Syllabus (Calendar)

Instructor

Dr. Scott A. DeLoach (sdeloach@ksu.edu, 785-532-6350)
Office – Nichols 234
Office Hours – see Dr. DeLoach's schedule.

GTA

Jason Belt (belt@ksu.edu, 785-532-6350)
Office Hours – TBD

Please watch this first: Course Overview Lecture. This lecture provides an overview of everything we will be doing in the course as well as how the course operates.

Purpose

This course (544 and 744) will cover the entire spectrum of the software development from requirements analysis through design, implementation, and testing. The course will incorporate modern methods with standard tools and languages such as UML 2.0 and Java. The course will focus on one major project to allow the students the chance to apply each method and technique in the appropriate order. The course will share lectures/course practicum materials with an undergraduate version (CIS 544); however, CIS 744 will have additional requirements.

The goals of this course includes:

- Develop an advanced understanding of object oriented concepts
- Develop skill in analysis, design, and development of object–oriented systems
  - Perform analysis of problem statements resulting in requirements use cases, scenarios, and domain models
  - Apply patterns in the transformation of analysis models into design models
  - Be able to transform analysis models into static and dynamic design models
  - Transform design models into system design and detailed design models suitable for transformation into code
- Understand and be able to develop basic models of the Unified Modeling Language
  - Use case diagrams
  - Class diagrams
  - Sequence diagrams
○ Activity & collaboration diagrams
○ State diagrams
○ Component and deployment diagrams
- Provide students a step by step approach for performing each stage of the analysis and design

Outline

- Introduction to OO, modeling, and processes
- Requirements Analysis (Use Cases, Sequence Diagrams)
- Domain Analysis (Class Models)
- Architectural Design (Component/Package Diagrams)
- Static Design (Advanced Class Diagrams)
- Interaction Design (Advanced Sequence Diagrams)
- Design Patterns (Pattern application)
- Internal Behavior Design (State Diagrams)
- Low Level Design
- Transformation to Code
- System Testing (Test cases)

Textbook


Required Capabilities

To participate in this class, it is necessary for you to have:

- Access to K-State Online for lectures and course material and the ability to send and receive e-mails with attachments.

Assignment due dates

Assignment due dates will be given for each individual assignment. Failure to turn in an assignment without prior approval from Dr. DeLoach will result in a 10% penalty per day late.

Attendance

Lab attendance is mandatory for on campus students. Lab assignment grades will be reduced by 50% if the student does not attend lab that week.
Distance Students

- General distance education course information is available here.
- Distance students must have an exam proctor.

Examinations

Two midterm exams will be given during the course; there will be no final exam.

- Off campus students must have a proctor for this examination as specified by K-State Global Campus rules. Off-campus students living in the vicinity of Manhattan may come to Manhattan and take the exams during the on-campus test time (please let Dr. DeLoach know if you plan to do this). A valid proctor form must be on file by week 2; to ensure I get a copy of your proctor form, please fax or scan and e-mail a copy of the proctor form when you submit it to K-State Global Campus. The online proctor form can be found here.

- On campus students are required to take the test on the assigned date.

Grading

Grading for this course will be based on total points earned. The points available are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 labs @ 100 points</td>
<td>1000</td>
</tr>
<tr>
<td>Exam 1</td>
<td>500</td>
</tr>
<tr>
<td>Exam 2</td>
<td>500</td>
</tr>
<tr>
<td>Project</td>
<td>500</td>
</tr>
<tr>
<td>Total</td>
<td>2500</td>
</tr>
</tbody>
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Grading for this course will be based on total points earned. To earn an 'A', you must demonstrate excellent work on a consistent basis throughout the semester. A 'B' is considered the good grade. Students who have shown adequate knowledge of the subject will receive a 'C'. Students failing to show an adequate understanding of the subject will receive a 'D' or 'F'.

A – 90%
B – 80%
C – 70%
D – 60%

Academic Honesty

Kansas State University has an Honor System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one's work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor System. The policies and procedures of the Honor System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-
campus, and via distance learning. The honor system website can be reached at: http://www.ksu.edu/honor/. A component vital to the Honor System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

Specifically for this course, the follow apply:

- For individual assignments, the default in this class is that ALL work will be accomplished individually, UNLESS my permission is given in advance of an assignment/quiz/exam/final. If you are in doubt, please ask.
- For team assignments, the default in this class is that ALL work will be accomplished only by members of the team, UNLESS my permission is given in advance of an assignment/project. If you are in doubt, please ask.

If you would like to know more about my personal approach to academic honesty, you may watch my Honor & Integrity video.

For more information, visit the Honor System home web page at: http://www.ksu.edu/honor

Academic Accommodations for Disabled Students:

Students with disabilities who need classroom accommodations, access to technology, or information about emergency building/campus evacuation processes should contact the Student Access Center and/or their instructor. Services are available to students with a wide range of disabilities including, but not limited to, physical disabilities, medical conditions, learning disabilities, attention deficit disorder, depression, and anxiety. If you are a student enrolled in campus/online courses through the Manhattan or Olathe campuses, contact the Student Access Center at accesscenter@k-state.edu, 785–532–6441; for Salina campus, contact the Academic and Career Advising Center at acac@k-state.edu or call 785–826–2649.

Copyright Issue:

Class and lecture notes for this course carry a copyright 2015 and author Dr. Scott A. DeLoach. Students are prohibited from selling (or being paid for taking) notes during this course to or by any person or commercial firm without the express written permission of the professor teaching this course.

Harassment Policy:

I believe that engineers must not only be the people who know how to do things right, but also those who know the right things to do. (Quote by Dr. Joseph Bordogna, National Science
Foundation). One purpose of your education is to help you develop skills, approaches, and abilities that are necessary for effective teamwork, and for your success in your profession and as a citizen. It is important that you understand your rights and responsibilities regarding the University's Sexual and Racial Harassment policies. (full text of the policies can be found on KSU's web site at http://www.ksu.edu/uauc/fhbook/fhxj.html. If you experience any situations, in or out of class, that seem inappropriate or that make you uncomfortable, a list of resources and courses of action to assist you can be found on the College of Engineering web site at http://www.engg.ksu.edu/students/statement-harassment.htm.

Expectations for Classroom Conduct

All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Government Association By Laws, Article VI, Section 3, number 2. Students that engage in behavior that disrupts the learning environment may be asked to leave the class.

Campus Safety

Kansas State University is committed to providing a safe teaching and learning environment for student and faculty members. In order to enhance your safety in the unlikely case of a campus emergency make sure that you know where and how to quickly exit your classroom and how to follow any emergency directives. To view additional campus emergency information go to the University's main page, www.k-state.edu, and click on the Emergency Information button.

Assignment Guidelines

In this course, you may be assigned to work in pairs for some lab assignments. During the time you are working on the lab, you may discuss the lab with your partner. You may only discuss issues related to the lab, i.e., you may not discuss issues related to the project. You may not discuss the assignment with anyone besides your assigned lab partner. Do not ask other friends what general approach they are going to (or did) use. Do not talk to other persons about how they interpreted a question or what approach they are going to (or did) take with a specific question. Do not look at another group’s paper. In short, no aspect of the assignment is open to discussion, observation, or any other type of information exchange that can in any way be interpreted as collaboration, except with your currently assigned partner.

For individual assignments (such as the course project), you may not discuss the assignment with anyone. Do not ask a friend what general approach he or she is going to (or did) use. Do not talk to another person about how he or she interpreted a question. Do not ask another person what approach he or she is going to (or did) take with a specific question. Do not look at another person's paper. In short, no aspect of the assignment is open to discussion, observation, or any other type of information exchange that can in any way be interpreted as collaboration.
All assignments will be typed, double-spaced, using left justification and one-inch margins. The title of the assignment, author's name(s), and your class (i.e., CIS 544, Spring 2032) will be put on a separate cover page. Do not put your name(s), title of the assignment, or any other types of headers on the first or subsequent pages of text.

Appropriate fonts is 12 point Times New Roman proportionally spaced, serif font.

Tables or figures may be single spaced. However, the table must fit within the margins and the text may be as small as 10 point Times New Roman. You also want to ensure all tables and figures are easy to read when printed in black and white.

Appropriate usage of grammar, spelling, punctuation, and writing style is expected, and will comprise a part of the overall score. (Note: if the paper is written so poorly that it is (1) incomprehensible or (2) so filled with grammar and stylistic errors that it is too distracting to ascertain content, it will receive a score of zero.) If you have any questions regarding style and/or usage, please feel free to ask. Grading of assignments in this area will be given more weight as the semester progresses.

Note: failure to follow these formatting directions will result in an unread paper with a score of zero.

All ideas or phrases used from other sources must be cited appropriately. References must be documented using the general guidelines given in my Writing Hints guide under the Bibliography section.

The finished paper will be stapled in the upper left corner. Do not enclose the paper in any type of folder, sheet protector, or any other fancy cover.

All assignments are due in class on the day noted on the individual assignments.