George Mason University   **The Volgenau School of Engineering**

SYST 520 ECE 550 System Engineering Design (3.0:3)   Fall 2015
Prerequisites: Graduate standing

Description: System engineering design methods are studied and practiced, including object-oriented and structured analysis based techniques. Design Description languages such as UML, SysML, 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

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TA: Bahram Yousefi byousefi@masonlive.gmu.edu   Class time: Tuesday 4:30 – 7:10 pm

SYST 520	F15	A H Levis
Date	**L#**	**Subject**
9/1/2015	L 1	Introduction to Systems Engineering Design and Integration
9/8/2015	L2	Operational Concepts, Use Cases, and Requirements
9/15/2015	L3	Object Orientation and the Unified Modeling Language
9/22/2015	L4	UML Behavior Diagrams and Example
9/29/2015	L5	Rule Modeling and Behavior Modeling
10/6/2015	L6	The Object Oriented Design Process and Functional Design
		Fall Break
10/20/2015	L7	Physical (System) Design
10/27/2015	L8	SysML and Obhect Oriented System Design
11/3/2015	L9	Architecture Frameworks
11/10/2015		**Midterm: Team Design Presentations**
11/17/2015	L10	Structured Analysis: Activity Modeling (IDEF0 and DFD)
11/24/2015	L11	Structured Analysis: Data Modeling (IDEF1x and E-RD)
12/1/2014	L12	Structured Analysis Design Process and Example
12/8/2015	L13	Integration and Qualification; Closure
12/15/2015		Final Exam

Recommended but not Required Textbook:
Dennis M. Buede, *The Engineering Design of Systems,* Wiley, 2009, NY (2nd Edition).
Also available as grayscale loose leaf (omits Chapters 4 and 5) at the GMU Bookstore (lower cost) and as an e-book at even lower cost: http://store.vitalsource.com/show/9781119097365
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/