

# **COURSE OUTLINE**

## **CMSY-251**

### **Object Oriented Analysis and Design – Rational Rose**

**3 Semester Hours**

## **HOWARD COMMUNITY COLLEGE**

### **Description**

Upon completion of this course, the student will be able to use a Unified Modeling Language (UML) with Rational Rose to depict classes, logical packages, objects, operations, component packages, modules, processors devices and the relationships between them. Prerequisite: CMSY-195 or CMSY-181 or CMSY-141. (2 hours lecture, 3 hours lab).

### **Overall Course Objectives**

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

1. Define and describe classes and objects.
2. Analyze business problems through the use of Use Cases by developing Use Case Diagrams.
3. Create Data Classes to represent the business objects.
4. Create diagrams depicting solutions to business problems.
5. Develop Interaction Diagrams to show the relationships between components.
6. Develop State Diagrams to show the various stages through which objects progress.
7. Collect objects into packages called a Component Package and represent that with a Component Diagram.
8. Produce a Deployment Diagram which describes the implementation strategy.
9. Use a UML language to do code generation.

### **Major Topics**

- Introduction to OO
- Use Case Diagrams
- Class Diagrams
- Interaction Diagrams
- State Diagrams
- Component Diagrams
- Deployment Diagrams
- Code Generation using UML

## **Course Requirements**

### **Grading/exams:**

This course will be case driven and require the student to work both individually and in groups to design and create objects to be used in the development of Computer Application Systems. Grading procedures will be determined by the individual faculty member but will include at least 12 homework/lab assignments.

## **Other Course Information**

Meets college definition for a Business elective.