

Course Syllabus: IENG 305 Introduction to Systems Engineering - Fall 2014

Catalog Description: IENG 305. 2 Hr. This course focuses on systems engineering and analysis. It covers the development and implementation of systems, and their continuous improvement.

Prerequisites: IENG 213, IENG 377

Instructor: “Mike” Carr
micarr@mix.wvu.edu
Cell: (304) 685-8700
Office hours are before and after class **and by appointment**. Office location is on the second floor of WVU Hospitals in Hospital Administration.

Course Objective: The main objective of this course is to introduce systems engineering methods, tools, and management techniques to undergraduate Industrial Engineering students.

Course Outcomes: By the end of this course, students will be able to:

1. Design and develop systems, and bring them into being
2. Control the operations and/or details of systems that are already in existence
3. Analyze existing system in order to improve them

Contribution of course to meeting the professional component: Engineering topics 100%, significant design content.

Schedule:

<u>Week</u>	<u>Topic</u>	<u>Activity</u>
1	Systems Definitions and Concepts	In class design activity
2	Project life cycle, scope and con-ops	
3	Requirements creation, configuration and management/Design	
4	Teams are tough and what to do about it	
5	Project management and project rescue	In class project activity. Project introduction and team creation
6	System architecture and system hierarchy	
7	Exam 1	
8	Analytic Hierarchy Process	
9	Risk	
10	Reliability	

11	Interfaces/Verification	
12	Special Topics	
13	Exam 2	Project Completed
14	Project debrief and results	Project Quiz

Grading:

<u>Weight</u>	<u>Type</u>	<u>Specifics</u>
0%	Homework and Quizzes	Completing 100% of the Homework and Quizzes on time will earn a 2% bonus.
30%	Exam 1	
30%	Exam 2	
30%	Project	The project will be team based and graded on project outcome.
10%	Project Quiz	The quiz will be about your project.

Statement on Attendance: Student attendance is mandatory unless excused by the instructor. The basis for an excused absence will follow University and IMSE policy. Students who are absent from class for any reason are responsible for all missed content.

Statement on Social Justice: West Virginia University is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. West Virginia University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Disability Services (293-6700). They will identify the nature of the accommodation your disability requires.

Prepared by: Mike Carr, Instructor, IMSE. August 17, 2014.