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Fall 2007

CS 141: Computer Programming - I

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CS 141 Computer Programming - I
Fall 2007 - Lecture (81820) Section 1
Last Update Thursday 23 August 2007 at 11:00 a.m.

Tuesday and Thursday 12:20 – 1:35 p.m., Biological Sciences 105 (Lecture)
Plus **one** of the following lab sections:

Sect	Time	Day	Room
1	10:25 a.m. - 11:15 a.m.	Tu	RC 152A
2	2:10 p.m. - 3:00 p.m.	Tu	RC 152A
3	8:00 p.m. - 8:50 p.m.	Th	RC 152A
4	10:25 a.m. - 11:15 a.m.	Th	RC 152A
5	2:10 p.m. - 3:00 p.m.	W	RC 152A

Description: This course provides a general introduction to the fundamentals of computer programming. Examples from and applications to a broad range of problems are given. No prior knowledge of programming is assumed. The concepts covered will be applied to the Java programming language. Students must register for both lecture and one laboratory section. 4 credit hours. Prerequisite: MTH 127 (College Algebra) or equivalent.

Instructor: Mr. Michael Ondrasek Office RC 160 (inside the student study area RC 158) email is michael.ondrasek@wright.edu. Office hours: by appointment.

Teaching Assistants: Mr. Allen Rwabutaza, rwabutaza.2@wright.edu and Lisa Jacob jacob.13@wright.edu Office location RC 316; office hours to be announced.

Textbook: **Starting Out with Java 5, from control structures to objects**, Tony Gaddis, Scott/Jones Inc, 2005, ISBN 1-57676-171-1.

Textbook Web Resources: The text CD and <http://www.aw-bc.com/cssupport/Gaddis.html> for the student support page. On the student support web page, at the text listing, there are links to download files containing the text appendices, and sample labs/programs. There are other links that may be of use, such as the download of the Sun Java Development Kit (JDK) which will be used to run the lab projects.

WebCT: <http://wisdom.wright.edu> If you are new to WebCT, please read the opening web page instructions for students. WebCT allows you access to your grades as well as lab assignments and submittals. We will post much of the course materials on WebCT.

Grading: Mid-term exam and quizzes: 20% (see calculation below); comprehensive final: 30%; programming lab assignments: 50%.

Mid-term and quizzes = $100 * (\text{YourMidTermScore} + \text{YourQuizPoints}) / (\text{MaxMidTermPoints} + 0.85 * \text{MaxQuizPoints})$

Final grade is based on the course average: **A:** 100-90, **B:** less than 90-80, **C:** less than 80-70, **D:** less than 70-60, **F:** less than 60-0 **unless you get less than 70% of the possible points on your programming lab assignments in which case you fail the entire course regardless of your overall course average.**

Policy: There are no late/early/makeup exams or quizzes unless verifiable emergency and acceptable documentation in writing is provided to the Instructor. Although verbal or e-mail notification can be provided, written

documentation is required. Quizzes may be unannounced and/or take-home. Also some quizzes may have zero point value (practice). No quiz scores will be dropped, but only portion of the points will be counted as noted in the grade calculation. **All work must be your own; sharing of program code/take-home quiz solutions will result in a grade of "zero" for all those involved. Official university policy will be followed in cases of academic dishonesty.** Do not show others your programs and do not look at someone else's code. However, sharing ideas and general computer skills with others outside of class is encouraged.

Expectations of Students: We will from time to time take attendance, but attendance at lecture is not required although it is strongly encouraged and expected. The Instructor considers it essential to your success in this course that you attend all lectures and lab sessions. Students are expected to study the text. **Even when you don't attend class, you are still responsible for material covered in lecture, lab, and in your text readings.** If you miss a lecture, you may also miss a quiz. If you miss an unexcused quiz you will receive a zero score. Students are expected to be on time for lecture and lab sessions: lectures and labs start promptly. Early departure from lecture or lab may be unavoidable, but it is expected that this would be quite unusual. The Instructor feels that it is important that you have your own copy of the correct textbook and edition indicated above. If you have a computer at home, it is important that you practice programming using software discussed in class. If you do not have a computer, it is expected that you will use the computers in Russ Center Room 152C (or other campus locations) to practice programming skills. Questions are encouraged in lecture and lab; however, if there are no questions it is assumed that students understand the lecture, have read, and understand the text and lab materials. If you are having trouble with programs or text readings, it is expected that you will ask questions in class, come during office hours for help, or make an appointment to discuss your questions as needed. Corresponding with the Instructor or Teaching Assistants by e-mail is a good way to get help with text readings or programming assignments. Finally, it is expected that students will follow the Instructor's recommendations concerning printing of slides and other course materials. In order to minimize handouts, you are expected to print your own copies before lecture whenever possible. The computers in Russ Center Room 152C provide all registered students with the ability to freely print their own copies. Please follow guidelines given in lecture on how to make the best use of the computing and printing resources.

Suggestions: Get an early start on each programming assignment. Most often you will not complete the programming assignment in the 50-minute lab sessions. You are urged to budget your lab time wisely and expect to spend additional time outside of the formal lab to complete your programming assignments. Get acquainted with the CD/online textbook materials: study the text Preface carefully. You should print, review, and study online materials recommended by the Instructor and Teaching Assistants. You can download the source code for the text examples to try them out. Whenever possible study your text in front of a computer and actively get involved in trying out the programming concepts on your own. You should try to do all text checkpoint, review questions, and exercises. This can be the most effective way to be successful in the course. If you are uncertain about how you should do this, please discuss with the Instructor or Teaching Assistant. It would be a very good idea to get your own USB 2.0 compatible flash drive (also known as a "thumb drive" or "min-drive") for use in labs and possibly at home. See the Instructor or Teaching Assistants for recommendations and usage. **Always backup your programs!** Keep copies of your work in several different places. E-mail yourself a backup copy.

Programs: Programming lab assignments will be issued in class, during the lab sessions, or on WebCT. Each assignment will state the due date. Assignments usually will be one or possibly two weeks in duration. As noted above, you must earn at least **70%** of the possible points on lab assignments in order to pass the course. Programming assignments are to be submitted on the due date. Late assignments are accepted at the discretion of the Teaching Assistant, who will impose a late penalty.

Syllabus Changes: The Instructor will not make changes to this syllabus without notification and understanding of all the students in the class. New paper copies will be provided. Changes would be required for the following reasons: (1) to correct mistakes, (2) to improve student learning, (3) to clarify misunderstands, or (4) to correct serious inconsistencies in policies and/or content compared to other concurrent lecture sections sharing the same labs.

Schedule: See the table below. Topics and order of topics may vary. Exam dates are firm. The topics to be covered each week are listed, followed by the accompanying sections in the text. Not all sections listed are directly covered in detail in class. This schedule is subject to change.

Week	Topic	Readings*
1	Computer Systems: Hardware and Software, Programming Languages, The Programming Process, Object – Oriented Programming	Chapter 1
2	Input and Output methods, Primitive Data Types, Arithmetic Operations, Conversion Between Primitive Data Types, Constants, The String Class	Chapter 2.1 – 2.9
3	Scope, Comments, Keyboard Input, Dialog Boxes, Common Errors to Avoid	Chapter 2.10 – 2.15
4	The <i>if</i> , <i>if-else</i> , <i>if-else-if</i> , and <i>switch</i> Statements; Logical and Conditional Operators; The <i>DecimalFormat</i> Class and <i>printf</i> Method	Chapter 3
5	The <i>while</i> , <i>do-while</i> , <i>for</i> , and Nested Loops; The <i>continue</i> and <i>break</i> Statements Exam: Thursday October 2nd	Chapter 4.1 – 4.9
6	File Input and Output, <i>Random</i> Class, Introduction to methods	Chapter 4.10 – 4.12 Chapter 5
7	Introduction to Objects and Classes, Constructors, Overloading Methods and Constructors	Chapter 6.1 – 6.4
8	Scope of Instance Fields, Packages and <i>import</i> Statements	Chapter 6.5 – 6.8
9	Arrays, Processing and Passing Array Contents, Returning Arrays, String Arrays, Course Evaluation	Chapter 8.1 – 8.7
10	Sequential and Binary Search, Multi-Dimensional Arrays, Selection Sort, Command-Line and Variable-Length Arguments, The <i>ArrayList</i> Class, Review for Final Exam	Chapter 8.8 – 8.14
Finals Week	Comprehensive Final Exam: Tuesday November 13th (1:00 – 3:00 pm)	

*Whenever any Chapter is assigned, you should also study the corresponding Review Questions and Exercises found at the end of each chapter.