

# SE510 Systems Engineering

Credits: 3

## A. Justification for the Course:

This course is designed to provide the foundation for understanding and applying an end-to-end systems approach to scoping, designing, building, integrating, verifying and validating complex and interdisciplinary products using a framework which is consistent with industry standards.

## B. Level of the Course:

Anticipated Percentage of Undergraduate Student Enrollment: 10%

Anticipated Percentage of Graduate Student Enrollment: 90%

## C. Prerequisites: (If none, please explain reasons for absence)

Senior or Graduate standing

## D. Course Instructor: Dr. Steve Walter

## E1. Course Outline:

Classes are 2.5 hours long and held once a week

Day	Topic
1	Systems Engineering Overview / Product Lifecycle
2	System Engineering Processes and Standards
3	Concept Development and System Scope
4	Requirements and Specifications
5	Functional Analysis and Allocation
6	Design Synthesis
7	System Trades / Exam 1
8	System Architecture
9	System Analysis and Control
10	Configuration Management
11	The -ilities and Human Factors Engineering 1
12	Verification and Validation 1
13	Verification and Validation 2 and Planning
14	Ethics and Putting it together: the B-2 Case Study
15	Final Exam

## E2. Method of Evaluation or Assessment:

30% Homework

30% First Exam

40% Final Exam



Architecture Framework Working Group 9, February 2004

8. B-2 Systems Engineering Case Study, John M. Griffin, James Kinnu and John, M. Colombi, Center for Systems Engineering, AFIT, Wright Patterson AFB, OG

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