

SYST 520 ECE 550 System Engineering Design (3.0:3)

Spring 2017

Prerequisites: Graduate standing for ECE or SYST 505 for SEOR

Description: System engineering design methods are studied and practiced, including object-oriented and structured analysis based techniques. Design description languages such as UML, IDEF0 and IDEF1x are introduced and used in carrying out complete system designs. Teams make presentations of their designs.

Instructor: Prof. Alexander H. Levis Nguyen Eng. Room 3245 Tel 703 993 1619

Best way to contact: alevis@gmu.edu Class Location: Nguyen Engineering 2608

Class time: Monday 4:30 – 7:10 pm ENG 2608

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Date	Week	Lect. #	Topics
1/23/2017	1	L1	Introduction to Systems Engineering Design and Integration
1/30/2017	2	L2	Cases and Capabilities
2/6/2017	3	L3	Part I Structure
2/13/2017	4	L4	Part II: UML Behavior Diagrams; Rule Modeling
2/20/2017	5	L5	The Object Oriented Design Process: Functional Design
2/27/2017	6	L6	Object Oriented Design: Physical (System) Design
3/6/2017	7	L7	Enterprise Architecture and Architecture Frameworks
3/13/2017			Spring Break
3/20/2017	8		OO Project Presentation
3/27/2017	9	L8	Structured Analysis: Activity Modeling IDEF0 DFD
4/3/2017	10	L9	Structured Analysis: Data Modeling IDEF1x ERD
4/10/2017	11	L10	Structured Analysis: Functional and Physical Design
4/17/2017	12	L11	Integration and SOA
4/24/2017	13	L12	Qualification: Test and Evaluation
5/1/2017	14		SA Project Presentations
5/15/2017	15		Final Exam

Suggested Textbook:Dennis M. Buede, *The Engineering Design of Systems*, Wiley, 2009, NY (3rd Edition).

Extensive lecture notes and supplementary readings will be available through Blackboard.

The Blackboard system will be used for most course activities.

Homework: There are weekly reading assignments and homework assignments*Grading:* Homework sets will count for 50% of the final grade. The midterm presentation will count for 20% of the grade, and the in-class final examination for 30%.

The George Mason University Honor Code can be found at

<http://oai.gmu.edu/the-mason-honor-code-2/>