

UNIV 4810 - Software Engineering
3 Credit Hours

Course Description:

This course (Software Engineering) is designed to help prepare the student to effectively manage software engineering projects using 21st century techniques and practices. In this course, we will study the analysis, design, and implementation phases of software systems developing using a phased life-cycle approach. The life cycle approach is applied to object-oriented programming methodologies. All phases of the software development lifecycle (SDLC) examined with particular emphasis on requirements analysis, requirements specification, and preliminary design. Team approaches to the software development are emphasized. Additional concepts integrated into the course include project metrics, code inspections, testing and maintenance strategies, and risk management. Lastly, issues of professional and ethical responsibilities are addressed in this course.

Course Outcomes:

Upon successful completion of this course, students will:

- Be able to define and apply critical project management concepts centered on the SDLC (Software Development Life Cycle) process of software engineering.
- Be able to define and differentiate various project management techniques including Waterfall, Agile, Scrum, and others.
- Be able to describe and apply selected project management frameworks that help ensure successful outcomes.
- Be able to create a full project development plan that addresses the primary sections including: requirements gathering, planning and scheduling, risk and issues management, testing and quality assurance, release and change management, service delivery and ongoing support.
- Learn to effectively lead software engineering projects that are based on team dynamics, cross-unit collaboration, and organizational communication.
- Develop skills in the areas of project analysis, problem solving, and team facilitation.
- Illustrate a working knowledge of how to plan, execute, and complete (close) projects that meet required (defined) standards and expectations.
- Develop basic operational skills in the use of selected project management software tools.
- Successfully apply concepts developed in this class to real-world scenarios.

Prerequisites and Corequisites:

CISP 2030 (Data Structures) with a minimum grade of C.

Course Topics:

- Module 1: Overview to Software Engineering & Project Management
- Module 2: Entering the Project Domain (Life Cycle of a Software Project)
- Module 3: Project Management Tools and Resources
- Module 4: Phase 1: Project Initiation (Who? What? When?)
- Module 5: Phase 2: Building the Plan
- Module 6: Phase 3: Execution of the Plan
- Module 7: Monitoring & Controls, Part I (Theoretical)
- Module 8: Monitoring & Controls, Part II (Practical/Applied)
- Module 9: Closing Phase
- Module 10: Summarizing of Things / Final Project Submission

Specific Course Requirements:

There are no additional requirements beyond successful completion of the topics indicated above.

Required Textbooks:

Please visit the [Virtual Bookstore](#) to obtain textbook information for this course. Move your cursor over the "Books" link in the navigation bar and select "Textbooks & Course Materials." Select your Program, Term, Department, and Course; then select "Submit."

Supplementary Materials:

Students in this class will be required to use an online project management tool of their selection. Many are available as open-source and/or free via the cloud and will be suggested by the instructor as options. Students will be encouraged to take advantage of these free options to fulfill that portion of the course.

Hardware and Software Requirements:

Minimum hardware requirements can be found [here](#).

Minimum software requirements can be found [here](#).

Common applications you might need:

To read a PDF file download the latest version of [Adobe Reader here](#)

Don't have Microsoft Word? Explore an alternative [OpenOffice here](#)

Accessing a PowerPoint file? Download the [PowerPoint Viewer here](#)

Web Resources:

Purdue [OWL Online Writing Lab](#) (for APA, MLA, or Chicago style)

The Writing Center [Online Writer's Handbook](#)

Student Resources:

- Technical support information can be found on the [TN eCampus Help Desk](#) page.
- Smarthinking virtual tutoring is available **FREE** of charge. to access Smarthinking, visit the course homepage and select Smarthinking under Course Resources. You also view [sample sessions](#) to see what Smarthinking offers and how it works.
- Information on other student issues or concerns can be located on the [TN eCampus Student Resources](#) page.

Instructor Information:

Please see "Instructor Information" in the Getting Started Module for instructor contact information, virtual office hours, and other communication information. You can expect to receive a response from the instructor within 24-48 hours unless notified of extenuating circumstances.

Testing Procedures:

There are no major formal exams in this course, but there will be a number of content-related quizzes and written work to submit through the associated drop-box folder (found under the Evaluation menu). All quizzes will be administered using the assessment (quiz) tool provided by the course management system. No external publisher-provided testing tools will be used in

this course.

Grading Procedures:

You will be provided with a variety of ways to be assessed on your mastery and completion of the content of this course throughout the semester. This will include online quizzes, short essays and article write-ups, online discussions on topics related to the course, and project-related work.

Grading Scale:

Point Range	Assigned Grade
920 - 1000 points	A
840 - 919 points	B
750 - 839 points	C
650 - 749 points	D
under 650 points	F

Assignments and Projects:

The formal activities in this course will include a wide variety of readings, projects (individual and group), quizzes, discussions, research, and reflective writing. The exact quantity of each and their respective point values are summarized in the table below (Graded Items). Details on each are provided within the course content area and within the respective activity tool as they are introduced along the way. Additional summary information on selected activities can be found under the "Course Resources" module. Examples include Article Write-ups or Aha! Reflective Essays.

Finally, the schedule and order of when each are due can be found in Schedule of Activities also under the "Course Resources" module.

Graded Items

Description	Points
Icebreaker Activities, 2 @ 5 points each	10 pts
Quizzes, 4 @ 30 points each (average of up to 3 attempts is posted)	120 pts
Discussions, 6 @ 20 points each	120 pts

Description	Points
Contemporary Article Write-ups, 2 @ 50 points each	100 pts
Project Assignments, 5 @ 120 points each	600 pts
End of Module Reflections, 10 @ 5 points each	600 pts
Total points	1000 pts

Class Participation:

Being active and engaged in your studies is essential to both the learning outcomes you derive and your overall experience as a student. This course is no different in that respect. Specific ways in which you are expected to "participate" include:

- Regularly logging into the course - at least twice a week is recommended.
- Paying close attention to the course schedule and submitting work in a timely manner. (See "Late Policy" section below.)
- Actively participating on all formal course discussions; including not waiting until the last minute to participate and formulating thoughtful and well-organized new posts and responses.
- Working collaboratively with your classmates and project teams throughout the semester.
- Communicating with your instructor with questions and comments as appropriate.

Remember this: the more you put into the learning experience, the more you will get out of it and active participation is a big part of your investment.

Late Policy:

All work should be submitted on time and in accordance with what is reflected in the Schedule of Activities (See "Course Resources). Also, unless noted otherwise, all work should be submitted by 11:59PM (Central U.S. Time) on the due date. All due dates and times are also included in the various posting locations for work (drop box folders, discussion forums, quizzes, etc.)

Obviously, the real-world often throws curve balls that can impact our individual schedules (family or health emergencies, work travel, etc.) If you know you will be late on an assignment, be sure and notify your instructor so things can be arranged properly. Work submitted late and within 48 hours of the due date and time without pre-clearance by the instructor will be automatically subject to a 10% score deduction. Work submitted more than 48 hours after the due date and time must be arranged with your instructor with the potential for greater

deduction.

The best thing to do is to get your work done on time, but let your instructor know beforehand if anything will impact your ability to do so.

Course Ground Rules:

The following two statements (1., 2.) were derived from the TBR System-wide Student Rules document, released January 2012:

RULES OF THE TENNESSEE BOARD OF REGENTS STATE UNIVERSITY AND COMMUNITY COLLEGE SYSTEM OF TENNESSEE SYSTEMWIDE STUDENT RULES CHAPTER 0240-02-03 STUDENT CONDUCT AND DISCIPLINARY SANCTIONS

[Read the document in its entirety here.](#)

1. Standards of Conduct:

- Students are required to adhere to the same professional, legal and ethical standards of conduct online as on campus. In addition, students should conform to generally accepted standards of "netiquette" while sending e-mail, posting comments to the discussion board, and while participating in other means of communicating online. Specifically, students should refrain from inappropriate and/or offensive language, comments and actions.

2. [Review the TN eCampus Academic Integrity/Academic Honesty Policy:](#)

- In their academic activities, students are expected to maintain high standards of honesty and integrity. Academic dishonesty is prohibited.

Such conduct includes, but is not limited to:

- an attempt by one or more students to use unauthorized information in the taking of an exam
- to submit as one's own work, themes, reports, drawings, laboratory notes, computer programs, or other products prepared by another person,
- or to knowingly assist another student in obtaining or using unauthorized materials.

Plagiarism, cheating, and other forms of academic dishonesty are prohibited.

Students guilty of academic misconduct, either directly or indirectly through participation or assistance, are subject to disciplinary action through the regular procedures of the student's

home institution. Refer to the student handbook provided by your home institution to review the student conduct policy.

In addition to other possible disciplinary sanctions that may be imposed, the instructor has the authority to assign an "F" or zero for an activity or to assign an "F" for the course.

Other Course Rules:

Students are expected to:

- Participate in all aspects of the course
- Communicate with other students
- Learn how to navigate in Brightspace
- Keep abreast of course announcements
- Use the assigned course management (Brightspace) email address rather than a personal email address
- Address technical problems immediately:
 - [Contact Technical Support](#)
 - [View Term Calendar here](#)
- Observe course netiquette at all times.

Guidelines for Communications:

Email:

- Always include a subject line.
- Remember without facial expressions some comments may be taken the wrong way. Be careful in wording your emails. Use of emoticons might be helpful in some cases.
- Use standard fonts.
- Do not send large attachments without permission.
- Special formatting such as centering, audio messages, tables, html, etc. should be avoided unless necessary to complete an assignment or other communication.
- Respect the privacy of other class members

Discussions:

- Review the discussion threads thoroughly before entering the discussion. Be a lurker then a discussant.
- Try to maintain threads by using the "Reply" button rather starting a new topic.
- Do not make insulting or inflammatory statements to other members of the discussion group. Be respectful of other's ideas.
- Be patient and read the comments of other group members thoroughly before entering

your remarks.

- Be cooperative with group leaders in completing assigned tasks.
- Be positive and constructive in group discussions.
- Respond in a thoughtful and timely manner.

Library:

The [Tennessee Virtual Library](#) is available to all students enrolled in TN eCampus programs and courses. Links to library materials (such as electronic journals, databases, interlibrary loans, digital reserves, dictionaries, encyclopedias, maps, and librarian support) and Internet resources needed by learners to complete online assignments and as background reading will be included within the course modules. To access the Virtual Library, go to the course homepage and select the ***Virtual Library*** link under Course Resources.

Students with Disabilities:

Qualified students with disabilities will be provided reasonable and necessary academic accommodations if determined eligible by the appropriate disability services staff at their home institution. Prior to granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility for specific accommodations from the disability services staff at the home institution. It is the student's responsibility to initiate contact with their home institution's disability services staff and to follow the established procedures for having the accommodation notice sent to the instructor.

Syllabus Changes:

The instructor reserves the right to make changes as necessary to this syllabus. If changes are necessitated during the term of the course, the instructor will immediately notify students of such changes both by individual email communication and posting both notification and nature of change(s) on the course bulletin board.

Disclaimer

The information contained in this syllabus is for general information purposes only. While we endeavor to keep this information up-to-date and accurate, there may be some discrepancies between this syllabus and the one found in your online course. The syllabus of record is the

one found in your online course. Please make sure you read the syllabus in your course at the beginning of the semester. Questions regarding course content should be directed to your instructor.