

ITIS 3300: Software Requirements and Project Management (Fall 2024)

Course Syllabus

Faculty Information

Instructor:	Rrezarta Krasniqi, Ph.D., Assistant Professor
Email:	rrezarta.krasniqi@charlotte.edu (preferred way of contact)
Office:	Woodward 333G
Office Hours:	<u>Tuesdays</u> : 10:00–12:00 p.m. via Zoom: https://charlotte-edu.zoom.us/j/97151969781
Course Hours:	<u>Tuesdays</u> : 05:30–08:15 p.m. via Zoom: https://charlotte-edu.zoom.us/j/94401518248

Course Information

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 2300 and ITIS 3135, including programming experience
Course Material:	Lecture notes and additional supplemental materials will be referenced and provided via Canvas Course Management System

TA/IA Information

- **Ruhani Faiheem Rahman (TA)**
 - Office Hours: Wednesday 3:30pm - 5:30pm
 - Zoom: <https://charlotte-edu.zoom.us/j/98518222623>
 - Email: rrahman3@charlotte.edu
 - **Chandana Talluri (IA)**
 - Office Hours: Friday 3:00pm-5:00pm
 - Zoom: <https://charlotte-edu.zoom.us/j/95038387814>
 - Email: ctallur1@charlotte.edu
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Course Description

This course will teach students how to derive and develop software requirements that are measurable, testable and lead to a compliant software design and implementation. Using traditional and industry best practices and tools, students will learn how to elicit, analyze, specify, and validate functional and non-functional software requirements. Students will develop software requirements models and specifications that capture the customer and user's needs. They will learn how to implement and maintain a software requirement configuration baseline, and the processes used to incorporate subsequent changes, updates, and enhancements to the software requirements over time. Additionally, they will also develop test plans and test procedures used in a formal software acceptance test to validate that the developed product meets its requirements as specified.

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 a 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 **Zoom** 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 online virtual classroom sessions led by faculty each week, along with an additional six hours of weekly out-of-class student work over a **15-week period**. Out-of-class activities may include 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 several subtasks. 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 online and timed by the instructor, TA, and IA. 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 system at: <https://canvas.charlotte.edu>.

Course Time Zone

All dates and times referenced in this course are based on Eastern Standard Time (North Carolina), equivalent to UTC/GMT -4 hours. For the current local time in Charlotte, North Carolina, you can refer to this link: <https://www.timeanddate.com/worldclock/usa/charlotte>.

Grading Criteria

Course grading criteria will be based on the following activities.

Activities	Percentage
*Homework Assignments (4)	20%
*Group Project (several subtasks)	45%
Midterm Exam	10%
Comprehensive Final Exam	20%
Attendance	5%
Total	100%

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

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.

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 acquaint yourself with the provisions and 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 homework assignments, be completed independently. Cheating or discussing solutions 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. 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.

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College of Computing and Informatics
Department of Software and Information Systems

Classroom Behavior 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. In this course, communication with the instructor and peers will primarily occur through various online tools such as discussion forums, email, and web conferencing. Therefore, our focus is on the tasks at hand and adhering to guidelines that ensure everyone can participate and collaborate productively. Here are some general guidelines:

- Please maintain the same level of professionalism, courtesy, and respect as you would in a traditional classroom setting
- Avoid engaging in extraneous activities: **texting, chatting, making phone calls, web surfing**, etc.
- In online communication, where nonverbal cues that often convey meaning in face-to-face interactions are absent, 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 on the basis of 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 Needs

If you have a documented disability and require accommodation in this course, contact Disability Services at Fretwell 230, or call (704) 687-4355 (voice/TDD) 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.

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](#).

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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.

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.