Instructor: Cynthia Tanner  
250 AER  
cindy.tanner@mail.wvu.edu  
304 293 9138

Class Meets: T 6-8:20 pm.

Office Hours: contact to make an appointment

Course Pre or Co Requisites:

Instructor Consent

Course Description:

This course serves as an introduction to developing application software. It covers solving problems using the Java programming language. Topics include problem-solving, fundamentals of programming, basic algorithms and data structures, data organization, defensive programming, relational databases and creating database applications.

Expected Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Use data structures and recursion for solving problems.

2. Design and implement classes using inheritance and polymorphism.

3. Develop applications using the Java programming language.

4. Utilize a relational database in an application.

Course Resources:

Selected chapters from the following eBooks available from WVU libraries.
Course Requirements

Tentative Course Schedule:

<table>
<thead>
<tr>
<th>Week, Module, Unit Title</th>
<th>Assignments &amp; Assessments Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1-3 Module 1: Basics: Problem Solving Techniques Data Types: Primitive types Classes Java API Sequential Statements Methods Selection Iteration File-IO Defensive Programming Advanced Data types: Arrays, one and two dimensional Recursion Threads</td>
<td>Program Set 1</td>
</tr>
<tr>
<td>Week 4-6 Module 2: Classes Inheritance Advanced Applications</td>
<td>Application Project 1</td>
</tr>
<tr>
<td>Week 7-10 Module 3: Data Organization Stacks Queues Linked Lists Binary Search trees HashMaps HashFunctions</td>
<td>Program Set 2</td>
</tr>
</tbody>
</table>
Evaluation/Grading:

The assigned work will include two programming assignment sets and two large-scale applications. The program sets will be individual projects. The large-scale applications will be group projects.

- Program Set 1 – 15%
- Program Set 2 – 15%
- Application Project 1 – 30%
- Application Project 2 – 30%
- Discussion Participation – 10%

Course Grading Scale:

90-100% = A
80-89.9% = B
70-79.9% = C
60-69.9% = D
Below 59% = F

Late Assignments:

Late assignments will not be accepted. Partial credit will be given.

WVU Course Policies/Statements:

Academic Integrity *

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University Academic Catalog at http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#academicintegritytext. Should you have any questions about possibly improper research citations or references, or any other
activity that may be interpreted as an attempt at academic dishonesty, please see me before the
assignment is due to discuss the matter.

Inclusivity Statement *

The West Virginia University community is committed to creating and fostering a positive learning and
working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to
participate in this class, please advise me and make appropriate arrangements with the Office of
Accessibility Services (293-6700).

For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please
see http://diversity.wvu.edu

Sale of Course Materials

All course materials, including lectures, class notes, quizzes, exams, handouts, presentations, and other
materials provided to students for this course are protected intellectual property. As such, the
unauthorized purchase or sale of these materials may result in disciplinary sanctions under the Campus
Student Code.

Student Evaluation of Instruction

Effective teaching is a primary mission of West Virginia University. Student evaluation of instruction
provides the university and the instructor with feedback about your experiences in the course for
review and course improvement. Your participation in the evaluation of course instruction is both
strongly encouraged and highly valued. Results are strictly confidential, anonymous, and not available to
the instructor until after final grades are released by Admissions and Records. Information about how
you can complete this evaluation will be provided later.

Attendance Policy

At West Virginia University, class attendance contributes significantly to academic success. Students
who attend classes regularly tend to earn higher grades and have higher passing rates in courses.
Excessive absences may jeopardize students' grades or even their ability to continue in their courses.
There is a strong correlation between regular class attendance and academic success.

Feedback Response Time

I generally reply to email and discussion posts within 48 hours, except during holidays. Often I will reply
much more quickly, but you should not count on a same-day reply. Please plan accordingly so that you
do not miss deadlines! I generally return assignments within one week of when a discussion or
assignment closes. If you would like to get help on an assignment ahead of the deadline, please email me!
I am happy to give preliminary feedback or answer questions.