

# CSCE 3615 Enterprise Systems Architecture, Analysis and Design

Instructor: David Keathly  
Office: NTDP F202  
Place: NTDP B190

Semester: Spring 2019  
Time: T/Th 1:00 – 2:20 pm  
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Office Hours at DP F202 TTh 11:30 – 1:00 pm

Office Hours in Student Union (corner room directly above Bookstore) MW 12:00 pm – 1:45 pm

Other times by appointment

## **Course Catalog 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.

## **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.

## **Textbook: (Recommended)**

*Systems Analysis and Design, 11<sup>th</sup> Edition (or newer)*  
Shelly Cashman Rosenblatt (ISBN: 0-324-59766-5)

## **Prerequisites**

CSCE 2100

## **Course Requirements:**

Attendance: Optional, although student is responsible for all materials covered in lecture and class discussion

Exams: 2

Assignments: There will be a few initial individual assignments and a number of group deliverables during the semester

## **For More information**

David Keathly's Webpage: [faculty.unt.edu](http://faculty.unt.edu)  
Class Web Page: [unt.instructure.edu](http://unt.instructure.edu)

## **Topics**

This course provides an introduction to 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.

## **Course Calendar** (subject to change)

| <b>Week</b> | <b>Topics</b>   | <b>Readings, Materials and Assignments</b> |
|-------------|---|--|
| Week 1      | Course Overview<br>Intro to Systems Analysis and Design | see lecture notes on class web page        |
| Week 2      | Analyzing Business Processes and Cases                  | see lecture notes on class web page        |
| Week 3      | Requirements Modeling and Use Cases                     | see lecture notes on class web page        |
| Week 4      | Data and Processing Modeling                            | see lecture notes on class web page        |
| Week 5      | Object Modeling   | see lecture notes on class web page        |
| Week 6      | Development Strategies                                  | see lecture notes on class web page        |
| Week 7      | UML to Support Analysis                                 | see lecture notes on class web page        |
| Week 8      | Midterm Exam  | see lecture notes on class web page        |
| Week 9      | Output and UIF Design                                   | see lecture notes on class web page        |
| Week 10     | Data Design   | see lecture notes on class web page        |

|         |                                   |                                     |
|---------|-----------------------------------|-------------------------------------|
| Week 11 | System Architecture               | see lecture notes on class web page |
| Week 12 | UML to support Design             | see lecture notes on class web page |
| Week 13 | System Implementation             | see lecture notes on class web page |
| Week 14 | Reliability, Security and Support | see lecture notes on class web page |
| Week 15 | Group Presentations               |                                     |
| Week 16 | Final Exam                        |                                     |

### **Grading Policy**

#### **The various components of your grade are weighted as follows:**

|  |     |
|--|-----|
| Exams (2) and Quizzes/ In-class Activities | 30% |
| Group Projects                             | 40% |
| Individual Assignments (drop 1)            | 30% |

### **Course Policies:**

- ABSOLUTELY, NO LATE assignments will be graded, unless specific arrangements are made with the instructor in advance.
- All assignments will be turned in by midnight on the date due. Assignments must be submitted via the Canvas drop box provided. There will be a 45 minute grace period to allow for system overloads and outages. Any deviations will be at the instructor's discretion.
- ALL requests for extensions on assignments must be made prior to the due date, in person, and must be for a valid "emergency" reason. In extreme circumstances, contact after the due date may be accepted if there is a COMPELLING reason.
- Attendance is at your option. However, you are responsible for all discussion, lecture and other information disseminated during the lecture period, regardless of whether you attend or not. You will not be allowed to make up any quizzes or in class assignments missed due to non-attendance.

- Lectures and Project assignments are included in this syllabus. However, you should regularly check the class website, as well as take note of in-class announcements for changes in the schedule or assignments.

### **Collaboration and Cheating:**

Collaboration among students in class is most certainly encouraged, as it is my belief that it provides a better learning environment, and is required for team assignments. All resources used should be clearly cited in written work of any kind, both individual and team. Note that each student should turn in his or her own work unless it is a group assignment. Collaboration should only extend to discussing concepts and ideas, not in completing the actual details of the assignment. Work that is substantially similar without warrant will be subject to penalties at the discretion of the instructor.

This class will use a single strike policy in that one instance of serious cheating or other form of academic dishonesty will result in a failing grade for the Course. The infraction will also be reported to the office of Student Affairs. This office maintains a database that is available to other instructors as well as employers. This could seriously affect your future employability. Any work used from any site, book or other source, must be acknowledged and properly cited in your documents, otherwise these will be considered as academic integrity violations. Use of any third party individuals, websites or organizations to complete your homework for you will result in immediate failure of the course.

For further details and clarifications regarding collaboration and cheating, view the university [Student Rights and Responsibilities web page](#).

### **Student Perception of Teaching (SPOT)**

SPOT is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SPOT to be an important part of your participation in this class

### **ADA:**

UNT complies with all federal and state laws and regulations regarding discrimination including the Americans with Disability Act of 1990 (ADA). If you have a disability and need a reasonable accommodation for equal access to education or services please contact the Office of Disability Accommodation. It is your responsibility to inform the instructor of any accommodations or other ADA conditions during the first two weeks of the academic term.