

## SU DEPARTMENT OF COMPUTER SCIENCE SYLLABUS

### COSC 330 *GUI Design, Event-driven Programming and OO Design Patterns*

#### **Description:**

This course covers three related topics: event-driven programming, graphical user interface (GUI), and object-oriented (OO) design using design patterns. The event-driven model will be examined throughout the course. OO design will be introduced through the analysis of design patterns. There will be several programming projects for this course. Three hours per week.

**Prerequisite:** COSC 220 with a grade of C or better.

#### **Required books:**

There is NO required textbook for this course. The course materials are mainly selected from the following reference books and online.

#### **Reference books:**

- “Head First Design Patterns” (3ed) by Eric Freeman and Elisabeth Freeman; O’Reilly, 2004.
- “Object-oriented Design and Patterns” (2nd) by Horstmann; Wiley, 2006.
- “Design Patterns Explained” (2nd) by Shalloway & Trott; Addison-Wesley, 2005.
- “Java - How to Program” (6th) by Deitel & Deitel; Prentice Hall, 2005.
- “UML Distilled” (3ed) by Fowler & Scott; Addison Wesley, 2004.

	<i>Weeks</i>
<b>Module 1</b> Course overview, discussion on advanced object-oriented features such as inheritance and composition, polymorphism, interface and abstract class in Java	2.0
<b>Module 2</b> Introduction to design patterns: strategy pattern, observer pattern, event-handling in Java	2.5
<b>Module 3</b> More design patterns: adaptor pattern, decorator pattern, facade Pattern, model-view-controller pattern and GUI design principals, GUI development in Java	3.0
<b>Module 4</b> Continue to discuss design patterns such as template method pattern, state pattern, factory method pattern, etc., introduction to Android application development	4.0
<b>Module 5</b> Refactoring using object-oriented design principles	1.5
<b>Test</b>	1.0
<b>Total</b>	<b>14.0</b>

#### **EVALUATION**

Homeworks – 10%  
Programming projects - 40%  
Presentation projects - 10%  
Midterm exams - 20%  
Final Exam - 20%

**Policy for determining letter grade for the course is below:**

Letter grade	Undergraduate students final grade
A	90% above
B	>=80% and <90%
C	>=70% and <80%
D	>=60% and <70%
F	<60%

Exercises and Activities: This course contains list of programming assignments and projects. The programming will be out of classroom and lectures and discussion will be in the classroom.

Writing Across the Curriculum:

The Computer Science Department supports the SU position that graduates will be able to communicate clearly and correctly in all written work. This course is in full support of the emphasis to give the students every opportunity to reinforce their skills in expository writing. For that reason, all student written work are subject to the following guidelines: correct spelling, punctuation, grammar, content and organization.

Additional information:

- The course does not satisfy a general education requirement.
- Should inclement weather result in classes being canceled information will be given to all local radio and television stations. Students can receive information concerning cancellations by listening to local stations or by calling the Gull Line at (410) 546-6426. The institutional policy with regard to closing is that unless there are the most dire circumstances the institution will remain open for business. Students must exercise their best judgment about whether they attend class. Different conditions prevail for each individual under inclement weather situations so the decision should be essentially an independent one. If you do not hear an announcement about cancellation of classes, then classes and events will be held as scheduled. Please do not call the University Police Office about cancellation notices so that office can assist with emergency needs.
- Students are not to be penalized because of observances of their religious holidays and are to be given opportunity, wherever feasible, to make up within a reasonable time any academic assignments missed due to participation in religious observances.  
<https://www.usmd.edu/regents/bylaws/SectionIII/III510.html>
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