CSE 5321. SOFTWARE TESTING
FALL 2007

1   General

Lectures:	TR 2:00pm-3:20pm 109
Instructor:	David C. Kung, 332 NH, 817-272-three 627
Email:	kung at uta dot edu, Fax: 817-272-3784
Office Hours:	3:30pm-4:30pm, or by appointment
GTA:	TBA, Office: TBA, Office Hours: TBA.

2   Course Objective

CSE 5321. SOFTWARE TESTING (3-0). Study of software quality assurance, software testing process, methods, techniques and tools. Topics include formal review techniques, black box testing, white box testing, integration testing, acceptance testing, regression testing, performance testing, stress testings, and testing of object-oriented software. Prerequisite: CSE 5324.

3   Textbook

1. Roger S. Pressman, "Software Engineering: A Practitioner's Approach," McGraw-Hill, 2001. Chapters to be covered:

   Chapter 8: Software Quality Assurance
   Chapter 17: Software Testing Techniques
   Chapter 18: Software Testing Strategies
   Chapter 23: Object-Oriented Testing

2. Papers to be provided online.

4   Schedule

See Table 1.

5   Workload

5.1   Campus Section

2 individual testing projects: 20% each
1 team project: 35%

Date	Class Activity	Slides	Assignment (due date*)
3/10	Team presentation and demo		2nd increment (4/14)
3/12	Team presentation and demo		HW1 (3/31)
3/17	Spring Break		
3/19	Spring Break		
3/24	Object interaction modeling	SE07	
3/26	Object interaction modeling	SE08	sequence diagrams (4/02)
3/31	Controller Pattern	SE09	HW2 (4/21)
4/02	Expert Pattern	SE10	
4/07	Creator Pattern, Deriving Design Class Diagram	SE10-11	DCD (4/14)
4/14	Team presentation and demo		3rd increment (5/5)
4/16	Team presentation and demo		
4/21	Testing and deployment		
4/23	Object state modeling	SE12	
4/28	State Pattern	SE13	
4/30	reserved		
5/05	Team presentation and demo		
5/07	Final exam, Team presentation and demo		

HW1 to assess the "ability to identify, formulate, and solve engineering problems," and HW2 to assess the "ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability."
* Submissions are due before class on the due date. Late submissions are subjected to 10% penalty and additional 10% penalty for every 24 hours passing the deadline.

Table 1: Tentative schedule

unknown number of equally weighted quiz: 10%
1 final examination: 15%

5.2 Online Section

2 individual testing projects: 20% each
1 team project: 40%
1 final examination: 20%

6 Distance Learning Section

The TA is responsible for returning your team work and individual assignments to you through the Distance Learning Office after they are graded. Please contact the TA and copy to me if you do not receive these in due time.

If you are new to the online section, then the following information will be helpful:

- Online students are not required to attend classes or come to campus to take the examination(s). They can attend classes or come to campus to take the exam if they want.

- Online students will form online teams and work on project through communication over the Internet. They are not required to come to class to present the work. Instead, online project teams will capture the presentation using PowerPoint recording and place the present on a webpage and email the TA and instructor the link so we can view and evaluate the work.

- The Distance Learning Office will fax the examination question to you and work with you to arrange a proctor and examination time, which is one day after the campus examination at the latest. The office will send the solution to the instructor and the TA will fax to you the graded work (assignment, test, project) through the office.

- Course evaluation also will be done through the Distance Learning Office.

- You can view the lectures CD through an online link provided to you by UTA, I think.

Distance Learning Office Contact Information:

Donya Randolph-Henry
Distance Education Coordinator
242 Nedderman Hall
817-272-2352 ofc
817-272-5630 fax

7 Grade Distribution

Total Score	>= 85	>= 70	>= 60	>= 50	< 50
Grade	A	B	C	D	F

The grades are computed by a program according to your scores. If you get 84.95 then you will get a "B", not an "A" even if the score is so close to 85.

8 General Grading Criteria

Individual Assignments:

1) Correctness – the solution adequately solves the given problem
2) Soundness – the solution is well justified
3) Efficiency – the solution is among the simplest ones possible
4) Organization – the presentation of the solution is easy to understand and logically organized
5) Clarity – the solution is clearly stated and tables and figures are professionally produced
6) Grammar, spelling, and writing – correct grammar and spelling, and legible writing

1) – 2) are worth about 60% of the weight and 3) - 6) about 40%.

Team Project:

1) Requirements – identification, formulation and presentation of the requirements, evaluated in terms of completeness, consistency, validity and understandability. 15 %

2) Design – fulfillment of the requirements, software design considerations, user interface design and component interface design, evaluated in terms of completeness, consistency, validity, user-friendly, effectiveness and efficiency. 15 %

3) Implementation – evaluated in terms of correctness, efficiency, and coding style. 15 %

4) Teamwork – teamwork spirit, evaluated in terms of cooperativeness, enthusiasm and unity. 15 %

5) Documentation – professionally produced reports and models, evaluated in terms of report organization, completeness of standard report items, art work, expression and spelling. 15 %

6) Oral presentation – evaluated in terms of informativeness to the audience, well-organized and well-prepared slides and dynamic oral communication skills. Make sure that your demo will work in the classroom rather than in the lab. 15 %

7) Oral presentation attendance – timely attending all the presentations and actively participating in the discussions (such as asking questions, making remarks, etc.) are an important part of the course project. Each absence (without prior permission) will result in 10 % deduction for the part of the project work. You can request only one or two permissions for the whole semester.

9 Assignment Rules

1. Late assignments will be accepted before the explanation of the homework assignment in class. Late assignment are subjected to 10% deduction and additional 10% deduction for every 24 hours passing the deadline. After the explanation, no assignment will be accepted. This rule will be consistently applied to every student in all cases, regardless whatever good reason you may have.

2. You are encouraged to discuss homework with your classmates but not allowed to copy the solutions from or share the solutions with anybody. If you violate this rule, then you will

receive no credit for that assignment unless you can prove that you are not involved.

3. The GTA will do most of the grading. If you do not agree with the result, contact the GTA first. Please contact the instructor if you cannot reach a consensus. This would help the GTA improve her/his grading skill and avoid inconsistency due to improper interference of the instructor.

4. To be fair to the other students, no special assignment will be provided for any student to improve her/his grade.

10   Go Home Early Request

Requests for permission to go home before the final exam date will not be granted except for medical reasons and with a proof from a doctor.

11   Email Project Team Information

If the course has a team project, please email the following to the TA and the instructor right after the census date:

Team project (with $1 - 3$ priorities) and team leader and team member names, email addresses and phone numbers.

12   Team Member Evaluation Form

Enclosed at the end of this syllabus is a team member evaluation form which must be submitted by every team member after each increment. The form is also available from ftp website.

Use this form to appraise those team members that you feel their contributions should be credited and provide the instructor information about team members who need improvement. I will keep this confidential.

13   Class Email Alias

I will broadcast important messages, homework assignments, project descriptions etc. to students of the class. The messages will be delivered to your omega account. If you do not receive such messages, please contact me immediately so that I can add you to the list. It is your responsibility to contact me when your omega account has changed.

14 Your Standing and Class Statistics

After each assignment or test has been graded, I will distribute to each of you your scores and grade up to that assignment or test. You will also receive class performance statistics. Timely distribution of such information requires that the TA email me the scores in time. Please help me to remind the TA to email me such information. The email message will contain a heading like the following and statistics information, explained as follows.

A1,A2,A3: individual homework assignments 1, 2, 3
I1,I2,I3: increments 1,2,3
PEV: peer evaluation form submission for 1,2,3
Q1,Q2,Q3: quiz 1,2,3
T or FE: final exam
PlannedWT: planned weight in percentage
ActualWT: actual weight

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Email          Lastname A1  A2  I1  I2  I3 PEV  Q1  Q2  Q3  Q4   Q5  FE
PlannedWT      %        15  15  14  14  14   3   2   2   2   2    2  15  100
ActualWT       %        15  15   0  14  28   3   2   2   2   2    2  15  100
abc1234 abcd_efghij_kl 95  90  29  69  85 100   0  50   0 100  100  75   80  B
=====================
Grade distribution: 12 A; 12 B; 0 C; 1 D; 0 F.
Max = 90; Min = 59; Med = 83; Avg = 82.96.
Columnwise statistics:

======== A1    A2    I1    I2    I3   PEV    Q1    Q2    Q3    Q4    Q5    FE
Average: 87    87    39    72    93   100    55    41    24   100   100    73
Minimum:  0     0    27    61    85   100     0     0     0   100   100    55
Maximum: 95    95    56    81    97   100   100    75    66   100   100    90
Medium:: 95    90    35    69    94   100    50    50    33   100   100    70
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15 Library Information

(817) 272-3000, ext. 4938; email lsmith@library.uta.edu
http://www.uta.edu/library/research/rt-cse.html for CSE research information.

Project Team Member Evaluation Form

Please submit hardcopy or fax to David Kung 817-272-3784, no email

Most team members perform well in a project team. However some members perform extremely well and some very poorly. It is constructive to encourage the outstanding members and inform those who need improvements. This form allows you to convey such information to your team members whenever you deem there is such a need.

Please give an integer rating of -2 (poor), -1 (below average), 0 (average), +1 (above average), or +2 (excellent) for some of the aspects of the members you want to convey your assessment. Your evaluation might be reproduced (to hide your identity) and presented to the relevant members. The identity of the evaluator will be kept absolutely confidential in all cases.

Member name					
Group meeting attendance					
Group discussion					
Individual assignment					
Technical contribution					
Organizational contribution					
Overall performance					

Comments: (use additional sheets if needed)

Name: _____ Signature: _____ Date: _____

Please fill the course info, read, sign and return this statement to the instructor. Thanks.

Statement of Ethics
Student Confirmation
(CSE_____, Spring [], Summer [], Fall [], Year of _____)

The following is an excerpt from the College of Engineering's statement on Ethics, Professionalism, and Con-duct of Engineering Students. The notes are modifications appropriate for Computer Science and Engineering courses. Read the statement carefully, sign it, and return it to your instructor. A copy of the original policy is available for examination in the Computer Science and Engineering office. Additional copies of this statement can be obtained from your instructor or the Computer Science and Engineering office.

Statement on Ethics, Professionalism, and Conduct of Engineering Students
College of Engineering, The University of Texas at Arlington

The College cannot and will not tolerate any form of academic dishonesty by its students. This includes, but is not limited to 1) cheating on examination, 2) plagiarism, or 3) collusion.

Definitions:
A. Cheating on an examination includes:
1. Copying from another's paper, any means of communication with another during an examination, giving aid to or receiving aid from another during an examination;
2. Using any material during an examination that is unauthorized by the proctor;
3. Taking or attempting to take an examination for another student or allowing another student to take or attempt to take an examination for oneself.
4. Using, obtaining, or attempting to obtain by any means the whole or any part of an unadministered examination.
B. Plagiarism is the unacknowledged incorporation of another's work into work which the student offers for credit.
C. Collusion is the unauthorized collaboration of another in preparing work that a student offers for credit.
D. Other types of academic dishonesty include using other student's printouts from the ACS labs or students' disk, etc.

Notes:
1. The use of the source code of another person's program, even temporarily, is considered plagiarism.
2. Allowing another person to use your source code, even temporarily, is considered collusion.
3. In this class, the specific exceptions given below are not considered scholastically dishonest acts:
A. Discussion of the algorithm and general programming techniques used to solve a problem
B. Giving and receiving aid in debugging
C. Discussion and comparison of program output
4. The penalty assessed for cheating on a given assignment will be twice the weight of the assignment and will include notification of the proper authorities as stipulated in the UTA Handbook of Operating Procedures and on the web at http://www2.uta.edu/discipline
5. You may be entitled to know what information UT Arlington (UTA) collects concerning you. You may review and have UTA correct this information according to procedures set forth in UT System BPM #32. The law is found in sections 552.021, 552.023 and 559.004 of the Texas Government Code.

I have read and I understand the above statement.

Student's signature:_____

Student's name (printed):_____

Student's ID number:_____