IST 236 Data Structures[1]

Course Syllabus – FALL 2014

2804 – TR 9:30–10:45 am ML 119

Instructor: Dr. SeungJin Lim **Office:** Prichard Hall 217
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Office hours: TR 12:30 – 3:30 pm by appointment.

Course Description: This course covers fundamental topics of information technology including the concepts of object orientation, linear data structures, data representation, data manipulation algorithms and their applications, and project participation. (3 hrs. PR: IST 163 Programming Practicum with C++, CR: IST 131 Differential Calculus)

Required Text, Additional Reading, and Other Materials: Starting Out With C++: From Control Structures through Objects, 7th ed., Tony Gaddis, 2012, ISBN: 0-13-257625-2. Many students online resources are available for the book from the publisher.

Recommended Materials: Students need a C++ compiler and an IDE tool. GCC with Eclipse is a good option for developing cross-platform software applications. MinGW is a Windows port of the GNU Compiler Collection and provides a complete Open Source programming tool set which is suitable for the development of native MS-Windows applications.

C++ Reference: http://www.cplusplus.com/reference/

Course Student Learning Outcomes and Assessment Measures:

Course student learning outcomes: Students will	*How practiced in this course*	*How assessed in this course*
Demonstrate a disciplined approach to problem solving methods using data structures.	assignments, labs, exams	6 to 8 assignments, 3 exams
Demonstrate the use of specific data structures such as linked lists, stacks, and queues.	assignments, labs, exams	6 to 8 assignments, 3 exams
Provide a clear understanding of the concepts of data abstraction and abstract data types.	assignments, labs, exams	6 to 8 assignments, 3 exams
Demonstrate the concepts of proper object oriented programming.	assignments, exams	6 to 8 assignments, 3 exams
Be able to program using recursion.	assignments, exams	6 to 8 assignments, 3 exams

The student will also have an hands-on experience on the rich features of the Eclipse IDE which is widely accepted in the software industry and academia to create C/C++ solutions to real-world problems in a cross-platform fashion.

Course Requirements and Grading:

Assignments	50%
Exams	50%

Grades from assignments and exams are posted to Blackboard. Final letter grades are determined based on the following grading scale:

[1] Last modified: Monday 18th August, 2014 16:52

[0,60)	[60,70)	[70,80)	[80,90)	[90,∞)
F	*D*	*C*	*B*	*A*

The instructor reserves the right to change these values depending on the overall class performance and/or extenuating circumstances.

Late assignments will be penalized at the rate of 10% per day, up to two days (including weekends) after the due date.

There will be no make-up chances for missed assignments and exams unless a proper action has been taken for an Excused Absence[2]. It is the student's responsibility to make up the missing exam within a week.

Attendance Policy: Attendance is strongly encouraged. If necessary, quizzes will be given to ensure your interest in attending. Students generally perform much better if their attendance is consistent. Low attendance is often a strong indication to a failing grade. Exams may cover the subjects which are discussed only in class (not in textbook). If you are absent, it is your responsibility to find out what you missed, e.g. announcements, assignments, etc.

Course Outline: (subject to changes)

Week of		*Topics to be covered*	*Assignment*
1	8/25	Syllabus; Eclipse with GCC	
2	9/1	Ch 9 Pointers;	Assignment 1
3	9/8	Ch 11 Structured Data;	
4	9/15	Ch 12 File Operations	Assignment 2
5	9/22	*Exam (9/25)*	
6	9/29	Ch 13 Introduction to Classes	Assignment 3
7	10/6	Ch 14 More About Classes	
8	10/13	Ch 15 Inheritance/Polymorphism	Assignment 4
9	10/20	*Exam (10/23)*	
10	10/27	Ch 16 Exceptions, Templates and STL	Assignment 5
11	11/3	Ch 17 Linked Lists	
12	11/10	Ch 18 Stacks and Queues	Assignment 6
13	11/17	Ch 19 Recursion; *Exam (11/20)*	
14	11/24	*Thanksgiving*	
15	12/1	Ch 20 Binary Trees	
16	12/8		Assignment 7

University policies: By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802.

Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

[2]Defined in the Undergraduate Catalog.

Contact: Students are encouraged to visit with me. Most problems can be resolved more efficiently and effectively by personal visit. In particular, it may not be the best way to send an e-mail on the due day of an assignment asking a help for the assignment.

Should e-mails are preferred, students should use the e-mail address of the instructor at the beginning of this syllabus. Only the e-mails sent to this account will be responded.

The subject line of any e-mails sent to the instructor should start with "[IST236]". Otherwise, the e-mails may not be responded properly in a timely manner. Emails sent after hours or weekend will be responded on the following school day.