WKU
CS 180 Computer Science I – Honors Course

Instructor: Dr. Uta Ziegler
Text: Programming and Problem Solving with Java, Nell Dale & Chip Weems, 2nd Edition (2007)
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Office Hours: M: 3:00 – 4:00 and F 10:00 – 11:00
TR 9:30 – 10:30 and TR 2:15 – 2:45
and by appointment.

Course info login information is provided at **ecourses.wku.edu**. Once you log in, all the courses in which you are enrolled show up. Please change your e-mail address to the one you check regularly. Otherwise you might miss out on important information.

Purpose of the Course: A study of the algorithmic approach in the analysis of problems and their computational solutions using a high-level structured language.

Course Objective: After successfully completing this course each student

1. understands and is able to apply the basic principles in object oriented design;
2. is able to read, analyze, and evaluate algorithms written at a suitable level of complexity;
3. is able to develop meaningful algorithmic solutions for simple problems;
4. is able to translate algorithms into readable and modifiable Java programs, and test and debug these programs;
5. is able to read, analyze, and evaluate Java code written at a suitable level of complexity;
6. correctly uses basic control structures, including nested loops;
7. is able to develop solutions using at least two separate classes;
8. knows how to use build-in Java classes, such as the String API
9. is able to write and analyze programs using inheritance and polymorphism
10. understands simple sorting algorithms
11. demonstrates basic writing skills in documenting a program solution.

With respect to Java this course covers the following topics:

- identifier, constants, statements, variable, function, class, object
- File I/O and exceptions
- branching statements: if, if-else, switch, break
- loop statements: for, while, do-while
- method signature, method overloading , internal scope and external scope
- String and Numbers API
- One- and two-dimensional arrays arrays and linear searching
- class members, object members
- inheritance
- polymorphism
- modular design
- simple sorting (bubble sorting)
- Program design, development and testing

In order to meet these objectives, you must work in class as well as outside of class. Activities outside class include working through your notes, reading the appropriate sections in the book, writing short code pieces, reviewing powerpoint slides from class (when provided), find information in the Java API, and working on and completing assignments and simple tasks to bring to the next class meeting.

Attending class: You are required to be prepared for each class and you need to attend every class. Count on working for this class every day! Gatton students must attend classes, so I will follow up if you do not come to class. Take notes which will help you prepare for quizzes, work through the homework, and study for tests. Be engaged, active, and think about what's discussed. Ask questions, venture suggestions, and answer questions. Try to understand as much as possible. Don't be shy about asking questions during class time. Your participation will help shape the class and you will learn more. There is no such thing as a "dumb" question. If you are not sure about something, don't hesitate, ASK!

Preparing for lectures: Work through your notes from the previous class and read through the corresponding sections in the book. Download examples worked in class from ecourses or the CD in your book and see how they work. Deepen your understanding by making small changes. Find more information about existing classes by browsing the API website. Visit me in my office to ask questions. Do **not** wait until you are completely lost. Write down your questions and bring them to class.

Preparing for labs: You need your laptop for the lab sessions, but not for the lecture sessions for now. In order to get the most of the lab sessions, you must read the prelab assignment prior to coming to class. You should also consult the appropriate book chapter to look up/ clarify issues if needed prior to the lab. Each lab starts with the same question: are there any questions about the prelab reading – so if you have some be ready to ask them. Labs will be graded.

Quizzes: There will be quizzes on a regular basis. Quizzes might be given in class or through the course website. Quizzes help you to stay on task and give me feedback on where I might have to spend more time. Your lowest quiz score will be dropped prior to determining your final course grade. Make-up for quizzes is only possible for excused absences and if you make up the quiz **before the day on which it will be returned**. Simple tasks to be completed and turned in at the next class meeting also count as quizzes. Since these tasks will be discussed during the class meeting they are due, they cannot be accepted late.

Assignments: Homework will be assigned on a regular basis. If not explicitly stated otherwise, all homework has to be completed individually by each student, assignments are due at the **beginning** of the class meeting on the day they are due, and all assignments have to be presented **in your own words**. Late assignment will lose 3% per day (off the top), up to a maximum of one week (7 days). **Late assignment will not earn any credit if they are turned in more than a week late or if the assignment has already been returned (whichever happens first).** However, they will be accepted for the purpose of providing feedback to the student (and to meet the requirement of having the assignment turned in (see below)).

Term project: Students have to complete a team term project. The purpose of the term project is for students to develop a running java application based on topics discussed in the course. Such a project might extend some project developed for the course or taken from the textbook. Regular reports (written and/or oral) about the term project will be required as well as a final report. Design documents and implementation must be developed using the guidelines discussed in class. More information will be provided during the semester. Final presentations for the project will be during the last week of classes **and** Monday December 12, 1:00 – 3:00 **and** Friday December 18th at 10:30. Students will be expected to attend all the presentations of their class mates.

Exams: There will be 3 tests and a final. The tentative dates for the tests are September 27th, October 25th, November 22th, and the final is Tuesday, December 13th, 8:00 – 10:00 (for 8:00 section) and Monday, December 12th, 10:30 – 12:30 (for the 12:45 section). Make-ups will be **given only for circumstances beyond your control and if the instructor (or the department) is informed prior to the exam.**

Cheating: Cheating on any student work (assignments, tests, quizzes, project….) may result in a failing grade for the course (WKU policy). Working together on an assignment **in detail** is not allowed. You may **talk about your approach in general**, but exchanging **written or electronic material or sitting on two computers next to each other and developing the same solution is considered cheating**. **Having the tutor tell you what to write is considered cheating.** (The tutor should help you correct **your** work, not provide you with his solution.) You must take steps to safeguard your work. The remainder of this paragraph is a list of examples of what is considered cheating. The list is not exhaustive. Plagiarism is a form of cheating. Copying and pasting from the Internet (or any other source) without giving due credit is cheating. You **must** familiarize yourself with the requirements of giving proper references and what plagiarism is (see http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml for a good starting point on this.) Turning in a program output that looks correct, but is not generated by your program is cheating.

Grading: The homework assignments and term project will count 40 % of the grade (the term project will count as two assignments), labs 10%, quizzes 10%, the tests 20 % and the final 20%. I use the following grading scheme: A: 90-100% **+ all assignments, labs & term project turned in**; B: 80-89.9% or 90-100% and some assignment, lab or term project wasn't turned in; C: 70-79.9%, D: 60 – 69.9%, F: below 60%

Dropping: The last day to drop the class with a W is October 20. After that no one will be dropped except for some truly extraordinary circumstance (failing the class or not being able to keep a scholarship or assistantship does not qualify as "extraordinary circumstance".)

Credit for a course in which a grade of "F" has been received can be earned only by repeating the course in residence unless prior approval is given by the head of the department in which the course was taken.

In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in DUC A-200 of the Student Success Center in Downing University Center.

Please do not request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.