CSCE 3615 Enterprise Systems Architecture and Design

Instructor: Curtis Chambers
Office: See Canvas Course Page
E-mail Address: Curtis.Chambers@unt.edu
Class Times:
This course is an online course. There is likely to both required and optional lectures on Zoom for you to attend (or use a link to access and watch later). Both announcements and a schedule may be used.

Student Hours: See Canvas Course Page and By Appointment. Hours might also be found in discussion groups, email, and Scheduled Zoom Sessions.

<table>
<thead>
<tr>
<th>Teaching Assistants</th>
<th>Instructional Assistants</th>
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Contacting Requirements
When contacting the instructor or course assistance staff (TA, IA, etc.), the following is required:
- Sent from a UNT Provided Email.
- Sent to my work email (above).
  - TA/IA Preferred Emails will be posted on Canvas.
- Must have the Course Number AND Section (i.e., 1234.567) in the Subject Line or appropriate field.
- Subject should be short and to the point.
- Body must be detailed, legible, and respectful.
- Please give at least 2 business days for a response, prior to any follow up email.

Emails, messages, and the like that fail to remain in compliance with the above standards may impact efficiency of communication or (in the worst case) result in no reply.

Pay close attention to Canvas! Many times, I have received the same or similar message from multiple students. I will post on Canvas to address all participants in the course for what I find is a "collective concern." Towards this, I also recommend that you check the Canvas Pages prior to sending an email to make sure that it hasn’t been already addressed.

Textbook: (REQUIRED)
Systems Analysis and Design, 11th Edition (or newer)

Canvas:
This course will be using Canvas to distribute course materials, post grades, and submit assignments. Check regularly to course work and announcements. I will also be posting lecture videos and schedules zoom links.

Course Description
Introduces upper division IT students to concepts of system architecture, design and software engineering that are needed for career opportunities as Software, System and Business Analysts. Topics
include enterprise architecture design, requirements analysis, software and systems lifecycle methodologies, Unified Modeling Language, analysis and design methodologies and other related topics. Project activities will expose all students to the full design and specification of IT systems to meet a variety of business and technical problems, as well as prepare them for their Capstone course experiences.

Prerequisites: CSCE 2110

Course Outcomes

1. Demonstrate an understanding of the multiple layers of abstraction in modern computer systems and the interface between software and hardware.
2. Evaluate the hardware requirements for an IT System and select the proper architecture and components necessary to satisfy the requirements.
3. Evaluate the software requirements for an IT System and define a software architecture to satisfy the requirements.
4. Demonstrate an understanding of the use of UML and analysis and design patterns in the development of a system design.
5. Demonstrate understanding of design and development methodologies and architectural paradigms through laboratory assignments and a class project.
6. Demonstrate communication skills that will enable clear reasoning and logical descriptions of problems and solutions in the design, implementation, and management of large-scale IT Systems.

Course Requirements

Attendance: Asynchronous - Group Assignments are mandatory. Some Synchronous live lectures will be scheduled but they will be recorded for those that cannot attend.
Exams: 2 Assessment Exams.
Assignments: There will be a few initial individual assignments and several group deliverables during the semester.

Attendance is mostly optional, yet the student is responsible for all discussion, lecture and other information disseminated during the lecture period. You will not be allowed to make up any quizzes or in class activities missed due to non-attendance.

Accommodations:
THIS DOES NOT APPLY TO ODA ACCOMMODATIONS. (These are processed through the ODA Offices)

Should you want me to provide accommodations (such as make up work) for an unavoidable absence or impact, you must use this process:

1. Email me and your assigned TAs/IAs from your UNT email.
   This is to notify us about the absence pending an excused document from the Dean of Students Offices.

2. Contact the Student Affairs Office.
   Email: DEANOFSTUDENTS@UNT.EDU
   Phone: 940-565-2648
Note that the DoS offices only request accommodations and do not enforce it. Work with them to verify the validity of the excused absence or impact. Once their offices process the details with you, they should provide you with a document and/or contact me. Should you get a document, send it to me via email and keep the physical copy for your records.

I’ll need these document(s) before I can provide accommodation. This process will keep us both in compliance with UNT standards, practices, policies, and procedures while being the most efficient and private method.

If you have questions, please visit me during my office hours or schedule a meeting with me.

Academic Misconduct & Integrity

- This course follows UNT’s policy for Student Academic Integrity that can be found at https://policy.unt.edu/policy/06-003 as well as the Cheating Policy for the Department of Computer Science and Engineering.
- The department, college, and university have very strict guidelines regarding academic misconduct. Students are expected to submit their own work on all individual assignments.
- You are allowed to discuss solutions, but do NOT work with other students on shared program/assignment solutions. Do NOT use even partial program solutions from the Internet without properly citing them. Do NOT recycle a complete assignment, this will result in a failing grade. The complexity of these assignments should not merit the use of external resources. Failure to remain in compliance with the guidelines is considered cheating and will be reported.
- **You will be graded on your contribution to the code.** Be honest–attribute your work. Submitting code or work that you did not solely author (without acknowledging it to the instructor) is cheating and will be dealt with in accordance with the department cheating policy.
- If it is determined that you have cheated, the first instance of cheating in the class will result in a grade of ZERO (0) on the assignment in question and referral to the department chairman and dean of engineering. The second instance of cheating in the class will result in a grade of F in the class, and a dismissal hearing may be initiated by the dean of engineering.
- **You need to do your own work.** Here, there should be no ambiguity at all.
- In case the above description, and in-class discussion of my views on appropriate and inappropriate collaboration does not answer all your questions, please look at the university Student Rights and Responsibilities web page.
- You are responsible for the information covered in class, **whether you attend class or not.** Individualized lectures will not be given. Please check with other class members for any notes that might have been missed during an absence. Attendance won’t always be taken in lecture and your attendance is strongly recommended to improve your opportunity to meet course objectives.
- You should not work with other students on shared program solutions or use program solutions found on the Internet.
- Specifically, you should **never copy someone else’s solution or code, and never let a classmate examine your code.**
- A sophisticated program will be used to compare your work to the work of all other students (including students in past classes).
- If you are having trouble with an assignment, please consult with your instructor or course assistance staff (TAs, IAs, Graders, etc.).
• Failure to adhere to these strict standards may be cause for disciplinary action even leading to expulsion from the University.
• Each student should adhere to the university's student code of conduct. The Code of Student Conduct can be found at [http://deanofstudents.unt.edu](http://deanofstudents.unt.edu).

**Student Responsibilities**

Students are responsible for submitting the **correct assignments** for each applicable assignment submission. Submissions should include the **correct files** and submitted **prior to the deadline**.

In certain cases, when an assignment is verified to be completed on time, but either was submitted to an incorrect assignment location or a wrong assignment was submitted instead, the assignment may be accepted, but **assessed a 50% reduction penalty** if the due date has passed. Verification of completion time stamp for assignments will be done **using the CSE machines**, so please make sure to save your work on these departmental servers to ensure that your work can be accepted.

If you have any questions or concerns about your submission, please work with your instructor or TA/IA to ensure the correct file(s) is/are submitted.

**Excused Absences Defined**

Students are expected to schedule routine appointments and activities so as not to conflict the course. However, some absences cannot be prevented.

In the event of a medical emergency or family death, etc., students must request an excused absence as quickly as feasible following the event. While it is preferred that I am notified prior to the event, that cannot always be the case. Send to me (ASAP) a brief email from your UNT provided email address. Do not go into detail as to what the emergency is, but you should schedule with me a meeting outside of lecture at your earliest convenience.

Students must be able to provide documentation that verifies the reasoning for the excused absence. Above all else, this course is compliant with UNT Policy 06.039 “Student Attendance and Authorized Absences.” Please refer to this policy for more details/information.

Refer to the section “Contact Requirements” and subsection “Accommodations.”

**Emergencies**

By definition, emergencies cannot be planned for. Your instructor attempts to make accommodations in these instances that allow for making up missed work and completion of the course in a timely manner. Students should expect to provide documentation that verifies the emergency.

Refer to the section “Contact Requirements” and subsection “Accommodations.”

**Disability Accommodation**

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your
specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation.

Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact ODA by phone at (940) 565-4323.

Academic Integrity
Below I have taken out two paragraphs from UNT Policy 06.003 Student Academic Integrity.

“UNT promotes the integrity of learning processes and embraces the core values of trust and honesty. Academic integrity is based on educational principles and procedures that protect the rights of all participants in the educational process and validate the legitimacy of degrees awarded by the university. In the investigation and resolution of allegations of student academic dishonesty, the university’s actions are intended to be corrective, educationally sound, fundamentally fair, and based on reliable evidence.”

“Students are expected to conduct themselves in a manner consistent with the university's status as an institution of higher education. In the class setting, students shall follow their instructors’ directions and observe all academic requirements published in course syllabi and other course materials. A student is responsible for responding to an academic dishonesty report issued by an instructor or other university official. If a student fails to respond after proper attempt at notification, the university may take appropriate academic actions in the absence of the student.”

UNT policy 06.003 defines the following breaches of academic integrity:

A. **Cheating.** The use of unauthorized assistance in an academic exercise, including but not limited to:
   a. use of any unauthorized assistance to take exams, tests, quizzes or other assessments;
   b. usage of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; usage without permission, of tests, notes, or other academic materials belonging to instructors, staff members, or other students of the university;
   c. dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor;
   d. any other act designed to give a student an unfair advantage on an academic assignment.

B. **Plagiarism.** Use of another’s thoughts or words without proper attribution in any academic exercise, regardless of the student’s intent, including but not limited to:
   a. the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement or citation.
b. the knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in selling term papers or other academic materials.

C. **Forgery.** Altering a score, grade or official academic university record; or forging the signature of an instructor or other student.

D. **Fabrication.** Falsifying or inventing any information, data or research as part of an academic exercise.

E. **Facilitating Academic Dishonesty.** Helping or assisting another in the commission of academic dishonesty.

F. **Sabotage.** Acting to prevent others from completing their work or willfully disrupting the academic work of others.

**Cheating of any sort will not be tolerated in this course.**

All submissions must be your own original work. Taking information or code from the internet or other students is considered a breach of academic integrity. Failure to adhere to these strict standards will be cause for disciplinary action that could be as severe as expulsion from the university.

If it is determined a student cheated on any assignment in this course, they will receive an F for their final course grade and an academic integrity report will be filed with the Office of Academic Integrity.

Further, UNT is now maintaining a database recording any acts of academic dishonesty that is available to employers. Additionally, because these are group projects, if one group member is caught cheating the consequences of their actions will extend to the group (as a whole). It is the responsibility of all group members to ensure that when they put their names on their submission as a whole and submit it, the submission does not contain any instances of cheating. Failure to report known instances of cheating within a group will be deemed facilitation of academic dishonesty and reported as such. For more information see the UNT Student Academic Integrity Policy.

**Collaboration Policy:**
For each project submission, all work is expected to be your own. While you should be working with your group members, you are not to collaborate with other groups for projects, provide solutions to other groups, search for solutions on the internet, or purchase solutions. Doing so will be deemed a breach of academic integrity. However, for any non-graded, practice assignments students are encouraged to work together to solve problems.

**Academic Freedom and Academic Responsibility**

Refer to UNT Policy 06.035

Academic freedom and academic responsibility give vitality to the UNT and its mission. As such, the academic freedom to be able to freely consider or investigate important, and, perhaps, controversial questions are essential to the education of students and advancement of knowledge. Faculty have the academic responsibility to subject their knowledge and postulates to rigorous review by peers who are experts in the relevant subject material, to have a firm foundation of their postulates in the most
relevant and suitable available evidence, and to work with one another to provide the best education possible for our students.

Syllabus Revisions
This syllabus may be modified as the course progresses should the instructor deem it necessary. Notice of changes to the syllabus shall be made through Canvas and/or class announcements.

Tentative Lecture Schedule (subject to change)
Topics to Cover:

This course introduces Systems Analysis and Design. Topics include analyzing the business case, requirements modeling, data and process modeling, and development strategies, with an increased focus on object modeling and project management. Students also learn about output and user interface design, data design, systems architecture and implementation, and systems operation, support and security.

- Intro to Systems Analysis and Design
- Analyzing Business Processes and Cases
- Requirements Modeling and Use Cases
- Data and Processing Modeling
- Object Modeling
- Development Strategies
- UML to Support Analysis
- Midterm Exam
- Output and UIF Design
- Data Design
- System Architecture
- UML to support Design
- System Implementation
- Reliability, Security and Support
- Group Presentations
- Final Exam

See Canvas Course Page and Discussions for a schedule.

Grading Policy
You must complete all tasks required on time.
Late assignments will not be accepted unless specific arrangements are made with the instructor in advance. Assignments must be submitted through Canvas drop box. All assignments are due by midnight on the due date. Any deviations will be at the instructor’s discretion.

All requests for extensions on assignments must be made prior to the due date. Must be discussed over Zoom or in-person and should be used for valid “emergency” reason. In extreme circumstances, contact me as soon as possible. Don’t forget to start contacting the Dean of Students so I can start working on accommodations as early as possible.
You have **1 week to dispute a grade** after it’s posted date. After receiving your grade for an assignment, you must email the grader (TA or IA) and myself **within 7 days** should you wish to discuss/dispute it.

The above is to avoid “end of the semester” rush to alter grade penalties. Each student should keep track of their grades **throughout the semester**. Note that as we near the end of the semester, the time to adjust assignments gets shorter.

Each assignment will have varying requirements. **Pay very close attention** to what I am asking you to deliver in every assignment, program, and exam. Uploads may be on SVN, Canvas, GitLab, in person, or (in many cases) more than one.

Your final grade will be a weighted average according to the following:

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<tr>
<th>Items</th>
<th>Total Percentage</th>
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<tbody>
<tr>
<td>Exams</td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes &amp; Activities</td>
<td>10%</td>
</tr>
<tr>
<td>Group Projects</td>
<td>40%</td>
</tr>
<tr>
<td>Individual Assignments</td>
<td>30%</td>
</tr>
</tbody>
</table>

Grades will be posted on Canvas throughout the semester to provide an ongoing assessment of student progress, though final assessment will be measured using the weighted average above.

**Once a grade is assigned on Canvas, students have one (1) week to dispute the grade.** The proper channel for grade disputes is to first go to the original grader (i.e., TA/IA) to resolve the issue (**don’t forget to include me in the email so I may monitor the exchange**). If, however, a resolution cannot be reached between the student and the grader, the student shall then go to the instructor who will have the final say on the grade.

Most assignments will be due at 11:59 PM on the specified due date to Canvas. All assignments must be completed and submitted according to their specific directives. Programming assignments will be accepted up to 24 hours late and assessed a **50% grade reduction penalty**. Any programming assignment submitted more than 24 hours late **will not be accepted and receive a grade of 0**.

**Submission Policy:**
All projects are expected to be submitted on time with all the correct parts through the Canvas system.

**Student Perception of Teaching (SPOT)**
I consider SPOT evals very important and encourage students to participate in them. The survey is short and is made available to you at the end on the semester (UNT email notifies you as well). I look forward to seeing your feedback and hope to use it to improve. There is usually an incentive to get a large response from the students so keep a close eye on your canvas announcements for it.