment

Text: None

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

Students will participate in a SE design process starting from a Conops paper to a completed system. Students will learn the SE process by building and programming an electronic device of their choice. This course is designed to give an overview of topics that will be covered in more detail in later SE classes.

SYST101 2013 Syllabus

Date		Day	Lesson	Activity
22-Jan	T	1	Introduction Lec 1- What is an engineer?	Introduction
24-Jan	TH	2	Common Engineering Terms	Mech Universe
29-Jan	T	3	Common Engineering Concepts	Equations for Work
31-Jan	TH	4		Quiz on Eng Concepts
5-Feb	T	5	Lec 2 – What is Systems Engineering?	Create Context, Ext system.
7-Feb	TH	6	Lec 3 Define Needs & Requirements	Download CORE
12-Feb	T	7	Lec 4 Using CORE	
14-Feb	TH	8	Lec 5 System Modeling	
19-Feb	T	9	Lec 6 CORE functional modeling	EFFBD's & Simulation
21-Feb	TH	10	Lec 7 Putting it all together in CORE	

26-Feb	T	11	Lec 8 - Verification & Validation	Order Arduino kits
28-Feb	TH	12	Final review for CORE Project	Turn in CORE project
5-Mar	T	13	Review for Mid-term	
7-Mar	TH	14	Mid-term exam	
12-Mar	T	Break		
14-Mar	TH	Break		
19-Mar	T	15	Intro to Electronics Devices	
21-Mar	TH	16	Intro to Electronic Circuits	
26-Mar	T	17	Intro to Arduino	
28-Mar	TH	18	Programming Basics	Conops Paper
2-Apr	T	19	Programming Basics	Ordering parts for individual projects – Sys Req Doc
4-Apr	TH	20	Programming Basics	Download MS Project
9-Apr	T	21	Programming Basics	Technical Paper
11-Apr	TH	22	Project Mgmt basics	MS Project
16-Apr	T	23	Project Discussion	Turn in PM Schedule
18-Apr	TH	24	CORE	Create system in CORE
23-Apr	T	25	CORE	Turn in CORE project
25-Apr	TH	26	Lecture on Presentation	Presentation rubrics
30-Apr	T	27	Presentations	
2-May	TH	28	Last lecture day	Lec 12 Building Quality into your system
7-May	T		Final Exam	

Grade Breakdown

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

100 – 95 = A+

94 – 90 = A

89 – 85 = B+

84 – 80 = B

79 – 75 = C+

74 – 70 = C

69 – 65 = D+

Points:

- During the curriculum we will assign individuals into groups for group exercises. When a group turns in a paper, the paper must have the full names of each person who participated in the exercise. If someone in your group was not present and did not participate in the exercise, then do not put their name on the paper. They will have to do the exercise on their own and turn in their own paper to receive their own grade.
- All submissions will have a deadline. Any paper turned in late will have 10 points deducted from the total.
- Any submission should have a professional quality to it. It should look like a paper you would turn in if you were an employee with a company. Sentences must be grammatically correct and spelling must be correct.