

NO AUDIO OR VIDEO RECORDING ALLOWED IN CLASS!**Proposed Course Schedule (Instructor reserves the right to change this schedule as needed)**

Date	Topic
1/23	Software Design Principles and Design Patterns
1/30	Abstract Factory, Builder
2/6	Factory Method, Prototype, Singleton
2/13	Adapter, Bridge
2/20	EXAM-1
2/27	Composite, Decorator
3/6	Facade, Flyweight, Proxy
3/13	** SPRING BREAK **
3/20	Review for Exam-2
3/27	EXAM-2
4/3	Chain of Responsibility, Command, Interpreter
4/10	Iterator, Mediator, Memento
4/17	State, Strategy, Observer
4/24	EXAM-3
5/1	Template Method, Visitor
5/8	FINAL EXAM-8:15PM

Instructor(s): Dr. M. K. Raja**Office Number:** Business Building 522**Office Telephone Number:** 817-272-3502**Email Address:** raja at uta dot edu**Faculty Profile:** <http://www.uta.edu/mentis/public/#profile/profile/view/id/1033>**Office Hours: Wednesdays:** 5:00 -7:00 PM. Other times by appointment

Section Information: INSY 5342-001 Advanced Systems Design

Time and Place of Class Meetings: Business Building - Room-151 - Mondays 7:00 - 9:50 PM

Description of Course Content: This course addresses the concepts and principles of Design Patterns and how to use them in Systems Design. The course starts with the overview of the fundamental principles of patterns and their role in object oriented analysis and design. We discuss some of the most useful patterns, their concepts, advantages, tradeoffs and implementation techniques. Also addressed are commonality and variability in design as well as the role of testing pattern-driven development.

Student Learning Outcomes:

1. Students will be able to describe Systems Analysis and Design
2. Students will be able to demonstrate how to evaluate the quality of design
3. Students will be able to describe how to use objects in effective design
4. Students will be able to explain the concept of Design Patterns
5. Students will be able to identify and use various Design Patterns
6. Students will be able to describe how to apply Design Patterns to design problems
7. Students will be able to describe commonality and variability in designs
8. Students will be able to describe conventions used to describe and represent Design Patterns.

Required Textbooks and Other Course Materials:

Recommended Text Book: Java Design Patterns 1st ed. Edition - by Vaskaran Sarcar - Apress
ISBN-13: 978-1484218013 - ISBN-10: 1484218019

Additional reading material may be provided or assigned by the Instructor.

Students need to download and install the following software: ArgoUML (tigris.org) and Eclipse (eclipse.org)

Descriptions of major assignments and examinations:

Exams

Projects and assignments

In-class assignments, quizzes, projects and readings may be assigned

Other Requirements: A thorough understanding of Object-Oriented Analysis, UML diagrams and Programming. Must have completed at least one course in Java programming language.

Exam Schedule:

Exam-1 : February 20, 2017

Exam-2: March 27, 2017

Exam-3: April 24, 2017

Final Exam: May 8 2017 - 8:15PM

Grading Policy: Grading will be based on: 1) Exams, 2) Projects and Assignments

Exam - 60%

Projects and Homeworks - 30%

Attendance, class assignments, quizzes -10%

There are no MAKE-UP exams.

Attendance Policy: Attendance is essential for both learning the material and doing the assignments.

Student must be present to get credit for in-class assignments and quizzes

Make-up Exam Policy: There will be **NO Make-Up exams**. If you want to take the exam at a time BEFORE the scheduled time, you can do so if you can demonstrate a legitimate academic reason and arrange for a scheduled time with the instructor. The requests will be reviewed on a case-by-case basis and there is no assurance that your request will be granted.

Grade Grievance Policy: University policy will be followed to handle any grade grievance. You should first contact the instructor and discuss the matter by email or in person and provide any supporting material for your grievance. If the grievance is not satisfactorily resolved, you can follow the University Guidelines for further action. Please refer to the University Catalog for details.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering.

Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://web.uta.edu/aao/fao/>).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, [which is located \[insert a description of the nearest exit/emergency exit\]](#). When exiting the building during an

emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381