

INFO498

Course Summary

Course: INFO498

Title: Information Technology: Capstone

Length of Course : 8 **Faculty:**

Prerequisites: ENGL101, ENGL110

Credit Hours: 3

Description

Course Description:

This capstone course is a senior level course designed to allow the student to review, analyze and integrate the work the student has completed toward a degree in Information Technology. The student will complete an approved academic project and paper that demonstrates mastery of their program of study in a meaningful culmination of their learning, and assesses their level of mastery of the stated outcomes of their degree requirements. This is a capstone course to be taken after all other Information Technology courses have been satisfactorily completed. Students must have senior standing in the program and must demonstrate that they have taken all other IT courses in their degree plan prior to registering for this course. (Prerequisite: Completion of a minimum of 105 hours towards your program including ENGL101 or ENGL110)

Course Scope:

The course reviews the major principles of information technology in order to prepare future Information Technology professionals in the modern enterprise to understand the role of information technology in the digital economy and how organizations operate and compete in the current global environment. Case study is utilized, including business failures and the lessons learned from them. Throughout the course, students are asked to analyze a virtual company and apply the principles learned in this course to the virtual company.

Objectives

A successful student will fulfill the following learning objectives:

CO1: Explain the impact of information technology on business strategy and success

CO2: Describe the phases of the System Development Life Cycle

CO3: Describe the methods for Managing Systems Projects

CO4: Develop data flow diagrams in a sequence, from general to specific

CO5: Create logical and physical model of a proposed system

CO6: Develop entity relationship models representing the relationships and the cardinality in an information system.

CO7: Create a System Design Specification document

CO8: Assess system security at six levels: physical security, network security, application security, file security, user security, and procedural security

CO9: Collaborate on relevant ideas and concepts in a substantive manner, showing a clear understanding

Outline

Week 1:

Reading(s)

Wikibooks: Software engineering

Wikibooks: Introduction to Software Engineering: Process and Methodology

Assignment(s)

Login into Classroom.

Review Week 1 Lesson

Refer Power Points for associated chapters

Participate in the **Week 1 Discussion** (Provide an introduction about yourself to the class, and complete the First Night Check-In.)

Read Material on ClubIT in the Course Materials

Week 2:

Reading(s)

Wikibooks: Project Management Video:

Project Management

Assignment(s)

Review Week 2 Lesson

Participate in the **Week 2 Group Discussion**

Week 3:

Reading(s)

Wikibooks: Introduction to Software Engineering/Planning/Requirements Management section

Wikibooks: Introduction to Software Engineering/UML/Introduction section

Video: Entity Relationship Modeling

Assignment(s)

Review Week 3 Lesson

Participate in the **Week 3 Group Discussion**

Week 4:

Reading(s)

Wikibooks: Introduction to Software Engineering/Process/Agile Model

Wikibooks: Introduction to Software Engineering/Process/Life Cycle

Wikibooks: Object Oriented Programming

Assignment(s)

Review Week 4 Lesson

Participate in the **Week 4 Group Discussion**

Submit Week 4 Preliminary Investigation Report /System Requirements

Week 5:

Reading(s)

Wikibooks: Business Analysis Guidebook/User Experience

Wikibooks: GUI Design Principles

Wikibooks: Relational Database Design

Assignment(s)

Review Week 5 Lesson

Participate in the **Week 5 Group Discussion**

Week 6:

Reading(s)

Wikibooks: Business Analysis Guidebook/User Experience

Wikibooks: GUID esign Principles

Wikibooks: Relational Database Design

Assignment(s)

Review Week 6 Lesson

Participate in the **Week 6 Group Discussion**

Week 7:

Reading(s)

Wikibooks: IB Computer Science/Science Systems life Cycle and Software Development/Systems Life Cycle

Wikibooks: Business Analysis Guidebook/Testing and Accepting a System

Wikibooks: Software Quality Assurance

Assignment(s)

Review Week 7 Lesson

Participate in the **Week 7 Group Discussion**

Submit Week 7 System Design Specification

Week 8:

Reading(s)

Wikibooks: ITIL v3 (Information Technology Infrastructure Library)/Service Operation

Wikibooks: Security Architecture and Design/Systems Security Architecture

Wikibooks: Computer Security/The Basics of Computer Security

Wikibooks: Fundamentals of Information Systems Security

Assignment(s)

Review Week 8 Lesson

Participate in the **Week 8 Group Discussion**

Submit Week 8 Case Studies

Evaluation

Assignment Requirements

Weekly Discussion Activities

Most weeks you will participate in a Discussion activity. Each Discussion activity will consist of one or more threads/topics. The questions are designed to allow you to apply the concepts you have learned in the chapter to real-world business scenarios or hypothetical, but realistic, situations. Please try to post your answers to the questions in each thread prior to **11:59 p.m. Eastern Time on Thursday**. This will allow classmates to respond to your post later in the week. Continue to read your classmates' posts and post at least **two** follow-up post to your classmates' posts in **each** thread prior to **11:59 p.m. Eastern Time on Sunday**. Of course, you may always post more than the required number of replies and you are encouraged to continue participating in the Discussion even after you have met the minimum number of posts required. Your follow-up posts must contain substance and should add additional insight to your classmates' opinions or challenge their opinions. It is never sufficient to simply say, "I agree with what you wrote" or "Good post." You must use your follow-up posts as a way to continue the Discussion at a high level of thinking. Be sure to read the follow-up posts to your own posts and reply to any questions or requests for clarification, including questions posted by your professor. You will be expected to log into the classroom several times each week to participate in the class Discussion. Discussion postings are a large part of your grade and I will be looking for quality and depth in your postings.

Week 4 Preliminary Investigation Report /System Requirements Document

The proposal is a proposal you are making to improve a process using IT. It is composed of two items. **The first is a Preliminary Investigation Report /System Requirements Document and the second is a System Design Specification**

A Preliminary Investigation and System Requirements are required for your proposal. This is normally two different documents but due to the length of the course, we will combine them. A typical Preliminary Investigation Report consists of a findings, recommendations and cost/benefit analysis. There is an explanation of the investigation in Lessons of the classroom.

Your proposal should be longer and provide more detail as this is normally accompanied with a presentation. It should be **two to three pages**. The goal is not to complete the proposal but to demonstrate you have a clear picture of the task before you. Normally you would get approval of the investigate report before formalizing the requirements. However, for this assignment we are assuming those things have taken place.

The **system requirements section**, which will be included, contains the requirements for the new system. It describes the alternatives considered and makes a specific recommendation to management. This important document is the starting point for measuring the performance, accuracy, and completeness of the finished system before entering the systems design phase. The system requirements document is like a contract that identifies what the system developers must deliver to users.

You should write the system requirements in language that users can understand so they can offer input, suggest improvements, and approve the final version. Items should include the area brief overview of the purpose and primary objectives of the system project a requirements overview, conceptual processes and data models, security requirements, access ability requirements, data volume requirements, integration requirements and recoverability requirements.

Week 7 System Design Specification

Your System Design Specification will be due at the end of Week 7. It is the deliverable for the Systems Design Phase. Please use the Template in the in the classroom for this assignment. The template contains the correct format.

Week 8 Case Studies

The Case Studies will consist of short essay questions. **The approximate length is 3-5 pages, although I am more concerned about content than length.** This exam is open book, non-proctored, and untimed. It focuses on Case Studies related to aspects of the degree some of which are not directly covered in this class. Therefore, open book means all your books used in this program. The final exam must be completed by the end of **Week 8**. You may access the exam as many times as you wish, but you may only submit it once.

Weekly Group Work

Each week there will be an analysis exercise to be completed by teams that will be set-up the first week of the course. Teams will consist of **5-10 members** and be responsible for interacting and responding to the analysis exercise under the discussion.

Course Extensions

Please remember that no extensions to the course will be given unless the student has been in communication with the professor, as required, during the semester, and unless the student has completed at least 50% of the assignments, with a passing grade. If a student should have a significant medical or work-related reason why an extension should be given, the student must communicate that to the professor prior to the due date of each assignment.

Grading:

Name	rade %
Discussions	30.00%

Week 1: Introduce Yourself
Week 2 Group: Group Check-in and Managing Systems Projects
Week 3 Group: Business Problem and Topic Threads Posts Last Post and Requirements Modeling Data and Process Modeling
Week 4 Group: Business Requirements and Modeling
Week 5 Group: Modeling a Business Process and System Design
Week 6 Group: Software Packages and System Architecture
Week 7 Group: System Architectures and Managing Systems Implementation
Week 8 Group: Final Recommendation for ClubIT and Security

Preliminary Investigation Report /System Requirements	20.00%
System Design Specification	30.00%
Case Studies	20.00%

Materials

Book Title: Various resources from the APUS Library & the Open Web are visit used. Please [eReserve](#) to locate the course.* **Author:**

Publication Info:

ISBN: ERESERVE NOTE

Software Requirements

1. Microsoft Office (MS Word, MS PowerPoint, MS Access)
2. Adobe Acrobat Reader ([Select here for free download](#))

Selected Bibliography

[Association for Computing Machinery \(ACM\)](#)

[IEEE Computer Society](#) also our online library has the full collection of IEEE Digital Library articles.

Laudon, K. C., & Laudon, J. P. (2015). *Management Information Systems, 14th ed.* Upper Saddle River, NJ: Prentice-Hall

O'Brien, J., & Marakas, G. (2013). *Management Information Systems.* New York, NY: McGraw-Hill

Project Management Institute (PMI): <http://www.pmi.org/info/default.asp>

Rainer, R. K., & Prince, B. (2013). *Introduction to information systems: Supporting and transforming business*, 5th ed. Hoboken, NJ: John Wiley & Sons, Inc.

Course Guidelines

Citation and Reference Style

Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University.

Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

[Tutor.com](https://www.tutor.com) offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

Turn It In

Faculty may require assignments be submitted to Turnitin in the classroom. Turnitin will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. **This is automatically processed through the Assignments area of the course.**

Academic Dishonesty

Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

Submission Guidelines

Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

Disclaimer Statement

Course content may vary from the outline to meet the needs of this particular group.

Communicating on the Discussion

- Discussions are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the discussion. The purpose of the discussions is to actively participate in an on-going discussion about the assigned content.
 - “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
 - As a class, if we run into conflicting refer points, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.
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University Policies

[Student Handbook](#)

- [Drop/Withdrawal policy](#)
- The University encourages all work to be completed according to the course schedule. The University Late Work Policy can be found in the Student Handbook [here](#).
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)
- [Plagiarism](#)

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