

# SE530 Systems Engineering Management

Credits: 3

## A. Justification for the Course:

The systems engineering (SE) management team is responsible for planning and managing all systems engineering activities that are required to successfully develop complex products and systems. They are in charge of ensuring that all system elements are compatible, available on-schedule and on-budget, work together seamlessly, and satisfy customer requirements.

This course will address the role and activities of the system engineering team in managing and coordinating product development. Topics will include systems engineering planning, management of scope, risk and cost, configuration, interfaces and human resources, project control, reviews, performance measures, standards and documentation.

## B. Level of the Course:

Anticipated Percentage of Undergraduate Student Enrollment: 0%

Anticipated Percentage of Graduate Student Enrollment: 100%

## C. Prerequisites:

1. Senior or graduate standing in either an engineering or science degree program, and
2. SE 510 Systems Engineering or Consent of the Instructor

**D. Course Instructor:** Dr. Steve Walter

## E1. Course Outline:

Class	Topic
1	Overview of SE Management and CMMI
2	Systems Engineering Plans
3	Make/Buy Decisions and Subcontracting
4	Performance and Progress Measures
5	Technology Management
6	Verification and Validation / Technical Reviews
7	Change Control / Exam #1
8	Project Organization and IPDT
9	Human Resources / Communications / Motivation
10	Team Building and Dynamics
11	Negotiation / Conflict Resolution
12	Project Management Overview
13	Project Execution and Control
14	Managing and Controlling Risk
15	Cost Management and Control
31	<b>Final Exam</b>

## E2. Method of Evaluation or Assessment:



Defense Systems/Systems Engineering/Enterprise Development, November 15, 2005  
Available on-line at: [www.acq.osd.mil/se/publications/pig/sep\\_prepguide\\_v1.pdf](http://www.acq.osd.mil/se/publications/pig/sep_prepguide_v1.pdf)

3. *A Systems Engineering Capability Maturity Version 1.1*, R. Bates et al., Software Engineering Institute, SECMM-95-01, CMU/SEI-95-MM-003, November 1995.  
Available at: <http://www.sei.cmu.edu/pub/documents/95.reports/pdf/mm003.95.pdf>
4. *Systems Engineering Fundamentals*, Supplementary Text, Defense Acquisition University Press Fort Belvoir, VA, January 2001.  
Available at <http://www.dau.mil/pubs/pdf/SEFGuide%2001-01.pdf>
5. *DSMC Risk Management Guide for DoD Acquisition (Fourth Edition)*, DoD, Defense Systems Management College, Published By The Defense Acquisition University Press, Fort Belvoir, Virginia 22060-5565, February 2001.  
Available at  
[www.mitre.org/work/sepo/toolkits/risk/references/files/DSMC\\_RiskMgmt\\_Guide.pdf](http://www.mitre.org/work/sepo/toolkits/risk/references/files/DSMC_RiskMgmt_Guide.pdf)
6. *Risk Management Guide for DoD Acquisition, Ver. 1.0*, OUSD (AT&L) Systems and Software Engineering/Enterprise Development, DoD, August 2006.  
Available at:  
<http://ax.losangeles.af.mil/axl/Risk%20Mgmt%20Guide%20for%20DOD%20Acq.pdf>
7. *NDIA PMSC ANSI/EIA-748-A Standard for Earned Value Management Systems Intent Guide*, National Defense Industrial Association (NDIA) Program Management Systems Committee (PMSC), January 2005.  
Available at:  
<http://oecm.energy.gov/admin/Portal/LinkClick.aspx?tabid=79&table=Announcements&field=ItemID&id=13&link=NDIAIntentGuide.pdf>
8. *Technology Readiness Assessment (TRA) Deskbook*, Department Of Defense, Deputy Under Secretary of Defense for Science and Technology (DUSD(S&T)), May 2005.  
<http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=ADA438933&Location=U2&doc=GetTRDoc.pdf>