EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
Department of Computing and Mathematics
COURSE OUTLINE FOR

Course No.: MSE530 **Title: Software Requirements Engineering**
Cr Hrs: 3

Lecture Hours: 3 **Laboratory Hours: 0**

COURSE DESCRIPTION:

Software requirements engineering is studied as a three step process or requirements elicitation, analysis/validation and specification. In-depth study of methods such as Prototyping and Scenario Analysis for requirements elicitation, Object- or Function-Oriented methodologies and Quality Function Deployment for requirements analysis and validation, and standards such as ANSI/IEEE Std 830. Use of Computer Aided Software Engineering (CASE) tools and review techniques (e.g. Peer Review, Inspection, Structured Walkthroughs) in requirements specification of software systems. Students will participate in a group project on analysis and specification of software requirements. The course also includes engineering and definition of software requirements process. Prerequiste: MSE500

GOALS:

a. Complete understanding of requirements engineering, its role in the systems and software engineering process
b. Understanding of the improtance and role of communication in the requirements engineering process
c. Understanding of the tools and tecniques for reqirments engineering

PERFORMANCE OBJECTIVES:

1. Describe the essential elements of software systems engineering.

2. Discuss the major problems in large software system development.

3. Describe and understand various software requirements specification techniques.

4. Select a set of requirements techniques, tools, and/or languages that will aid in analyzing a problem.

5. Develop, analyze and critique software requirements and specifications.

6. Define processes for performing software requirement specification.

7. Measure and improve processes related to software requirement specification.

8. Use modern software development tools and environments.

Department of Computing and Mathematics
COURSE OUTLINE FOR MSE530, Continued

TEXTBOOK

Managing Software Requirements - A Unified Approach, Leffingwell/Widrig, Addison Wesley

SUGGESTED SUPPLEMENTAL MATERIALS:

a. Research papers
b. IEEE-830-1998 Standard for Software Requirements Specification

PREREQUISITE KNOWLEDGE BY TOPIC:

1. High-level Computer Programming
2. MSE 500 (corequisite)

	TOPIC	CLASS HOURS	COURSE OBJECTIVES
1.	Introduction	3	a. Software Engineering b. Requirements c. Why are Requirements Important
2.	Process in Requirements Engineering	4	a. Requirements Elicitation Process b. Requirements Analysis and Specification Process c. Requirements Validation Process
3.	Problem Analysis	15	a. Introduction to Problem Analysis b. The Primitives of Problem Analysis c. Survey of Techniques
4.	The Software Requirements Specification (SRS)	4	a. What Should Be Included in an SRS? b. What Should Not Be Included in an SRS? c. Attributes of a Well-Written SRS d. How to Organize an SRS
5.	Specifying Behavioral Requirements	4	a. Introduction to behavioral Requirements b. Survey of Techniques
6.	Specifying NonBehavioral Requirements	4	a. Portability b. Reliability c. Efficiency d. Human Engineering

LABORATORY:

None.

COMPUTER USAGE:

Analysis Case tools
Microsoft Office products for documantation

GRADING SYSTEM:

Final Grade Distribution:

Reading Assignments	10%
Term Projects	40%
Term Report	25%
Exam	25%

Note: There will be peer evaluations during the semester and the result will be incorporated in the final grade calculation.

Anyone found cheating will receive an automatic F in the course.

There are no make-ups for the exam. Absence from the test is excused only in a medical emergency.

ESTIMATED CONTENT:

Skills:	**50%**
Content:	**50%**