

# George Washington University

## Course Syllabus

<i>Course Number</i>	<i>Course Title</i>
CSCI 253	Computer Science

  

<i>Fall Semester</i>	<i>Spring Semester</i>	<i>Summer Semester</i>	<i>Year</i>
	X		2009

  

<i>Name of Instructor</i>
George Blankenship

  

<i>Meeting Day, Time, and Room Number</i>
Wednesday, 6:10 pm – 8:40 pm, Rome 459

  

<i>Office Hours</i>
(Wednesday before class and by appointment) telephone: (703) 734-0227 - office (703) 622-2315 - cell email: <a href="mailto:BlankenG@GWU.edu">BlankenG@GWU.edu</a>

### 1. **BROAD PURPOSE OF COURSE**

This course studies the underlying foundation of object oriented design. It presents conceptual models that can be applied to create clear and structured object oriented solutions. Student should be comfortable with Java programming; a Java class or text book would help the student understand background concepts.

This course presents an overview of key Java concepts and UML. The student will be introduced to the major concepts of the use of design patterns to construct object oriented solutions. The class will also examine code

using the different types of design patterns to expose the objective of each pattern.

The course focus is object-oriented systems, software reusability, software modularity, top-down and bottom-up approaches, object classification, genericity, metaprogramming, concurrent object-oriented programming languages. Prerequisite: CSci [210](#). (Spring)

## 2. COURSE OBJECTIVES

Upon successful completion of the course students will be expected to understand:

- a) UML diagrams of object classes
- b) The purpose for using software frameworks
- c) The basic patterns used to create objects
- d) The basic patterns used define the structure of programs and objects
- e) The basic patterns used to control the behavior of programs and objects

## 3. TEACHING METHOD

The class will consist of lectures, formal and informal discussions, homework assignments, programming assignments and a research project. All notes will be posted on the class web page the blackboard (<http://blackboard.gwu.edu/webapps/portal/frameset.jsp>).

## 3. GRADING POLICY

Course grades will be computed according to the following percentages:

Homework	40%
Research Project	40%
Class participation	20%

Homework is due two weeks following the assignment. It can be delivered by email to [BlankenG@GWU.edu](mailto:BlankenG@GWU.edu), on a floppy, or in printed form; email is the preferred method of delivery. *Each page of the homework must have the student's name and id, date, and assignment number. Each page*

*should be numbered "page x of y". If an assignment is submitted in hardcopy (paper) form, it should be stapled.* It is too easy to lose or misplace homework. Each student is expected to keep a copy of all homework and projects submitted. Homework will be assigned in most classes. Late homework risks a grade of zero. It is better to turn in an incomplete homework assignment for a partial grade, than to accept a zero. Generally each homework assignment will include extra credit problems; late homework will not receive extra credit points. All of the homework assignments will be averaged for an overall homework grade. The homework and research assignments represent 80 points of the final grade.

Active participation is encouraged in the class. Questions and discussions are a significant portion of the learning experience. Class participation will be worth 20 points of the final grade. Repeated absence, or tardiness, can generate a negative value for class participation.

#### 4. **CLASS SCHEDULE**

The following table gives the topics covered in each class.

<b>Date</b>	<b>Material to be covered (or other task)</b>
<b>1/14/08</b>	Introduction Java review
<b>1/21/08</b>	Java review
<b>1/28/08</b>	Java review UML overview Frameworks
<b>2/4/08</b>	Creational patterns
<b>2/11/08</b>	Creational patterns
<b>2/18/08</b>	Creational patterns
<b>2/25/08</b>	Structural patterns
<b>3/4/08</b>	Structural patterns
<b>3/11/08</b>	Structural patterns
<b>3/25/08</b>	Behavioral patterns
<b>4/1/08</b>	Behavioral patterns
<b>4/8/08</b>	Behavioral patterns

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<b>Date</b>	<b>Material to be covered (or other task)</b>
<b>4/15/08</b>	<b>Presentations</b>
<b>4/22/08</b>	<b>Presentations</b>
<b>5/6/08</b>	<b>Presentations (if necessary)</b>

5. **REQUIRED TEXT**

Metsker, [\*Design Patterns in Java\*](#), 2<sup>nd</sup> edition, Addison Wesley, 9780321333025

Gamma, [\*Design Patterns\*](#), Addison Wesley, 9780201633610

Gamma, [\*Design Pattern \(CD ROM edition\)\*](#), Pearson Education, 9780201634983

6. **REQUIRED OR SUGGESTED READINGS OR AUDIO-VISUAL MATERIALS**

(Please review the class web page: <http://home.gwu.edu/~blankeng>)

6. **Academic Integrity**

A learning experience is a combination of independent study and co-operative investigation with both the instructor and classmates. The results of the learning experience are measured by the achievement of the individual. Co-operative study is encouraged; however, all work submitted must be the result of the individual submitting the work and all other sources must be acknowledged.

This class, along with all classes at GWU, follow the "[The George Washington University Code of Academic Integrity](#)".