Syllabus for MATH 175-01
Computer Programming for the Sciences, Spring 2015
`http://jamesrohal.com/teaching/spring-2015-math-175-01/`

Professor: Dr. James Rohal

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Office Hours:	See `http://jamesrohal.com/schedule/`

Description: An introduction to programming using a modern programming language. Topics include primitive data types; stream and file I/O; Boolean expressions; control structures; functions; function overloading; recursion, multidimensional arrays; strings; and an introduction to dynamic memory management. Emphasis on procedural-oriented programming.

Prerequisite: Content knowledge of Pre-Calculus.

Course Objectives:

- Understand fundamentals of programming such as instantiating variables, conditional and iterative execution, methods, etc.
- Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
- Be aware of the important topics and principles of software development.
- Be able to use the Java SDK to create, debug, and run programs.
- Develop the ability to write a computer program to solve applied problems.
- Understand the limitations of procedural-oriented programming.

Text: *Starting Out With Java: From Control Structures through Objects* (5th Edition) by Tony Gaddis.

Attendance: Attendance is mandatory and is part of your grade. I will pass a seating chart around the first week of class. You are expected to sit in your assigned seat the remainder of the semester and attend all classes on time. Arriving late for a class or leaving early is very disruptive of class. If you need to leave early, please let me know at the beginning of class.

Homework: Homework problems will be given through My Programming Lab (`http://www.myprogramminglab.com`). Register a student account using the course ID **WESLIBSTA-7282-0** and access code packaged with your book. I encourage you to work together on assignments.

Programming Assignments: Programming assignments will be announced on Sakai and are found under the Assignment tab. You will upload your assignment to Sakai. You can work on these assignments with your classmates but your final solution should be your own work. The final exam will be a large programming assignment.

Exams: There will be two in class exams. They will be short answer and application oriented.

Thu, Feb 26	Exam #1 (In Class)
Thu, Apr 23	Exam #2 (In Class)

Make-up Policy: If you are absent the day of an exam, then the score for that item will be zero unless you and I discuss it, and we both agree that a make-up is appropriate. Adjustments will be made for students who must miss class due to illness, observance of a religious holiday, and for students who must due to a university sponsored activity (with letter from coach, sponsor, etc). I am more willing to give make-ups if *prior* permission is obtained. If an assignment is due on a day you are absent, you must have a valid excuse to receive points on the assignment.

Cheating: Don't do it. Take home exams are to be worked on individually. Students are expected to adhere to the official Academic Dishonestly Policy as stated below:

> *Academic Dishonesty, in whatever form, belies the stated philosophy of WLU "to promote the development of the intellectual, cultural, social, physical, emotional, moral, and vocational capacities of all persons within its sphere of influence." Individuals who commit acts of academic dishonesty violate the principles, which support the search for knowledge and truth. The academic community has established appropriate penalties and disciplinary action for such behavior that can include being expelled from WLU.*

Grading:

My Programming Lab Homework	200 points
Programming Assignments	7×50 points
Exams	2×100 points
Final Progamming Assignment	100 points
Attendance	$50 \times \frac{\text{number of attended classes}}{\text{total number of classes}}$ points

The standard grading scale will be used.

Special Attention: If you have a disability that affects your academic experience and plan to seek accommodations, it is your responsibility to inform Disability Support Services as soon as possible. Disability Support Services is located in the Learning and Student Development Center (LSDC) in Main Hall. Carrie Young is the ADA representative; she can be reached at (304) 336-8216 or by email at carrie.young@westliberty.edu. It is important to request accommodations early enough to provide adequate time to facilitate your request and provide faculty with written verification of eligibility.

Course Outline:

Chapter 1	Introduction to Computers and Java
Chapter 2	Java Fundamentals
Chapter 3	Decision Structures
Chapter 4	Loops and Files
Chapter 5	Methods
Chapter 6	A First Look at Classes
Chapter 7	Arrays and the ArrayList Class
Chapter 8	A Second Look at Classes and Objects
Chapter 9	Text Processing and More about Wrapper Classes
Chapter 12	A First Look at GUI Applications
Chapter 13	Advanced GUI Applications
Chapter 15	Recursion