

ITIS 3300 (Sec 001)
Software Requirements, Analysis and Testing
(Fall 2025)
Course Syllabus

Faculty Information

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|----------------------|---|
| Instructor: | Rrezarta Krasniqi, Ph.D., Assistant Professor |
| Email: | rrezarta.krasniqi@charlotte.edu (preferred way of contact) |
| Office: | Woodward 333G |
| Office Hours: | <u>Monday: 10:30 am–11:30 am</u> |
| Course Hours: | <u>Monday: 2:30 pm–5:15 pm</u> |
| Course Mode: | Face-to-Face |
| Campus: | Main Campus (Denny, Room #200) |

Course Information

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|-------------------------|---|
| Credit Hours: | 3 credit hours |
| Textbook: | Requirements Engineering for Software and Systems, 4 th Edition Phillip A. Laplante and Mohamad H. Kassab (required) |
| Prerequisite(s): | ITIS 3135 and ITIS 3160, including programming experience |
| Course Material: | Lecture notes and additional supplemental materials will be referenced and provided via Canvas Course Management System |

TA Information

- **Abanti Chakraborty Shruti (TA)**
 - Office Hours: Wednesday 11:00 am–12:00 pm
 - Email: achakr13@charlotte.edu
 - Office: Cone #164
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Course Description

This course will teach students with the skills to manage, develop, and validate software requirements that lead to compliant software designs and implementations. Students will learn to elicit, analyze, specify, and verify both functional and non-functional requirements using best practices and project risk management tools. Students will gain hands-on experience in developing software requirements models, specifications, and conduct verification and validation. By the end of the course, students will be able to translate high-level system requirements into detailed software specifications, implement effective testing strategies, and ensure the final software product meets all specified requirements.

Topics Covered in the Course

The topics covered in this course include:

- Software requirements management processes
- Software requirements elicitation
- Software requirements analysis
- Software requirements modeling
- Software requirements verifications and validations
- Software design and implementation
- Software testing

Course-Level Objectives

During this course, students will:

- Compare and contrast functional software requirements from non-functional software requirements.
- Elicit, analyze, specify, model, and validate software requirements for a software product.
- Describe and run software requirements management processes and activities, including establishing software requirements baseline and evaluating/managing changes to that baseline.
- Develop requirements for and implement a software product that solves a real-world problem.
- Develop test plans to verify that the software implementation meets its specified requirements.
- Run unit and functional testing to verify the software requirements have been implemented as specified.
- Participate in peer reviews such as code inspections.

Expected Learning Outcomes

Upon the completion of this course, students should be able to:

- Derive and trace software requirements from higher level system requirements using a variety of common elicitation techniques such as interviews, workshops, document analysis, prototyping, and other similar strategies used in industry.
- Analyze software requirements for implementation feasibility; ensuring the requirements are quantifiable, verifiable and satisfy the customer's business or user objectives.
- Group software requirements to enable efficient mapping to software architectural elements and ultimately the resulting code base.
- Translate user needs into software requirements via models/diagrams and written specifications suitable for comprehension, review, and implementation
- Develop unit test and perform functional testing to validate that the developed product meets specified requirements that satisfy customer needs and achieves business objectives
- Implement and test code changes as specified by approved engineering change requests
- Perform a software acceptance / qualification test to verify that a software product implementation meets its specified software requirements.

Course Structure and Teaching Methods

The course is designed with a weekly progression that integrates lectures, small group activities emphasizing experiential learning and regular in-class discussions. The course schedule outlines the expected weekly progress. Students are strongly advised to follow the outlined schedule on **Canvas** to stay updated with coursework and any tentative syllabus changes. Please note that all deadlines for course deliverables are posted on **Canvas**.

Course Communications

Regular announcements and important reminders will be posted on **Canvas**. Please log in regularly to stay updated on new announcements, reminders, and course-related information. Throughout the semester, feel free to contact your instructor via email or during office hours. Every effort will be made to address your questions or concerns promptly, typically within 24 hours or sooner whenever possible.

Course Credit Workload

This 3-credit course involves **three** hours of face-to-face classroom lecture sessions led by faculty each week over a **15-week period**. Out-of-class activities or class work may include but are not limited to: readings, assignment completion, exam preparations, and active group projects participations.

Course Homework Assignments, Project, and Exams

Homework assignments will be assigned regularly, focusing on class topics. Expect around four homework assignments along with a semester project comprising of five deliverables. Throughout the semester, module-based class activities will promote active participation. The course also includes a midterm exam and a comprehensive final exam, both administered in-class and timed by the instructor and the TA. Please note that ample notice will be given by the instructor regarding exam formats, timings, and specific instructions.

Final Exam Regulations and Schedule

The scheduled date and time of the final exam, according to the final exam regulations, can be found at this [link](#). The alternative final exam schedule is made also available on the Niner Central website at this [link](#).

Canvas Course Management System

This course uses the UNC Charlotte Canvas course management system. It is mandatory to use Canvas for this class, and regular daily checks are strongly recommended. Canvas will serve as the platform for assignments, projects, exams, content distribution, and crucial announcements. Access the UNC Charlotte Canvas at: <https://canvas.charlotte.edu>.

Grading Criteria

Course grading criteria will be based on the following activities.

| Activities | Percentage |
|-----------------------------------|-------------|
| *Homework Assignments (4) | 20% |
| *Group Project – Deliverables (5) | 40% |
| Midterm Exam | 15% |
| Comprehensive Final Exam | 20% |
| Attendance | 5% |
| Total | 100% |

*Rubrics will be posted on Canvas for all homework assignments and group project.

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Grading Scale

The following grade scales will be used to award the final grades:

| Grade Scale | Letter Grade |
|-------------|--------------|
| 90% – 100% | A |
| 80% – 89.9% | B |
| 70% – 79.9% | C |
| 60% – 69.9% | D |
| <60% | F |

Course and Grading Policies

- Homework is due at the time that it is specified in the course schedule or **Canvas** content pages.
- **Late Submissions:** Homework and projects submitted late (as indicated by the Canvas timestamp and “late” flag) **will receive a grade of 0**. Team members should adequately plan to complete group projects throughout the semester. In the event of an emergency that significantly impedes a group's ability to meet a deadline, permission and documentation must be obtained BEFORE the due date, along with a plan for submission after the due date.
- **Attendance:** Attendance in class is mandatory and requires being present and attentive for the entire duration of each session. Attendance will be recorded at every class. **Missing more than four classes will result in a (U) grade for this course**. Regardless of absences, students are responsible for all materials and assignments covered. Absences must be explained via email **sent to the instructor and cc'ed to the TAs** before the start of the class.
- **Make-Up Exams:** Make-up exams will only be granted under extraordinary circumstances. Students requesting a make-up exam must contact the instructor well in advance and provide written documentation explaining why they cannot attend the regularly scheduled exam. It is up to the discretion of the instructor to **accept** or **reject** the provided justification.
- **Grade Disputes:** Any concerns regarding grading must be raised within **one week** of the grade being posted on Canvas. If you believe an assignment was graded incorrectly and it was in fact graded correctly, we aim to resolve any confusion promptly to ensure comprehension of the material. If an error in grading occurred, we will promptly acknowledge the mistake and adjust the score accordingly.
- **Grade Requests:** Requests for incomplete grades (I) and withdrawals (W) must adhere to University policies, which can be found [here](#) for incomplete grades and [here](#) for withdrawal procedures.

Statement of Copyrighted Materials

All materials provided by the instructor, including lecture notes, lectures, study guides, online class recordings, and other course materials, whether distributed in class or online, are original works and represent the intellectual property of the instructor or the author (excluding published reference materials such as course textbooks). These materials, including readings, study guides, lecture notes, handouts, and class recordings, are intended solely for the individual use of students. You are not permitted to distribute or reproduce these materials for commercial purposes without the explicit written consent of the instructor. Students who sell or distribute these materials for any purpose other than their own use are violating the University's Copyright Policy available [here](#). Breaching the instructor's copyright may lead to course sanctions and violate the Code of Academic Integrity.

Medical, Personal or Family Emergencies

In case of emergencies that significantly impact your ability to complete coursework, please immediately contact the Office of the Dean of Students available [here](#). The Dean of Students can provide support and advocate for you to request appropriate accommodations across your classes. To ensure fairness for all students, I require everyone facing emergencies to use the Dean of Students resources. This ensures a consistent and documented process for handling such situations.

University Academic Policies and Procedures

Academic Policies and Procedures

As a student at UNC Charlotte, it is your responsibility to understand and adhere to the university's policies and procedures. The complete document can be accessible [here](#).

Code of Student Responsibility

The UNC Charlotte Code of Student Responsibility outlines specific rights and responsibilities related to student discipline. It defines these responsibilities and ensures your rights are protected, safeguarding you against unfair imposition of disciplinary actions. It is important to familiarize yourself with the procedures outlined in the Code. The complete document can be accessible [here](#).

Academic Integrity

This course maintains a strict policy against violations of academic integrity. It is essential that all individual work, such as **assignments**, be completed independently. Cheating or discussing solutions, code sharing with others constitutes a serious offense and will result in automatic failure of the course. Collaboration that does not meet acceptable standards will be treated as a breach of the Code of Student Conduct and will also lead to a failing grade. Furthermore, the **use of all pre-built web hosting platforms (e.g., Squarespace, Wix, Weebly, and related ones)**, and all multi-cloud hosting services (**e.g., AWS, GCP, and related ones**), is **strictly prohibited for completing or facilitating your team projects**. All your projects need to be implemented from scratch, and they will be monitored continuously by the Instructor and the TA in the GitHub repository. Any violation of this policy will be considered a breach of the **UNC Charlotte Code of Academic Integrity and Academic Dishonesty** and will be **subject failing a class or other relevant disciplinary actions as noted in [here](#)**. Any violations of the Code of Student Academic Integrity, including instances of plagiarism, will result in disciplinary measures outlined in the Code. Definitions and examples of plagiarism and other violations can be found in the Code, accessible through the Dean of Students Office [here](#).

Academic Dishonesty

Refers to any action or attempted action that unfairly advantages or disadvantages a student or any member of the academic community. Such actions are subject to sanctions under the Code of Academic Integrity, which may include written warnings, grade reductions, disciplinary probation, loss of credit for assignments, course failure, suspension, and/or expulsion.

Academic Misconduct

Refers to any behaviors that do not align with established standards or rules within the academic community. Such misconduct is subject to sanctions under the Code of Conduct, including restricted access to university facilities, administrative holds, warnings, probation, suspension, and/or expulsion. Examples of academic misconduct include disruptive behavior, threats, theft, or damage to university property, among others. For further details and examples, please visit UNC Charlotte's Academic Misconduct Policies page [here](#). The UNC Charlotte Writing Resources Center offers valuable tips on avoiding plagiarism, accessible [here](#). Selling course materials to other students or third parties without the instructor's explicit consent is strictly prohibited and constitutes a violation of the Code of Academic Integrity. Violations, including misuse of Canvas or NinerNet email for such purposes, may also constitute copyright infringement and will be subject to disciplinary action under the Code of Conduct.

Classroom Etiquette Policy

To create a positive learning environment, both students and the instructor share responsibility. We aim for a safe, welcoming, and inclusive environment where everyone feels comfortable and encouraged to succeed. The UNC Charlotte's Canvas Netiquette Guidelines accessible [here](#) offers communication guidelines for composing, sending,

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and receiving emails and other means of communication. Therefore, our focus is on the tasks at hand and following to guidelines that ensure everyone can participate and collaborate productively. Here are some additional guidelines:

- Avoid engaging in activities: **making phone calls/texting, loud chatting, raising voice, web surfing**, etc.
- During face-to-face interactions, it is essential to select your words thoughtfully, articulate your sentences clearly, and remain focused on the subject matter.
- Exercise caution when using humor or sarcasm in emails or discussion posts, as digital communication may make it challenging to accurately interpret tone.
- Share personal experiences using “I” statements to convey thoughts and feelings. Refrain from speaking on behalf of groups or individuals' experiences.
- Apply critical thinking skills to challenge others' ideas rather than targeting individuals personally.
- Students are encouraged to respectfully question research findings or classmates' opinions, as this is a natural part of academic discourse. However, it is important to refrain from disparaging others' views. Please be aware that this course adheres to university policies regarding disruptive behavior. For more information, please refer to UNC Charlotte's Policy [here](#).

Prohibition of Discrimination

UNC Charlotte firmly prohibits discrimination and harassment based on race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under federal or state law. This policy extends across all application and admission processes, educational programs and activities, employment policies and procedures, and university facilities. The University actively takes measures to prevent such conduct, investigating and taking appropriate remedial actions when necessary. For more information, please visit UNC Charlotte Policy [here](#).

Sexual Assault Prevention

All students are required to comply with the UNC Charlotte Sexual Harassment Policy that is found [here](#) and the policy regarding Responsible Use of University Computing and Electronic Communication Resources that can be found [here](#). Sexual harassment, as defined in the UNC Charlotte Sexual Harassment Policy, is strictly prohibited, including instances occurring through computers or other electronic communication systems, such as course-based chat rooms or message boards.

Special Need Accommodation

If you have a documented disability and require accommodation in this course, contact Disability Services at Fretwell 230, email questions to disability@charlotte.edu or call 704-687-0040 (tty/v) during the first week of the semester. Information about available services can be found [here](#). The Disability Services office will coordinate accommodations for your learning needs and communicate them to your instructor.

Title IX

UNC Charlotte is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) has experienced or experiences any of these incidents, know that you are not alone. UNC Charlotte has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with civil protective orders, and more. Please be aware that all UNC Charlotte employees, including faculty members, are expected to relay any information or reports of sexual misconduct they receive to the Title IX Coordinator. This means that if you tell me about a situation involving sexual harassment, sexual assault, dating violence, domestic violence, or stalking, I am expected to report the information to the Title IX Coordinator. Although I am expected to report the situation, you will still have options about how your case will be handled, including whether you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need. If you wish to speak to someone confidentially, you can contact the following on-campus resources, who are not required to report the incident to the Title IX Coordinator: (1) University Counseling Center (counselingcenter.uncc.edu, 7-0311); or (2) Student Health Center (studenthealth.uncc.edu, 7-7400). Information about your options is also available at titleix.uncc.edu under the “Students” tab.

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Religious Accommodation

Students are responsible for informing faculty in advance about their planned absences due to religious observances. This should be done by submitting a Request for Religious Accommodation Form to their instructor before the census date of each semester. You can find the census date, usually the tenth day of instruction, listed in UNC Charlotte's Academic Calendar [here](#). For more details, refer to the policy [here](#).

Student Assistance and Support Services

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live or needs to report an emergency situation and believes this may affect their performance in the course, is urged to contact Student Assistance and Support Services (SASS) (<http://sass.charlotte.edu>) under the Dean of Students Office for support. Furthermore, please notify the instructor if you are comfortable in doing so. This will enable her to provide any resources that she may possess.

Retention of Student Records

Student records for this course are securely maintained by the instructor. This includes exams, answer sheets (with keys), and written papers submitted during the course, which are kept for at least one year after the course ends. Additionally, coursework completed through Canvas, including grades and comments, is stored electronically in a secure environment for one year. Students have the right to access their individual records, but information about a student's records will not be disclosed to others without proper written consent. Students are encouraged to review the Public Information Policy, the Family Educational Rights and Privacy Act (FERPA), and UNC Charlotte Policy 605.3 on Retention, Disposition, and Security of University Records for more information.

University Emergency Notification and Procedures

UNC Charlotte uses NinerAlert to promptly inform students about critical emergencies such as severe weather, campus closures, and public safety threats like chemical spills, fires, or violence. For more information, visit [NinerAlerts](#). If the university closes, please check Canvas for contingency plans to cover course materials.