Course Title: Programming Fundamentals II

Course Number: COSC 1437

Course Description: Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. COSC 1437 is recommended for transfer students because it is transferable to all Texas state-supported institutions.

Credit Hours: 4 Credit Hours (3 hours lecture and 2 hours lab per week)

Prerequisites: COSC 1436; Exception course - Course may be taken as a co-requisite with ENGL 0305 or 0316 and ENGL 0307 or 0326.

Semester and Year: Spring 2009

Instructor Information: Teresa S. Fernandez, MSCS
Professor
Office: Building F, Suite 343
Phone: 936.273.7349
Fax: 936.273.7342
E-mail: Teresa.S.Fernandez@lonestar.edu
Course Website: http://faculty.lonestar.edu/tfernandez

Dean and/or Department contact information: Carolyn Poe, Department Chair
Office: Building F, Suite 353
Office Hours: Anytime by appointment
Phone: 936.273.7481
Office Hours

TTH 11:00 a.m. – 1:00 p.m.
MW 11:00 a.m. – 11:30 a.m.

There are several options for contacting me. I will reply to you within 2 business day(s) to answer questions you may have.

- **Course Discussion Area** – For any general questions regarding the coursework.
- **Course Email** – For any confidential matters, such as your grades.
- **Instructor Phone Number** – During my office hours I can usually be reached at 936-273-7349 or you can leave a voicemail.
- **Email:** Teresa.S.Fernandez@lonestar.edu – For emergency situations where you cannot contact me via the course discussion area or the course email.

Learning Outcomes

- Design, code, test, and debug programs in an object oriented programming language.
- Create programs using object oriented concepts of encapsulation, sub classing, inheritance, and polymorphism.
- Incorporate complex input/output file handling techniques including record, record types, different techniques for placing records on disk querying databases, and security of applications.
- Create programs features such as pointer, references, arrays, overloading functions/methods, recursion and exception handling.
- Implement Object Oriented features of the language such as Classes, Inheritance, Polymorphism, and Friend Classes, for more code reuse and better design.
- Identify different roles and responsibilities of clients and servers in a web based environment.
- Identify tools for use in a web-based environment.

Required Materials

- **Absolute C++, 3/e w/Student CD MyCodemate Access Kit, Walter Savitch**
- Addison Wesley Publisher
- Active Lone Star College E-mail account
- Internet Access or use ELC computers
- Adobe Acrobat Reader
- myCodeMate Access Code Kit

Evaluation

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter Tests</td>
<td>(4 Tests) 400 points</td>
<td>(31%)</td>
</tr>
<tr>
<td>Chapter Quizzes</td>
<td>100 points</td>
<td>(8%)</td>
</tr>
<tr>
<td>Lab Projects</td>
<td>500 points</td>
<td>(38%)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>300 points</td>
<td>(23%)</td>
</tr>
</tbody>
</table>

**Total:** 1300 points (100%)

Assignments

The **grade of I (Incomplete)** is only assigned under extreme circumstances at the instructor’s discretion. Factors to be considered are proof of the circumstance in question, student’s status in the course at the time of the circumstance; student must have **completed 70% of the course**.
**Late Assignments/Exams:**
- Quizzes and Exams will be given **only** on the day they are scheduled. In the event that the student knows he/she will be absent on the day of the exam, the instructor may make arrangements for the student to take the exam prior to (not after) the scheduled date. It will be up to the instructor’s discretion in determining whether the student is allowed to take an early midterm exam. If the instructor agrees to allow this, the student will take the exam in the LSC- Montgomery Testing Center.
- Quizzes and Exams will be given online using VISTA. Students must logon to VISTA to find the testing date.
- All assignments are to be submitted by the end of the class period on the day they are due. In the event that the student submits a past-due assignment, a late penalty of 10% per class day will be applied.
- All Assignments submitted using myCodeMate, must be submitted to the assignment folder by the due date stated on the folder.

**Letter Grade Assignment**
The student's final grade is based on the weighted average of the grade received in each of the above categories. The letter grade breakdown is as follows:

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1300 - 1170</td>
<td>A</td>
<td>90% - 100%</td>
</tr>
<tr>
<td>1169 - 1040</td>
<td>B</td>
<td>80% - 89%</td>
</tr>
<tr>
<td>1039 - 910</td>
<td>C</td>
<td>70% - 79%</td>
</tr>
<tr>
<td>949 - 780</td>
<td>D</td>
<td>60% - 69%</td>
</tr>
<tr>
<td>below 779</td>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

**Classroom Behavior**

**Attendance**
The student is expected to devote his/her energy to attaining the skills and knowledge required for this course; therefore, attendance is extremely important to success. Excessive absences most inevitably result in the failure of the student to complete assignments in a timely manner. If the student stops attending class (approximately three class days in a row) or falls excessively behind on his/her work, it is not the instructor’s responsibility to withdraw the student. The student who decides not to complete the course must withdraw before the official drop date. Failure to do so will result in a grade of ‘F’ for the course.

**Withdrawal/Dropping**
Students are responsible for withdrawing from the course. Failure to withdraw will result in a grade of “F”. If you are facing academic difficulties, talk to me about ways to improve your study skills. Throughout the semester the Extended Learning Center (the ELC) in Building C, offers tutoring and seminars to help students improve their course scores.

**Classroom/Computer Labs**
The following are policies in effect in the classroom. A student will be asked to leave the classroom if found violating them.

- No food or drink is allowed.
- No children or other unregistered persons are allowed.
- Cell phones and pagers must be silenced during class time.
- Students may not install or download unauthorized files to a lab computer.
- Students may not change a lab computer’s settings without prior approval by his/her instructor.
- Students may not view, print, or listen to inappropriate material on a lab computer.
- Students may not use offensive language or unprofessional behavior.

In addition to the regular classroom, there are on-campus computers available for the student's use. These computers are located in the Extended Learning Center (the ELC) in Building C. This lab has posted rules and regulations that the student is expected to follow. If a student does not adhere to the policies, he/she will be asked to leave the lab.

The Lone Star College Catalog [Student Conduct, Section 562.01d] states, “Disruptive activity that hinders other students' learning or deters an instructor from effective teaching will not be tolerated under any circumstances.”

<table>
<thead>
<tr>
<th>Withdrawal Policy</th>
<th>Catalog description of District Withdrawal Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus Change</td>
<td>While every attempt has been made to prepare this syllabus and class schedule in final form, it will be the instructor's prerogative to make any changes as may be deemed necessary in order to meet the learning outcomes of the course. Students will be notified in writing of any change.</td>
</tr>
<tr>
<td>Degree Plan</td>
<td>Degree plans for programs offered at LSC-Montgomery can be located in the Lone Star College catalog or on the LSC-Montgomery web site at: <a href="http://faculty.lonestar.edu/tfernandez">http://faculty.lonestar.edu/tfernandez</a></td>
</tr>
<tr>
<td>Academic Integrity</td>
<td>Lone Star College Academic Integrity Policy</td>
</tr>
<tr>
<td>Software Piracy:</td>
<td>Law strictly prohibits unauthorized copying of software purchased by LSC-Montgomery for use in laboratories. BASS administration will take appropriate disciplinary action against anyone violating copyright laws.</td>
</tr>
<tr>
<td>Computer Virus Protection:</td>
<td>Computer viruses are, unfortunately, a fact of life. Using the diskettes on more than one computer creates the possibility of infecting computers and diskettes with a computer virus. This exposes the computers of the campus, your personal computer, and any others you may be using to potentially damaging viruses. The campus has aggressive anti-virus procedures in place to protect its computers, but cannot guarantee that a virus might not temporarily infect one of its machines. It is your responsibility to protect all computers under your control and use and ensure that each diskette you use, whenever or wherever you use it, has been scanned with anti-virus software. Since new viruses arise continually, your anti-virus software must be kept current. And, since no anti-virus software will find every virus, keeping copies of data (backups) is extremely important.</td>
</tr>
<tr>
<td>Equal Opportunity Statement</td>
<td>See Lone Star College catalog or go to <a href="http://www.lonestar.edu">http://www.lonestar.edu</a></td>
</tr>
<tr>
<td>ADA</td>
<td>See Lone Star College catalog or go to <a href="http://www.lonestar.edu">http://www.lonestar.edu</a></td>
</tr>
<tr>
<td>Advising</td>
<td>For additional assistance or more information on degree plans or future courses that LSC-Montgomery may offer, please contact one of the following: <a href="http://faculty.lonestar.edu/tfernandez">http://faculty.lonestar.edu/tfernandez</a></td>
</tr>
<tr>
<td>MODULE</td>
<td>DATES</td>
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</tr>
<tr>
<td>WEEK 1</td>
<td>Jan 12th – Jan 18th</td>
</tr>
<tr>
<td>READING</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>QUIZZES</td>
<td>Chapter 1 (myCodeMate)</td>
</tr>
<tr>
<td>PROJECTS</td>
<td>A1CH1 (myCodeMate)</td>
</tr>
<tr>
<td>WEEK 2</td>
<td>Jan 19th – Jan 25th</td>
</tr>
<tr>
<td>READING</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>QUIZZES</td>
<td>Chapter 2 (myCodeMate)</td>
</tr>
<tr>
<td>PROJECTS</td>
<td>A2CH2 (myCodeMate)</td>
</tr>
<tr>
<td>WEEK 3</td>
<td>Jan 26th – Feb 1st</td>
</tr>
<tr>
<td>READING</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>QUIZZES</td>
<td>Chapter 3 (myCodeMate)</td>
</tr>
<tr>
<td>PROJECTS</td>
<td>A3CH3 (myCodeMate)</td>
</tr>
<tr>
<td>WEEK 4</td>
<td>Feb 2nd – Feb 8th</td>
</tr>
<tr>
<td>READING</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>QUIZZES</td>
<td>Chapter 4 (myCodeMate)</td>
</tr>
<tr>
<td>PROJECTS</td>
<td>A4CH4 (myCodeMate)</td>
</tr>
<tr>
<td>WEEK 5</td>
<td>Feb 9th – Feb 15th</td>
</tr>
<tr>
<td>READING</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>QUIZZES</td>
<td>Chapter 5 (myCodeMate)</td>
</tr>
<tr>
<td>PROJECTS</td>
<td>A5CH5 (myCodeMate)</td>
</tr>
<tr>
<td>WEEK 6</td>
<td>Feb 16th – Feb 22nd</td>
</tr>
<tr>
<td>READING</td>
<td>Chapter 6</td>
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<tr>
<td>QUIZZES</td>
<td>Chapter 6 (myCodeMate)</td>
</tr>
<tr>
<td>PROJECTS</td>
<td>A6CH6 (myCodeMate)</td>
</tr>
<tr>
<td>Test #</td>
<td>Hands-On Chapter(s)</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------</td>
</tr>
<tr>
<td>TEST #2</td>
<td>HANDS_ON CHAPTER 4, 5, 6</td>
</tr>
</tbody>
</table>

### WEEK 7
- **Feb 23rd – Mar 1st**
- **Reading:** Chapter 7
- **Quizzes:** Chapter 7 (myCodeMate)
- **Projects:** A7CH7 (myCodeMate)  
  PP 7_1, PP 7_4, PP 7_6

### WEEK 8
- **Mar 2nd - Mar 8th**
- **Reading:** Chapter 8, 9
- **Quizzes:** Chapter 8, 9 (myCodeMate)
- **Projects:** A8CH8_CH9 (myCodeMate)  
  PP 8_1, PP 8_2, PP 8_6 CHAP 8  
  PP 9_9 CHAP 9

### WEEK 9
- **MID-SEMESTER BREAK**  
  Mar 9th – Mar 15th

### WEEK 10
- **Mar 23rd – Mar 29th**
- **Reading:** Chapter 10
- **Quizzes:** Chapter 10 (myCodeMate)
- **Projects:** A10CH10 (myCodeMate)  
  PP 10_2, PP 10_3, PP 10_5 CHAP 10

### WEEK 11
- **Mar 30th – April 5th**
- **Reading:** Chapter 12
- **Quizzes:** Chapter 12 (myCodeMate)
- **Projects:** A12CH12 (myCodeMate)  
  PP 12_1, PP 12_19, PP 12_20 CHAP 12

### TEST #3
- **HANDS_ON CHAPTER 7, 8, 9, 10, 12**

### WEEK 12
- **April 6th – April 12th**  
  **APRIL 6TH LAST DAY TO RECEIVE A “W”**
- **Reading:** Chapter 14
- **Quizzes:** Chapter 14 (myCodeMate)
- **Projects:** A11CH14 (myCodeMate)  
  PP 14_4, PP 14_6, PP 14_8 CHAP 14

### WEEK 13
- **April 13th – April 19th**
- **Reading:** Chapter 15
- **Quizzes:** Chapter 15 (myCodeMate)
- **Projects:** A12CH15 (myCodeMate)  
  PP 15_3, PP 15_4 CHAP 15

### TEST #4
- **HANDS_ON PROJECT**

### WEEK 14
- **April 20th – May 1st**
- **Reading:** Chapter 13_18
- **Quizzes:** Chapter 13_18 (myCodeMate)
- **Projects:** A13CH13_18 (myCodeMate)  
  PP 13_9 CHAP 13  
  PP 18_01 CHAP 18

### WEEK 15
- **FINAL EXAM May 6th 2009**
- **Reading:** Chapters 1 – 18 Concepts