

Syllabus

Instructor Information

Name: Mr. S. J. (Sandy) Schaeffer, III
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 Office hours: 7:30AM-8:00AM M-F, 4:00PM-5:00PM Sunday
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 Biography: Mr. S. J. (Sandy) Schaeffer, III
 MS, Math / Computer Science, University of Memphis, (1982)
 BS, Biology, Rhodes College (1978)

Title: Director, Advanced Learning Center
 Associate Director FedEx Institute of Technology

I have over 20 years of professional I/T experience across multiple industries, applications, and technologies including 7 years with the IBM Corporation. Recent efforts have included founder and CTO of Memphis-based ThoughtWare Technologies, an e-learning and workforce development software company.

I have been active in the Memphis technology industry since 1982 participating in multiple startups, growing existing vertical software vendors, and stimulating the local IT talent pool through corporate-academic internships.

I have recently joined the University of Memphis to guide the creation of the Advanced Learning Center and to provide key assistance to the development of degree programs and corporate alliances within the FedEx Institute of Technology at the University of Memphis.

I completed my Masters Degree in Mathematics/Computer Science at the University of Memphis in 1982. I also earned a BS in Biology from Rhodes College (formerly Southwestern at Memphis) in 1978.

I am currently pursuing an EdD in Higher and Adult Education through the University of Memphis.

Key projects that I have been either project led (or co-led) at the University of Memphis include:

- Migration of the hosting of the RODP support from an industry ISP to the University of Memphis under contract to the Tennessee Board of Regents (Fall, 2003)
- UMdrive installation, branding, and rollout for the University of Memphis (Fall 2002)
- QuickPlace installation and rollout for the University of Memphis (Spring/Fall of 2003).

Course Information

Course title: Managing the Application Software Development Process
 Course number: UNIV-4706
 Course discipline: Software and Programming
 Course description: The purpose in this course is to develop skills necessary to be an effective manager of an application software development team.

Through this course, the student will become familiar with the process of managing the complete software development process in a business application context. Primary focus will be on the planning and oversight skills associated with managing a team of application developers and the process of defining and completing application development projects. Emphasis will be placed on information-gathering, project design, budgeting, and ongoing oversight. In addition, the student will become familiar with the terminology and product knowledge associated with the complex enterprise-wide software development efforts.

Course date: Monday, June 7, 2004 through Friday, August 13, 2004

Location: Online Only - via RODP

Meeting day (s): This is a 24x7 course and is self-paced.

Meeting time(s): There are no scheduled online meeting times.

Prerequisite (s): Students registering for this course should have a good working knowledge of computer terms and concepts with particular emphasis on software development tools typically used in developing business applications. It is strongly recommended that the student have completed at least one of the following courses (or achieved similar knowledge elsewhere):

- MGMT-3220 (Management Information Systems)
- PTMA-3020 (Managing Information Technology)
- CS-305 (Programming Languages) The student should be comfortable using standard Microsoft Office tools and the Internet for research, exercises, and assignments.

Please note that previous experience programming is desirable, but not required for successful completion of this course.

Course Goals

Course goals: The Course Objectives are as follows:

1. Develop skills required to effectively and successfully oversee the entire application software development process.
2. Gain an effective working knowledge of the variety of software development tools associated with building and supporting complex business applications.
3. Gather project requirements and define the scope.
4. Identify technical requirements necessary to meet the project deliverable.
5. Develop skills associated with assembling the project development team.
6. Understand to budget for and acquire the labor, equipment, and software associated with meeting the project deliverable.
7. Develop basic project management skills associated with an application software development process.

Textbooks

Required reading: *Software Requirements*, Karl E. Wiegers, Microsoft Press / McGraw-Hill, 1999 Edition

Required reading: *The Mythical Man-Month*, Frederick P. Brooks, Jr., Addison-Wesley, 1995

Unit 1

Lesson: Overview of Course and Introductions

Date: Wednesday, September 8, 2004

Objectives or Goals:

- Course Objectives
- Student Backgrounds and Personal Introductions
- Procedural Issues and Logistics

Readings:

1. Weigers - chapters 1 & 2
2. Brooks - Preface and chapters 1 & 2

Unit 2

Lesson: Introduction of the Hypothetical Project

Date: Wednesday, September 29, 2004

Objectives or Goals:

- Purpose/background (the organization)
- Project Overview
- The RFP/RFI Process

Readings:

1. Weigers - chapters 3 & 4
2. Brooks - chapters 3 & 4

Unit 3

Lesson: Review of the Software Development Environment and Current Tools

Date: Wednesday, September 29, 2004

- Objectives or Goals:
- Operating Systems
 - Application Development Languages
 - Web Interface Languages
- Readings:
1. Weigers - chapters 5 & 6
 2. Brooks - chapters 5 & 6

Unit 4

- Lesson: Key Application Development Concepts and Methodologies
- Date: Wednesday, October 13, 2004
- Objectives or Goals:
- Definition of a "Program"
 - Source Code vs. Object Code
 - Compilers and Interpreters
 - Scripting Languages
 - Object Oriented Programming (OOP)
- Readings:
1. Weigers - chapters 7 & 8
 2. Brooks - chapters 7 & 8

Unit 5

- Lesson: Relational Database Programming - The Basics
- Date: Wednesday, October 20, 2004
- Objectives or Goals:
- Relational Database Background Information
 - RDBMS Concepts & Terminology
 - Review of the Major RDBMS Commercial Products
- Readings:
1. Weigers - chapters 9 & 10
 2. Brooks - chapters 9 & 10

Unit 6

- Lesson: Vision & Scope Elicitation
- Date: Wednesday, November 10, 2004
- Objectives or Goals:
- Vision vs. Scope
 - Functional Requirements
 - Project Customers & Stakeholders
 - Project Team Essentials
- Readings:
1. Weigers - chapters 11 & 12
 2. Brooks - chapters 11 & 12

Unit 7

- Lesson: Costing the Project
- Date: Wednesday, November 17, 2004
- Objectives or Goals:
- Estimating Labor
 - Software and Equipment
 - Capital versus Ongoing Costs
 - Preparing a 3-Year Budget
 - Build versus Buy Considerations
- Readings:
1. Weigers - chapters 13 & 14
 2. Brooks - chapters 13 & 14

Unit 8

- Lesson: Building & Delivering the Project
- Date: Tuesday, November 23, 2004
- Objectives or Goals:
- Project Management Basics
 - Building the Team
 - Team Activities and Coordination
 - Testing and Validating
 - Delivery and Follow-Up
- Readings:
1. Weigers - chapters 15 & 16
 2. Brooks - chapters 15 & 16

Unit 9

Lesson: Trends and Issues in Application Development

Date: Wednesday, December 1, 2004

Objectives
or Goals:

- Current Advances in Development Tools
- Future of Traditional Languages
- Globalization Issues

Readings:

1. Weigers - chapters 17 & 18
2. Brooks - 19 only

Unit 10

Lesson: Course Review and Project Wrap-Up

Date: Friday, December 10, 2004

Objectives
or Goals:

- Open Question and Answer
- Catch Up as Necessary
- Final Project Exercise

Readings:

1. Weigers - chapter 19 and Epilogue
2. Brooks - Epilogue (Fifty Years of Wonder, Excitement, and Joy)
3. (Note that you are NOT required to read chapters 17 & 18 in Brooks.)
4. Catch-up as necessary.