The University of Texas at El Paso
Department of Computer Science
CS 3331 – Advanced Object-Oriented Programming
Fall 2019 Syllabus

1. General Information

Instructor:
Daniel Mejia
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Office: CCSB 3.1018
Office Hours: Mondays & Wednesdays 1:30-3 pm, by appointment, and generally when door is open

Teaching Assistant (TA):
Khandoker Rahad (TR 10-11am, 12-1pm – CCSB 1.0706)
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Instructional Assistant (TA):
Ivan Mota (TR 12-2pm)
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Class Time:
Tuesday and Thursday 3-4:20 pm, CCSB 1.0702

Prerequisites:
CS 2302 with a C or better

Textbook (Required):
1. *Object-Oriented Software Development Using Java*. Xiaoping Jia. Addison Wesley, 2002.

This book is available at the bookstore and through major online book retailers. This textbook is required; bring to class every meeting.

Recommended Books (Not required):
1. *Head First Design Patterns*. Eric Freeman and Elizabeth Freeman. O'Reilly 2004.

2. *Head First Object-Oriented Analysis and Design*. Brett D. McLaughlin, Gary Pollice, and Dave West. O'Reilly 2006.

3. *The Elements of Java Style*. Allan Vermeulen, et al. Cambridge University Press, 2000.

4. Martina Seidl, et al., *UML@Classroom: An Introduction to Object-Oriented Modeling,* Springer, 2015 ([e-book] through UTEP library)

5. Cay S. Horstmann, *Core Java Volume I - Fundamentals,* 11th edition, Prentice Hall, 2018 ([[e-book](#)] through UTEP library)

Photocopied textbooks are illegal, and their use will not be tolerated.

2. Objectives & Outcomes

Course Objectives:
An in-depth exposure to the object-oriented programming paradigm, which builds upon programming experience gained in lower-level computer science classes. Emphasis on programming in an object-oriented language with which students are already familiar, and on requirements, testing, code reading, and comprehension.

Learning Outcomes
Level 1 outcomes are those in which the student has been exposed to the terms and concepts at a basic level and can supply basic definitions.
Upon successful completion of this course, students will able to:
   a) Explain the differences between an object-oriented approach and a procedural approach.

Level 2 outcomes are those in which the student can apply the material in familiar situations, e.g., can work a problem of familiar structure with minor changes in the details. Upon successful completion of this course, students will be able to:
   a) Formulate use-case diagrams and scenarios to support understanding of user requirements.
   b) Use object-oriented design notations, including UML class diagrams and state machine diagrams (optionally sequence diagrams) to model problem solutions.
   c) Use basic object-oriented design patterns to structure solutions to software design problems.
   d) Translate design features, such as classes and relationships, to implementations.
   e) Use frameworks and library classes and methods, such as collections, GUI, multithreading, and networking, in problem solutions.

Level 3 outcomes are those in which the student can apply the material in new situations. This is the highest level of mastery. Upon successful completion of this course, students will be able to:
   a) Design and implement software employing the principles of modularity, encapsulation, information hiding, abstraction, and polymorphism.
   b) Design, implement, and use classes and methods that follow conventions and styles, and make appropriate use of advanced features such as inheritance, exception handling, and generics.
   c) Evaluate existing classes and software for the purposes of extension through inheritance.
   d) Create API documents for classes, fields and methods.
   e) Design and implement test suites for automated unit testing.
   f) Re-factor existing source code to improve its design or efficiency.

3. Policies & Other Information

Grading:
- Quizzes/Homework/In class exercises – 15%
- Exam 1 – 15%
- Exam 2 – 15%
- Final Exam – 25%
- Programming Labs – 30%

The nominal percentage-score-to-letter-grade conversion is as follows:
- 90% or higher is an A
- 80-89% is a B
- 70-79% is a C
- 60-69% is a D
- below 60% is an F

Additionally, any one of the following will result on a final grade of F, even if the overall average is greater than 60%.
- Obtaining an average of less than 60% on the programming lab assignments
- Obtaining a grade of less than 60% on the final exam
- Obtaining an average of less than 60% on Exam 1 & Exam 2
- Not submitting ALL lab projects by the end of the semester, even if they are too late to receive credit (lab projects should still be functional and will be tested to ensure functionality).

The instructor reserves the right to adjust these criteria downward, e.g., so that 88% or higher represents an A, based on overall class performance. The criteria will not be adjusted upward, however.

Assignments:
Reading, non-programming homework, and programming lab assignments will be handed out, announced in class, or posted on Blackboard. If you miss a class, it is your responsibility to find out what you missed.

Typically, reading and non-programming homework assignments are due at the beginning of class on the assigned due-date, unless otherwise specified; a one-minute grace period will be given, after this a late penalty will be assessed (-10%). Unless for unusual circumstances and at the discretion of the instructor, non-programming homework assignments will not be accepted for credit after 10 minutes late. All reading and non-programming homework assignments must be handwritten in either pencil or black/blue pen, it will not be accepted otherwise. The assignment must be clearly legible for credit.

Additionally, programming lab assignments are due at 11:59 P.M. (Mountain Time) through Blackboard on the specified due date, unless otherwise specified. Late programming lab assignments will be accepted up to 24 hours after the due date/time for up to 70% credit. Accompanying lab reports must be turned in with the source code and should be typed. Unless for unusual circumstances and at the discretion of the instructor, programming lab assignments will not be accepted for credit after 24 hours late. All programming assignments must have a demo session within a week of the due date. Programming assignments that do not have a demo

will receive a grade of zero. All programming lab assignments must be submitted prior to the end of the semester to receive a passing grade for the course, even if it is too late to receive credit. You should expect to spend at least 10-15 hours/week outside of class on reading and homework.

Homework must be done individually. While you may discuss the problem in general terms with other people, your answers and your code should be written and tested by you alone. If you need help, consult a TA, IA, or the instructor.

Collaboration:
Collaboration among students is strongly encouraged.
It is acceptable to:
- Talk with other students about approaches and ideas.
- Get ideas and extra information from the internet, books, etc.

However, it is not acceptable to:
- Share code with another student (if a piece of code is submitted by two or more students, both students are guilty of cheating, regardless of who wrote the original code).
- Use code acquired from an outside source (the internet, a friend, etc.)
- Look at another student's code
- Debug another student's code

Software to detect plagiarized programs are used; appropriate disciplinary actions will be taken as necessary.

Exams:
There will be two (2) exams and one (1) final exam.
The purpose of the exams is to allow you to demonstrate mastery of course concepts. Make-up exams will be given only in extremely unusual circumstances, and at the discretion of the instructor.

Quizzes:
The purpose of a quiz is to ensure that you have read the weekly reading assignment and to verify that you have mastered the major concepts of recent lectures. Quizzes typically will be about 5-10 minutes in length and will cover the material assigned to be read for the upcoming lecture plus selected concepts from previous lectures. There will be no make-up on missed quizzes.

Attendance:
Students are expected to be prepared and attend every class meeting on time. The nature of the course requires the students to attend the class meeting to be successful. The instructor reserves the right to not let a student enter the class after 5 minutes.

Technology:
The use of laptops, cell phones, tablets of any kind, may be necessary for in class quizzes. Outside of the approved specified time (quizzes), laptops and cell phones should not be used during class. The use of laptops or tablets as a tool for taking notes will be considered on a case-by-case basis, at the sole discretion of the instructor. It is preferred that all notes should be taken using paper and pencil/pen.

All other electronics (and its accessories) including, but not limited to music playing devices and headphones are not allowed and should be stored prior to the beginning of class. The instructor reserves the right to ask individuals who do not comply to leave the class.

Disabilities:
If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

Important Dates:
September 2   Labor Day (University Closed – No Classes)
September 11   Fall Census Day
November 1   Fall Drop/Withdrawal Deadline
November 28-29   Thanksgiving (University Closed – No Classes)
December 5   Last day of Classes
December 6   Dead Day
December 9-13   Final Exams

4. Standards of Conduct and Academic Dishonesty

Standards of Conduct:
You are expected to conduct yourself in a professional and courteous manner, as prescribed by the UTEP Standards of Conduct.

A fundamental principle for any educational institution, academic integrity is highly valued and seriously regarded at The University of Texas at El Paso. More specifically, students are expected to maintain absolute integrity and a high standard of individual honor in scholastic work undertaken at the University. At a minimum, you should complete any assignments, exams, and other scholastic endeavors with the utmost honesty, which requires you to:

- Acknowledge the contributions of other sources to your scholastic efforts;
- Complete your assignments independently unless expressly authorized to seek or obtain assistance in preparing them;
- Follow instructions for assignments and exams, and observe the standards of your academic discipline; and
- Avoid engaging in any form of academic dishonesty on behalf of yourself or another student.

Graded work, e.g., homework and tests, is to be completed independently and should be unmistakably your own work (or, in the case of group work, your team's work), although you may discuss your project with other students in a general way. You may not represent as your own work material that is transcribed or copied from another person, book, or any other source, e.g., a web page.

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable to another person.

- **Cheating**
  - Copying from the test paper of another student
  - Communicating with another student during a test
  - Giving or seeking aid from another student during a test
  - Possession and/or use of unauthorized materials during tests (i.e. Crib notes, class notes, books, etc)
  - Substituting for another person to take a test
  - Falsifying research data, reports, academic work offered for credit
- **Plagiarism**
  - Using someone's work in your assignments without the proper citations
  - Submitting the same paper or assignment from a different course, without direct permission of instructors
- **Collusion**
  - Unauthorized collaboration with another person in preparing academic assignments

A full description of the University Standards of Conduct and Academic Dishonesty can be found in the [Handbook of Operating Procedures](#).

Professors are required to -- and will -- report academic dishonesty and any other violation of the Standards of Conduct to the Dean of Students.