COURSE SYLLABUS

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YEAR COURSE OFFERED: 2016

SEMESTER COURSE OFFERED: SPRING

DEPARTMENT: COMPUTER SCIENCE

COURSE NUMBER: 19191

Room and Time: SEC204 Tues/Thur 8:30-10:00

NAME OF COURSE: COSC 1320: INTRODUCTION TO COMPUTER SCIENCE II

NAME OF INSTRUCTOR: Guoning Chen

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The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

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STUDENTS SHOULD VERIFY THEIR GRADES ON BLACKBOARD EVERY WEEK!!

Learning Objectives

- LO1 : Apply the OOP principle of encapsulation and data hiding using a high-level language such as C++, including appropriate access privileges for members (private data and both public and private methods), using Unified Modeling Language UML
- LO2: implement as a user-defined class, write default and parameterized constructors for the class.
- LO3: Instill programming and problem-solving skills by implementing a two-level inheritance hierarchy using a base class.
- LO4: implement polymorphism and virtual functions.
- LO5: implement a user-defined class, create and use appropriate over-loaded and template functions and operators to make the class more useful and code more readable.
- LO6: Apply UML design as a graphical language to design and document any OOP software.
- LO7: implement inheritance, abstract classes, and object composition in Java
- LO8: Explain the Java Collections Framework, discussing the interface java.util.List and the use of the Java classes java.util.ArrayList and java.util.Vectorand Inner classes.
- LO9: Implement the basic way of handling exceptions in Java by using the try-throw-catch mechanism.
- LO10: Introduce graphical user interface principles. Java AWT (Abstract Window Toolkit), Event-Driven Programming, listeners and handlers.

- LO11: difference between text and binary file. Implement programs using the class PrintWriter , testing file using the predefined exception FileNotFoundException
- LO12: Advanced graphical user interface development and implementation: windows listener interface and windows adapter.

Major Assignments/Exams

- ✓ HW1: Design class, UML (LO1, LO2, LO6)
  The purpose of this homework is to help the student use softwares in designing classes and in representing them using a UML tool.
- ✓ HW2: Implement class II (LO1, LO2, LO6)
  The purpose of this homework is to help the student acquire skills in implementing classes and methods.
- ✓ HW3: Inheritance (LO3, LO4, LO7)
  The purpose of this homework is to help the student use and implement inheritance.
- ✓ Hw4: Exceptions (LO8, LO9)
  The purpose of this homework is to help the student handle exceptions and use try-catch-throw .
- ✓ HW5: Files (LO8, LO11)
  The purpose of this homework is to help the student create and read a sequential file and use predefined exceptions.
- ✓ Hw6: Swing (LO10, LO12)
  The purpose of this homework is to help the student understand graphical user interface (GUI) principles and develop/implement them.
- ✓ Hw7: Template Functions, Interfaces ((LO5,LO11)
  The purpose of this homework is to help the student implement an interface and use predefined interfaces and collections in Java.
- ✓ Hw8: Linked List (LO10, LO11, LO12)
  The purpose of this homework is to help the student implement an Array-Based Implementation of Lists using a user-defined class or a predefined class ArrayList.
- ✓ **Final Project:**
  This will be a group project (with maximum 3 members each group). Each group will be asked to implement a slightly large-scale project using JAVA. The candidate projects will be provided. At the end of the semester, each group will present their final project and the presentation will be taken into account for the score.

- ❖ **Exam1**: Covers the first 4 weeks of the course mainly Object oriented programming using C++. (LO1 to LO6)
- ❖ **Exam2**: Covers the next 4 weeks of the course mainly Object oriented programming using Java. ((LO1 to LO9, LO10)
- ❖ **Final**: Covers Object oriented programming in Java, GUI, Interfaces and files.

- ▪ **Weekly quizzes** to improve student understanding and prepare them for exams and homework is highly recommended.

Required Reading/ Resources

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Absolute C++, Absolute Java, Walter Savitch, Addison-Wesley.
Violet http://alexdp.free.fr/violetumleditor/page.php
http://www.youtube.com/watch?v=ZTAFyrbNTes&feature=related how to use Violet
Software's: Microsoft Visual studio 2015/2013/2012/2010/2008/2005
Eclipse, classic 4.1

Recommended Reading

- C++ How to program , 8/e, Deitel and Deitel, 2012, Prentice Hall, ISBN-10: 0132662361 , ISBN-13: 9780132662369
- Java How to Program: Late Objects Version, 8/e, Deitel, 2010 , Prentice Hall,ISBN-10: 0136123716 , ISBN-13: 9780136123712.
- Java Programming: Comprehensive Concepts and Techniques, 3rd Edition Shelly, Cashman, Starks, Mick, 2006 Course Technology, a division of Thompson Learning.
- Object-Oriented Software Engineering Using UML, Patterns, and Java, 3/E, Bruegge & Dutoit, 2010, Prentice Hall.ISBN-10: 0136061257, ISBN-13: 9780136061250,

List of discussion/lecture topics

	Date	**Topics**	**HW due date tentative**
Week 1	Tuesday, January 19, 2016	Course introduction Classes (Absolute C++ 6)	HW1 January 24
	Thursday, January 21, 2016	Classes (Absolute C++ 7,8) UML	
Week 2	Tuesday, January 26, 2016	Inheritance (Absolute C++ 14)	HW2 January 31
	Thursday, January 28, 2016	Polymorphism and Virtual Functions (Absolute C++ 15)	
Week 3	Tuesday, February 2, 2016	Polymorphism and Virtual Functions (Absolute C++ 15)	HW 3 February 7

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	Wednesday February 3th	**DROP DEADLINE**	
	Thursday, February 4, 2016	Stream and File I/O (Absolute C++, 12)	
Week 4	Tuesday, February 9, 2016	Exception Handling (Absolute C++ 18)	
	Thursday, February 11, 2016	Templates and STL (Absolute C++ 16, 19)	
Week 5	Tuesday, February 16, 2016	Templates and STL (Absolute C++ 16, 19)	HW 4 February 21
	Thursday, February 18, 2016	Review	
	Friday , February 19, 2016	**Exam 1 9:00-11:00 am**	
Week 6	Tuesday, February 23, 2016	Exam 1 review	
	Thursday, February 25, 2016	Defining Classes I (Absolute JAVA 4)	HW 5 March 8
Week 7	Tuesday, March 1, 2016	UML and Patterns (Absolute JAVA 12)	
	Thursday, March 3, 2016	Inheritance (Absolute JAVA 7)	
Week 8	Tuesday, March 8, 2016	Polymorphism and Abstract Classes (Absolute JAVA 8)	HW 6 March 28
	Thursday, March 10, 2016	File I/O (Absolute JAVA 10)	
	Friday, March 11, 2016	**Exam 2 9:00-11:00 am**	
	Spring Break 14-19 March		
Week 9	Tuesday, March 22, 2016	Exam 2 review	

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	Tuesday, March 24, 2016	Exception Handling (Absolute JAVA 9)	
week 10	Tuesday, March 29, 2016	Exception Handling (Absolute JAVA 9), continued	
	Thursday, March 31, 2016	File I/O (Absolute JAVA 10)	
	Friday April 1st	**DROP DEADLINE**	
Week 11	Tuesday, April 5, 2016	Swing (Absolute JAVA 17)	HW 7 April 10
	Thursday, April 7, 2016	Swing (Absolute JAVA 17)	
Week 12	Tuesday, April 12, 2016	Swing (Absolute JAVA 17)	HW 8 April 24
	Thursday, April 14, 2016	Interfaces and Inner Classes (Absolute JAVA 13)	
Week 13	Tuesday, April 19, 2014	Interfaces and Inner Classes (Absolute JAVA 13)	
	Thursday, April 21, 2014	Interfaces and Inner Classes (Absolute JAVA 13)	
Week 14	Tuesday, April 26, 2014	Student final project presentations	
	Thursday, April 28, 2014	Review	
	Monday, May 2nd	**Last day of class NOTHING is ACCEPTED AFTER THIS DATE**	
	FINAL EXAM Friday, May 6, 2016	**8:00 -11:00 AM**	

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Important Notes:

1. Our time together is very valuable; please treat it accordingly. If you arrive late, sit in the back and check so as not to disturb others when you arrive. By enrolling in this course you make a personal contract with me and your classmates to attend and diligently participate in every class activity. Students are expected to be courteous toward the instructor and their classmates throughout the duration of this course.
2. Sleeping in class or being mostly inattentive (in the judgment of the instructor or the TA's), arriving late, drinking, eating and leaving the classroom in and out is disrespectful of the class environment and will disqualify you from participation credit for the course (5%). It is important to be respectful of your fellow students and the shared course environment. It is a professional learning situation, not your living room.
3. **NOTE: YOU ARE NOT ALLOWED TO USE LAPTOPS AND/OR CELLULARS (ESPECIALLY TEXTING). EVERYTIME YOU VIOLATE THIS RULE I WILL CONSIDER YOU ABSENT. PLEASE, UNDERSTAND THAT IF YOU REACH 6 ABSENCES, I AM ALLOWED TO FAIL YOU THE CLASS.THANK YOU FOR YOUR UNDERSTANDING.**
4. All cell phones and pagers must be "on silent" mode during classes and "turned off" during exams.
5. Attendance is taken at the beginning of the class.
6. **Unexcused** Lecture and lab Absences Policies:
    a. **Two** late attendances are considered as **one** absence.
    b. The **sixth** absence will result in an automatic F grade.
7. Assignments must be submitted on the due date. **No** late or email submissions will be accepted. If ever accepted (Logical reason) a 20% penalty will be applied.
8. **MAKE-UP EXAMS**: ***There are no make-up exams.***
9. **3-Day Policy**: One has **3 days** starting from the end of the class time in which the graded assignment/exam papers have been distributed and/or posted in order to object to the score of that assignment or exam. The objection shall be submitted electronically by emailing the TA and the instructor.
10. **Academic Honor Code:** As a student, you join a community of scholars who are committed to excellence in learning. I assume that students will pursue their studies with integrity and honesty. **ZERO-TOLERANCE for CHEATING, whether in**

exams, quizzes or PROGRAMMING ASSIGNMENTS. Plagiarism, copying and other anti-intellectual behavior are prohibited by the university regulations. Violators will face serious consequences.

11. **Student Conduct: Disruptive behavior inside or outside class may result in disciplinary actions and academic failure. Students must refrain from disturbing the peace and good order of the university. For more details, please refer to** http://www.uh.edu/dos/pdf/codeofconduct.pdf

12. **Academic Integrity: Cheating or any other suspected violations of academic integrity will not be tolerated and will be reported to the Department of Computer Science, Director of Undergraduate/Graduate Studies and if substantiated may result in significant penalty. It is each student's responsibility to read and understand the Academic Honesty Policy found in the Student Handbook (**http://www.uh.edu/academics/catalog/policies/academ-reg/academic-honesty/**).**
13. **Plagiarism: Plagiarism is using someone else's work without proper acknowledgement. This includes getting help from a friend or colleague and online material. When using someone else's work, always cite the source. Plagiarism is considered a serious breach of academic integrity. ANY BREACH OF ACADEMIC INTEGRITY OR PLAGIARISM WOULD RESULT IN A MINIMUM OF ONE FULL LETTER GRADE REDUCTION OVER THE FINAL SCORE AND POSSIBLE EXPLUSION FROM UNIVERSITY.**

Email:

Please use your blackboard email for any issue concerning your lab assignments, Homework. For any other issue you can contact me at chengu@cs.uh.edu. Please, do not email me through blackboard learn.

Grade Distribution:

Numerical grades will be assigned in all the tests and assignments. Only the final grade will be a letter grade.

Activity	*Weight*
Attendance and Participation	**5%**
Programming Assignments (Homework)	**25%**
Quizzes	**10%**
Exam 1 (**Friday, February 19th , 2016**)	**15%**
Exam 2 (**Friday, March 11th , 2016**)	**20%**
Final Exam (**Friday, May 6th , 2016**)	**25%**

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Grade Percent Merit

A >=92.5 Excellent	**A-** >= 89.5 and < 92.5 Outstanding	**B+** >=86.5 and < 89.5 Very Good
B > = 83.5 and <86.5 Good	**B-** >=79.5 and < 83.5 Above Average	**C+** >=76.5 and < 79.5 High Average
C >=72.5 and <76.5 Average	**C-** >=69.5 and <72.5 Low Average	**D+** >=65.5 and <69.5 Below Average
D >=62.5 and <65.5 Poor	**F** < 62.5 Failing	

Wishing you a pleasant and a fruitful semester