

Syllabus  
**CSCI 476 001– Software Engineering II**  
**Spring 2020 3 credit hours Section 001**  
**Winthrop University College of Business Administration**  
**Class Time: TR 9:30 – 10:45 Thurmond 100**

Dr. Chlotia Posey Garrison

Office: Thurmond 112

Office Hours: Tuesday and Wednesday: 1:00 – 3:00pm  
Other times by appointment

Course Website: <http://faculty.winthrop.edu/garrison/CSCI476/S20.html>

Phone: (803) 323-2470

E-mail: [garrisonc@winthrop.edu](mailto:garrisonc@winthrop.edu)

**Include your class and name on all correspondence, e-mail and homework.**

Text: Pfleeger, S.L. and Atlee, J.M., Software Engineering Theory and Practice, 4th ed., Prentice Hall.

ISBN-13: 9780136061694

Companion Website: [http://wps.prenhall.com/esm\\_pfleeger\\_softengtp\\_4/111/28507/7297831.cw/index.html](http://wps.prenhall.com/esm_pfleeger_softengtp_4/111/28507/7297831.cw/index.html)

Prerequisites: CSCI 475. Minimum 2.0 GPA.

Course Catalog Description: The study of formal software design principles emphasizing an engineering approach to the software development process. Students are required to participate in a team project. The project is the design, development, testing, and implementation of a software system. Notes: Lab fee: \$25.

Goal: provide students the opportunity to use software engineering principles as they implement a complete software project using artifacts they initially developed in CSCI 475. Help students prepare to successfully implement real world systems and recognize the benefits of following software engineering principles.

Student learning outcomes: By the end of the course, the student should be able to:

- Use computers and other tools in the implementation phase of a project. (WU ULC 1)
- Understand the object oriented approach to system development.
- Understand and create simple UML diagrams.
- Apply programming standards and procedures. (WU ULC 1)
- Evaluate and test code. (WU ULC 1)
- Successfully implement a simple system design. (WU ULC 1)
- Access professional journals for information. (WU ULC 1)
- Demonstrate preparing and delivering a professional presentation. (WU ULC 4)
- Interact with customers in a manner that contributes to a product acceptable to the customer. (WU ULC 4)

Topics Covered: Object Oriented development, Unified Modeling Language, developing a system from the design, programming standards, documentation, software faults & failures, software testing, configuration management, training, maintenance, and software evaluation.

Attendance and Testing Policy: Attendance will be required to get the best grade. Attendance is encouraged and will be monitored. Students are expected to arrive on time for all classes. Students are responsible for the information provided in every class. Not all material will come from the textbook. Missed classes may negatively impact grades on tests, assignments and quizzes. Exam material will come from readings, assignments, class presentations and class discussions.

- Assignments are due at the class start time on the due date. Assignments submitted late the same day incur a 10% penalty. Assignments submitted the next day within 24 hours receive a 20% penalty. Assignments receive an additional 20% penalty for each additional day they are late (including weekends). No credit will be given after 72

hours of the due date and time. A missed class or technology difficulties do not excuse missed assignments. You should plan for emergencies. **Project deliverables must be submitted to receive a passing course grade.**

- If you must miss an exam or quiz, notify the instructor as soon as possible, **prior** to the exam or quiz. No make-up exams are possible; however, the instructor may provide other options with sufficient notice **before** the exam. Anyone found cheating will receive a score of 0 without possibility for replacement.

Grading Policy: A (90-100%), B (80-88.4%), B+ (88.5-89.9%) C (70-78.4%) C+ (78.5-79.9%), D- (59 - 59.9%) D (60-68.4) D+ (68.5-69.9%), F (below 59%)

**Note:** Project grades are based on the deliverables produced by the team. See the grading rubrics for details. **The grade of A is reserved for a finished product that is of excellent quality and is running in the customer's environment, or, if that is not possible, running in an environment similar to the customer's environment. The finished product must be acceptable to the customer, Winthrop IT if applicable, and to the instructor.** In the case of more than one team working on the same project, the customer and the instructor may decide that multiple projects are acceptable and deserve a grade of A.

Scoring points: Project Implementation – 30%; Participation Grade – 10%; Customer Evaluation – 5%; Oral Presentation – 5%; Mid-term and Final Exam – 50%.  
The final exam is comprehensive. No make-up tests.

Important Dates: Final Exam: 11:30 a.m. Friday, May 1  
Last day to Add/Drop, Jan 17  
Martin Luther King Jr. Holiday Jan 20  
Interim Grading Deadline 5:00 p.m., Feb 28  
Course Withdrawal deadline, March 11  
Spring Break, March 16-20

E-mail Account: You will need an official Winthrop e-mail account. **ALL e-mailed homework must be submitted from your Winthrop account.** Instructions will identify which assignments should be e-mailed. Your e-mail address must be included in the class distribution list. A test message will be sent. If you are not on the class list server, directions for subscribing are located on the Winthrop ACC website under Student Services.

#### Class Operation:

- **Project:** You will work as a team to complete a class project. The project is to implement the design started during the Fall semester. This will allow you to experience some of the issues that arise during implementation of a system design. Deliverables are to be submitted the day they are due. Project grades include a component based on the customer's evaluation of the project. The completed project (tested and documented) shall be presented/demonstrated to the customer and others at the end of the semester. See the class website for grading rubrics. **Students MUST attend ALL project presentations. Failure to be present for ALL presentations will result in a 0 for the Oral Presentation grade for the individual that fails to attend.**
- **Reading:** Students are responsible for completing the assigned readings. All reading material may be covered on tests or quizzes unless noted by the instructor. The reading assignments include questions at the ends of the chapters. Some of these may be assigned. Completion of the reading and answering the questions could help students prepare for the exams.
- **Decorum:** Participate in class discussions. Arrive on time. Stay for duration of class. Repeat early departures and late arrivals without prior approval will result in a 5 point deduction from class points. Follow CBA expectations regarding professionalism. Cell phones and other devices that detract from the class are prohibited during class (including exams). Remove all mobile devices, containers and papers from desk/table tops during tests.
  - Electronic devices may only be used for class learning purposes. If a student is observed texting (or using a cell phone/tablet/ or other electronic device in any other unapproved way) during class, they **WILL LOSE 2 POINTS OFF THEIR FINAL EXAM GRADE.** I will not interrupt class to notify you of the point deduction, so you can simply assume that if you are violating the policy, you are losing points. Points will be deducted each class period the student is observed using their cell phone or other technological device. Texting during class is both disruptive and rude.
  - Phones **MUST** be turned off or placed on vibrate **AND STORED** securely in purse, book bag, waist clip etc. Do not place phones on your desk, in your lap, or in any other position where calls or text messages may be

observed or responded to. If you are expecting an URGENT call, please see me before class for an exception approval. Phones may not be used as calculators (or any other purpose) during an examination.

- **NOTE: All software produced as part of the project requirement for the CSCI 475-476 course sequence is the property of Winthrop University.**

Student Code of Conduct: As noted in the Student Conduct Code: “Responsibility for good conduct rests with students as adult individuals.” The policy on student academic misconduct is outlined in the Student Conduct Code Student Conduct Code, Student Academic Misconduct policy in the Student Handbook online (<https://www.winthrop.edu/studentconduct/winthrop-university-student-handbook.aspx>) More explicit policies relative to a specific discipline/college also may be posted in a syllabus.

**This class involves both individual and team work. No collaboration is allowed on individual work efforts.**

- **Winthrop's Computing Proficiency Exam** - This exam helps us maintain our ABET accreditation. It evaluates your achievement in computing over your college career. Taking this exam is required. It is not part of your grade.

Email Etiquette: When sending your instructor an email, make sure the content is complete, professional, and respectful. Writing thoughtful emails is an important skill to learn in preparation for your future career. See specific guidelines at [http://faculty.winthrop.edu/garrisonc/Email\\_Etiquette.pdf](http://faculty.winthrop.edu/garrisonc/Email_Etiquette.pdf)

### **COLLEGE OF BUSINESS EXPECTATIONS REGARDING PROFESSIONALISM IN THE CLASSROOM**

The College of Business Administration is a professional organization with a well-defined and widely disseminated mission of student development. Accordingly, each class represents a gathering of professionals and professionals-in-training. The instructor's job as a professional is to deliver quality instruction in each class, to start and end each class on time, to be responsive to student perspectives, issues and questions, and to treat each student respectfully. The student's job, as a professional-in-training is to be prepared for class, to be on time, to attend all classes, and to be respectful of others in the classroom.

In accordance with and pursuant to these roles the following guidelines were established to specify to students (both present and prospective) faculty expectations regarding their behaviors

1. **Students will attend all class meetings.** There are no automatically “excused” absences. In the event that you will be unable to attend a class session, you should inform your professor in advance as a matter of professional courtesy just as you would/should with an employer.
2. **Students will arrive in advance of the beginning of the class session.** Late arrivals are disruptive, inconsiderate and unprofessional. Professors may make arrangements for delinquents, but are not obliged to do so. Those not present at the beginning of the classroom period will be considered absent.
3. **Students will not converse among themselves during class except when instructed to do so.** When a student creates a disturbance in the classroom, instructors will either ask the student to desist immediately or speak to the student at the conclusion of class. Repeat offenders will be sanctioned.
4. **Students will not leave class before its conclusion.** Early departures are disruptive, inconsiderate and unprofessional. Professors may make arrangements under some circumstance, but are not obliged to do so. Those not present at the conclusion of the classroom session will be considered absent.
5. **Students will have procured textbook/materials prior to the first class.** Instruction will begin with the first class meeting and consume the remainder of the class period.

### **Services Available to Students**

**Students with Disabilities/Need of Accommodations for Access.** Winthrop University is committed to providing accessible learning experiences and equal access to education for all students. The syllabus is available in alternate formats upon request.

If you are a student with a disability (including mental health concerns, chronic or temporary medical conditions, learning disabilities, etc.) and you anticipate or experience academic barriers due to the condition, please contact The Office of Accessibility (OA) for information on accommodations, registration, and procedures. After receiving approval

for accommodations through OA, please make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely manner.

OA contact information: [accessibility@winthrop.edu](mailto:accessibility@winthrop.edu); 803-323-3290; 307 Bancroft Hall Annex.

**Winthrop's Academic Success Center** is a free resource for all undergraduate students seeking to perform their best academically. The ASC offers a variety of personalized and structured resources that help students achieve academic excellence, such as tutoring, academic skill development (test taking strategies, time management counseling, and study techniques), group and individual study spaces, and academic coaching. The ASC is located on the first floor of Dinkins, Suite 106. Please contact the ASC at 803-323-3929 or [success@winthrop.edu](mailto:success@winthrop.edu). For more information on ASC services, please visit [www.winthrop.edu/success](http://www.winthrop.edu/success).

**Winthrop University's Office of Nationally Competitive Awards (ONCA)** identifies and assists highly motivated and talented students to apply for nationally and internationally competitive awards, scholarships, fellowships, and unique opportunities both at home and abroad. ONCA gathers and disseminates award information and deadlines across the campus community, and serves as a resource for students, faculty, and staff throughout the nationally competitive award nomination and application process. ONCA is located in Dinkins 222. Please fill out an online information form on the ONCA webpage [www.winthrop.edu/onca](http://www.winthrop.edu/onca) and email [onca@winthrop.edu](mailto:onca@winthrop.edu) for more information.

**The Office of Victims Assistance (OVA)** provides services to survivors of sexual assault, intimate partner violence, and stalking as well as educational programming to prevent these crimes from occurring. The staff assists all survivors, regardless of when they were victimized in obtaining counseling, medical care, housing options, legal prosecution, and more. In addition, the OVA helps students access support services for academic problems resulting from victimization. The OVA is located in 204 Crawford and can be reached at (803) 323-2206. In the case of an after-hours emergency, please call Campus Police at (803)323-3333, or the local rape crisis center, Safe Passage, at their 24-hour hot-line, (803)329-2800. For more information please visit: <http://www.winthrop.edu/victimsassistance>

Assessment (for SACS and ABET) - The following items from this course are used to help in the assessment of the CS and CIFS program: the peer and customer evaluations, the project implementation grade, the oral presentation grade, and the instructor's evaluation of teamwork and leadership skills.

This course is certified as a "Language, Logic, and Semiotics" course for the Winthrop General Education program. This course contributes to the following University Level Competency:

- ULC 1 - Winthrop graduates think critically and solve problems.
- ULC 4 - Winthrop graduates communicate effectively.

Welcome to CSCI 476. I look forward to a good semester of learning together. Let's work together so that your knowledge of software engineering grows throughout the semester and continues all through your career.

Syllabus change policy: This syllabus is subject to revision. We reserve the right to change and/or modify the syllabus, schedule, and course requirements as may be required to meet the need of the students or to accommodate unforeseen circumstances.

Keys to Success (from Jeff Beals): Responsibility, Authority, Accountability.

<https://www.linkedin.com/today/post/article/20140815154134-10765298-is-someone-you-love-going-to-college-their-success-depends-on-three-words>

Note Taking: Paper vs Digital

[https://www.nytimes.com/2017/11/22/business/laptops-not-during-lecture-or-meeting.html?\\_r=0](https://www.nytimes.com/2017/11/22/business/laptops-not-during-lecture-or-meeting.html?_r=0)

<https://www.theverge.com/2017/11/27/16703904/laptop-learning-lecture>

## **476 PROJECT INFORMATION**

Projects are an implementation of the system design your group created during the fall semester. Design modifications are acceptable.

**Evaluation:** see Project Documentation grading rubric for individual components.

**Projects will be evaluated according to the following criteria:**

- a) Documentation for the customer. Judged by quality and completeness.
- b) Writing Style.
- c) Correctness and completeness of the project. Correctness refers to the amount/type of errors. Completeness includes proof that the software works and is running in the customer's environment, or, if that is not possible, running in an environment similar to the customer's environment. The finished product must be acceptable to both the customer, Winthrop IT if applicable, and the instructor.
- d) Customer satisfaction, testing and demonstration that the software works as intended.

Project Documentation grades will be determined by the group's achievement of the goals proposed for the project.

Excellent: 90 – 100%  
Good: 80 – 89%  
Average: 70 – 79%  
Below Avg: 60 – 69%  
Unacceptable: below 60%

**Project participation.** This includes the individual student's project time log, an evaluation of your teamwork, and your ability to communicate with your team. The Peer Evaluation is part of this grade. See the rubric for details.

**Oral Presentation. Students MUST attend ALL project presentations. Failure to attend a presentation will result in a zero for the individual's oral presentation grade.**

**NOTE: All software produced as part of the project requirement for the CSCI 475-476 course sequence is the property of Winthrop University.**

**Final Documentation:** All documents must include:

- Author(s), Date, Project Title, Team #.
- Table of contents with numbered pages.

Final documentation shall include the following:

1. **User manual. Documentation for the user (your customer).** Although the system should be self documenting for the user, documentation needs to be provided for training purposes and easy reference. Include documentation for web site / software administrator. Document any necessary tasks required to maintain the system. Include instructions of how to backup and restore the system. Also, include maintenance and backup/restore instructions for databases and web applications.
2. **System Manager Documents,** for project maintenance.
  - A. **Overview.** Includes the current version of the requirements specification document, the RTM, and a data dictionary for all databases. Include an explanation of terms that are specific to the project. For example: If you use the term user, define exactly who is referred to by the term user. **Include any known issues and specific suggestions on how to correct them.** This section is important for the next developer(s) to make any revisions to the software.
  - B. **Database (if applicable).** The database shall be documented with a complete description of each table included in the database. Include names and format information (or description) for each attribute (field). If there are automatic indexes, keys, or other automated fields, these should also be identified. If your web page accesses an outside database, you need to provide a description of the record(s) that you are accessing. Access information for the database, tables, records, and attributes needs to be included.
  - C. **Web Site (if applicable).** There should be a description of the web site including screen shots of the pages. In the case of multiple pages that are similar in design, give one or two examples. Links between pages should be clear. You should be able to take advantage of your user manual to help complete this section.

- D. **Code Documentation.** The code should be sufficiently documented to a level of detail that allows for future upgrades. Describe the purpose and constraints of every variable and subunit. Describe the purpose and interface of all third party modules. Include code segment comments to make the code easier to follow.
3. **Software** Copies of all software must be turned in before the project is given a grade. These copies should be complete, ready to be installed/reinstalled if necessary, and include installation instructions.

The following items are to be turned in as separate documents. The Project Time Log and Peer Evaluations should be completed individually. The Project Log should be a compiled incrementally throughout the semester.

4. **Project Time Log.** Each student must turn in a copy of their own Project Time Log. It must include a statement that the entries are accurate. This statement must be signed by the student. **(Individual assignment.)**
5. **Peer Evaluation.** This is an evaluation of each member of your group including your self-evaluation. **Failure to submit the peer evaluation form when due, will result in a 0 for this portion of your grade. (Individual assignment.)**
6. **Project Assessment.** This is a separate document and is not part of your grade and there should be **one per team**. It is important for future classes. Answer the following questions:
- How did the project progress?
  - What would you do differently/the same?
  - How could the project be a better learning experience?

**Project Schedule:** The project dates are target dates. Earlier dates are desirable.

1/14	Begin/continue implementation work
1/17 (Fri)	Revised RTM and design <u>due</u> . {For your use}
1/24 (Fri)	Detailed implementation schedule <u>due</u>
1/24	Digital status report <u>due</u>
2/18	Begin Integration testing
<b>2/18</b>	<b>Mid-Term</b> Chapters 7, 8 & 9 (identified topics), Articles, Discussions
2/21	Digital status report <u>due</u>
2/27	Begin system testing followed by acceptance testing
3/13	Digital status report <u>due</u>
3/31-4/2	Professor to review installed/running software
3/31	Begin/continue Project documentation
4/9	Final software revisions & complete training
4/14	In class presentation & Demonstration of the system
4/16	In class presentation & Demonstration of the system
4/21	Software, Project Documentation, including Project Assessment, <u>due</u> - all groups
4/23	Individual Project Log and Peer Evaluations <u>due</u>

### Topics and Tentative Schedule

See current schedule with reading assignment at the class website.

Weeks 1-2:	Introduction, Project Details, RTM, Schedule. Read: The Art of Requirements Triage
Weeks 2-5:	Chapters 7 and 8
Week 6	<b>Mid-Term</b>
Weeks 7 -10	Chapter 9, Chapter 6, Cohesion & Coupling
Week 11	<b>Review of installed project software</b> by appointment; during class time.
Weeks 12-14	Chapter 10 and Chapter 11. <b>Project presentations</b> <b>All project artifacts due</b>
Week 15	Cumulative Final Exam Monday

**Digital status reports due: Jan 24, Feb 21, Mar 13** Digital status report due