University of North Texas
School of Computer Science

5430-007 Software Engineering
Fall 2022

**Course Outline (Syllabus)**

**Instructor:** Dr. Abdelnasser Ouda  
Office: F203 Discovery Park  
Email: abdelnasser.ouda@unt.edu (best way to contact me)  
Phone: … Ext. …  
Office Hours: Wednesday 10:30am – 12:30pm

*Note: Only email originating from a valid University of North Texas student account will be accepted from students wishing to contact the instructor. Include your full name and student ID in your correspondence.*

**Prerequisites:**

**Course IAs:**
- Prem Kamal Osipalli  
  premkamalosipalli@my.unt.edu  
- Nishanth Goud Pendimukulla  
  nishanthgoudpendimukulla@my.unt.edu

**Lectures & Labs:**
Thursday 3:30 pm – 6:20 pm (BLB 090 UNT Main Campus)

**Course Description:**
Case tools, module implementation, testing, system delivery in the work place, scheduling and budgeting, project management, configuration management, software development tasks and ethical issues.

**Course Goals/Outcomes:**
This course introduces the fundamental concepts, common principles, and general techniques of software engineering. It discusses the main issues involved in the development life cycle of nontrivial software systems, including process models, feasibility studies, requirements elicitation and definition, rapid prototyping, design methodologies, verification and validation, and software evolution. 

Students taking this course are required to work on projects, which are designed to go through the major phases of large-scale software system development object-oriented software engineering today. Learn students to use the best practices in software engineering. Upon completion of the course, you will be able to:

1. Explain the various software process models
2. Apply requirements elicitation, specification, and validation processes
3. Use the Unified Modeling Language (UML) to represent the design models.
4. Employ methods for software testing
5. Develop a system based on software quality standards and guideline
6. Apply an iterative, use case-driven methods to develop robust design models.
7. Describe the different views of software architecture.
8. Implement the basic concepts of the software design patterns.
9. Apply Object-Oriented (OO) concepts: abstraction, encapsulation, inheritance, hierarchy, and polymorphism to implement these models.
10. Software project management and quality assurance.

Reference Textbook:
- O-O Software Engineering, 3rd; Addison-Wesley. ISBN 0-13-606125-7

Other Textbook:

Supplements:
All course notes and course webpage are available through the Canvas Learning Management System (LMS) at https://canvas.unt....... / (login with your UNT ID and password). Class slides will be posted before/after classes.

IMPORTANT NOTE: Attending classes is part of the course components. Students must note that the Canvas content is certainly not a substitute for attending lectures, completing assigned readings, programming and general practice. Students must not rely on previous examinations as sole study aids — examinations are created anew for each semester. Finally, Canvas will be used for some announcements, but students are expected to attend lectures to stay fully informed about course related matter and materials.

Student Evaluation:
- Project0 (Team Charter) 2%
- Project1(SRS 3 Phases) 24%
- Project2 (Implementation) 16%
- Project3 (Testing) 18%
- Midterm Exam (closed book) 15%
- Final Examination (closed book) 25%

Passing Grade
To obtain a passing grade in the course a mark of 50% or more must be achieved on each component. A final examination mark <50% will result in a final course grade of 48% or less. Assignment works are on time if sent in the course Canvas at the prescribed due date. 10% will be deducted from the available marks for each day late for up to a maximum of 3 days.

Syllabus Disclaimer:
Information contained in this syllabus is, to the best knowledge of the instructor, considered correct and complete when distributed to the students. The instructor reserves the right, acting within policies and procedures of the University of North Texas, to make necessary changes in course content or instructional techniques without prior notice or obligation to the student.

From the Registrar’s office:
You are not allowed to attend classes for this course unless you are officially registered, and your name appears on the current class list. Assignments will not be accepted, you will not be allowed to write tests or examinations, and credit will not be granted to any student who is not properly registered. "Financial Ineligibility" will not be accepted as a reason for non-registration in a course and will not be considered as a rationale to support a late registration.

CAUTION: This course assumes the student will allocate a significant amount of independent study and time spent on coding. You are strongly encouraged to ensure that sufficient time is allocated to succeed in this course. Each week a student is expected to spend at least: 2.5hrs for Independent Study and 4.5hrs for assessment (e.g. assignments, quizzes, projects, exams)

NOTE: Students need to be aware for all University of North Texas policies regarding course regulations.