Computer Science 2530
Intermediate Computing
MWF 9:00 – 9:50

Instructor:	Dr. Stephen Hughes	Office Hours:
e-mail:	stephen.hughes@uni.edu	Tues/ Thurs 1:00 – 2:00
		By Appointment or Open Door.
		ITTC 317

COURSE DESCRIPTION

This course is designed to help you understand the design and mechanics of developing programs within an object-oriented environment.   Specifically, the topics in this course will fall into three major themes:

1. *Object Oriented Design and Programming:* We will explore some of the major features and functionality afforded by OO languages.   Emphasis will be placed on analyzing real-world situations to effectively design solutions using an OO approach.

2. *Contemporary Programming:* In addition to the core functionality of a programming language, many languages also support extensions to facilitate implementation of mechanisms that are commonly found in modern day systems. The ability to quickly integrate subsets of these extensions into your working repertoire is an essential skill for computer scientists. We will explore some of these specifically, including Graphical User Interfaces (GUIs), Exceptions, Threads, and Network Connectivity.

3. *Software Development Tools and Processes:* Design skills and a command of language syntax will only take you so far.   Modern software developers augment theses skills with numerous, powerful tools that help them produce quality software.   Among the tools that we will examine are: Integrated Development Environments (IDEs), Unit Testing, Documentation tools, Collaboration tools and techniques for packaging and distributing your code.

COURSE CONTENT

Materials

There is no specific required textbook for this course. We will be using a number of websites and PDFs that will be provided on the e-learning site. Additionally, you will want access to at least one of the following:

1) The ACM Learning Center.   Students can purchase the $19 student membership at http://www.acm.org/membership/student/benefits which will give you electronic access to numerous electronic resources

2) *Big Java: Compatible with Java 5,6 and 7* 4th edition by Cay Horstmann (2009).   This is one of the resources that is available in the ACM Learning center.   I plan to routinely reference this particular book   If you prefer to have a hard copy of a textbook, this one is certain to be consistent with the class.

3) Another comprehensive Java-based programming guide.   You want to make sure that it covers the topics listed in the "Contemporary Programming" theme above.

Grading

Participation Assignments and Quizzes (10%)   Short assignments will be periodically given to assess your preparation for class.   For the most part, these will take the form of a minor task (e.g. discussion questions, running some prepared code, finding a quick example of a concept online or executing a specific set of instructions) and will be graded for completion. Short unannounced quizzes may also be given to ensure that you are keeping up with the pace of the class and to give you a sense of the level of mastery that is expected.

Individual Assignments (30%)   These assignments allow the students to demonstrate proficiency with the current topics in class. They will take the form of problem sets, modeling, coding activities, or formal reflections on a class reading.   There will be approximately 8 to 10 assignments over the course of the semester.   I reserve the right to lower your final grade in the course by one grade level (for example, lower a B to a B-) for each programming assignment for which you fail to submit at least some evidence of effort towards completion. If an assignment has you completely stumped but you gave it some effort, show me that you made that effort.

Midterms & Final Exam (60%)
There will be two midterm exams and a comprehensive final exam.   Questions on the exam will be predominantly short-answer style questions, including, in some cases, producing short code snippets. Generally, you will be asked not only to provide a "correct" answer, but also justification for that answer as well. The final exam will be weighted slightly higher than the midterm exams.   Moreover, I reserve the right to reduce the final grade by up to one letter grade for any student who receives less than 50% on the final exam.

Letter grades will be assigned based on the following scale.

	$87 \leq$ B+ < 90	$77 \leq$ C+ < 80	$67 \leq$ D+ < 70	
$93 \leq$ A	$83 \leq$ B < 87	$73 \leq$ C < 77	$63 \leq$ D < 67	F < 60
$90 \leq$ A- < 93	$80 \leq$ B- < 83	$70 \leq$ C- < 73	$60 \leq$ D- < 63	

COURSE POLICIES

Prerequisite
As a prerequisite for this course, you are expected to have earned a grade of C or better in CS 1520 and CS 1800. If this is not the case, please contact me immediately.

Attendance Policy
Class attendance is vital to your success in this course; material covered during missed sessions is the responsibility of the student. Conversations held in class illuminate the published class materials and are subject to evaluation on subsequent quizzes and exams. Moreover, any in-class graded material (quizzes, classwork) miss will not be available for make-up.

Office Hours
Office hours are an opportunity for you to clarify details you may have missed in class. If you come to office hours with a problem on the assignment, you should come prepared to answer questions, as well as asking them. If you have questions regarding code, you also should come prepared with access to an electronic version of your work.

Academic Integrity
Honesty and integrity are qualities we value in ourselves and in others. Therefore, you are expected to be fully aware of your responsibility to maintain the highest degree of integrity in all of your work. It is accepted that you have read and understood the standards for academic integrity at the University of Northern Iowa, and will abide by these standards for this course.

Electronic Devices
As a courtesy to me and your peers, cell phones and other personal communication devices should be *turned off* or silenced prior to entering the classroom. If you wish to use your laptop during class, be sure that it is being used for activities that are directly related to the classroom discourse. *I reserve the right to change this policy at any point during the semester*.

Special Services
If you have special academic or physical needs requiring accommodations, please meet with me during my regular office hours or schedule an appointment as soon as possible. We need to discuss any accommodations before they can be implemented.

Late Work/ End of Course
All assignments are expected to be submitted on time. I understand that events sometimes conspire against us. If your work is going to be late, you should contact me in advance to ***negotiate*** a new deadline. Work that is submitted late without prior approval will not receive full credit; work submitted beyond two weeks of the deadline will not be accepted. This course officially ends with the scheduled Final Exam session. No work for this class will be accepted beyond that point.