# CS151 Course Assessment Report

**Author: Semester:**

## Part 1: Course Summary

### 1. Course Catalog Description:

|  |  |
| --- | --- |
|  | **Course Catalog Description** |
| **Course Description** | Design of classes and interfaces. Value and reference semantics. Object-oriented design methodologies and notations. Design patterns. Reflection and serialization. Exception handling. Graphical user interface programming. Frameworks and components. Multithreading. Required team-based programming assignment (required as of Fall, 2007). |
| **Prerequisites** | Math 42, CS 46B, and CS 49J (or equivalent knowledge of Java) (with a grade of "C-" or better in each) or instructor consent. |

### 2. Course Learning Objectives:

|  |  |
| --- | --- |
| **Item** | **Objective Description** |
| CLO1 | Introduce core UML concepts |
| CLO2 | Introduce a simplified OO analysis and design methodology |
| CLO3 | Present the concept of design pattern |
| CLO4 | Present the concept of a software framework |
| CLO5 | Make students proficient in the use and creation of interfaces and inheritance hierarchies |
| CLO6 | Make students proficient in the Java type system |
| CLO7 | Introduce threads and thread safety |
| CLO8 | Introduce a GUI toolkit, including basic widgets and the event handling mechanism |

### 3. Course Details:

See the course syllabus: <https://www.cs.sjsu.edu/private/pse/syllabi/CS151.html>

### 4. Program Outcomes Enabled/Assessed:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **BSCS (BSSE) Outcomes Enabled** | | | | | | | | | | |
| **Course** | **a (1)** | **b (5)** | **c (3)** | **d (4)** | **e (6)** | **f (7)** | **g (8)** | **h (9)** | **i (11)** | **j** | **k** |
| CS151 | **2** | **3** | **3** | 3 |  |  |  |  | 2 | 3 | 2 |

An entry in a cell indicates that the course enables the corresponding outcome. The number (1, 2 or 3) indicates the level of achievement expected in the Course, 1 indicating Beginner, 2 Intermediate, and 3 Advanced.

Outcomes in parentheses indicate the corresponding BSSE program outcome. A complete list of BSCS outcomes can be found at: <http://www.sjsu.edu/cs/assessment/bscs/outcomes/>. A list of BSSE outcomes can be found at: <http://cmpe.sjsu.edu/bsse/outcomes/GEOutcomes/>

Bold face entries indicate the corresponding BSCS outcome is assessed for the course. Underlined entries indicate the corresponding BSSE outcome is assessed for the course.

Outcomes are assessed according to the following two year schedule:

|  |  |
| --- | --- |
| Semester | Outcomes Assessed |
| Spring 1 | a (1), j |
| Fall 1 | b (5), c (3), d (4) |
| Spring 2 | e (6), f (7), g (8) |
| Fall 2 | h (9), i (11), k |

## Part 2: Assessment Results

### BSCS Outcome b: An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

### (BSSE Outcome e: An ability to identify, formulate, and solve engineering problems)

|  |  |  |  |
| --- | --- | --- | --- |
| **Performance Indicator** | **1** | **2** | **3** |
| **beginning** | **satisfactory** | **exemplary** |
| **Identify required classes/interfaces and their relationships for a given problem description. Depict the corresponding class diagram. (assessed with an exam question)** | Most of required classes and relationships are missing. Fail to produce the corresponding class diagram | Identified most of required classes and relationships. Depicted a class diagram with a few errors. | Correctly identified required classes/interfaces and their relationships. Correctly depicted the corresponding class diagram |
| Number of Students |  |  |  |
|  |  |  |  |
| **For a given problem description, select a design pattern suitable to solve the problem. Draw the class diagram that depicts the selected design pattern. (assessed with an exam question)** | Selected a wrong design pattern | Selected a correct design pattern and drew the corresponding class diagram with a few errors | Selected a correct design pattern and drew the corresponding class diagram correctly |
| Number of Students |  |  |  |

### BSCS Outcome c: An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

### (BSSE Outcome c: an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability)

|  |  |  |  |
| --- | --- | --- | --- |
| **Performance Indicator** | **1** | **2** | **3** |
| **beginning** | **satisfactory** | **exemplary** |
| **Design and implement a reusable program using polymorphism concept. Show the program works for different objects according to polymorphism. (assessed with an exam question)** | Does not know how to apply polymorphism concept to the problem | Produced a correct reusable program, but failed to show that it runs for different objects according to polymorphism | Produced a correct reusable program and successfully showed that it runs for different objects according to polymorphism |
| Number of Students |  |  |  |
|  |  |  |  |
| **Design and implement a program based on the MVC model. Show the model, view, and controller parts of the program works as expected. (assessed with an exam question)** | Does not know how to use the MVC model | Produced a working program based on the MVC model with a few errors in assigning responsibilities to model, view and/or controller parts of the program | Produced a working program based on the MVC model and successfully showed the model, view, and controller parts of the program work as expected |
| Number of Students |  |  |  |

### BSCS Outcome d: An ability to function effectively on teams to accomplish a common goal

### (BSSE Outcome d: An ability to function on multidisciplinary teams)

|  |  |  |  |
| --- | --- | --- | --- |
| **Performance Indicator** | **1** | **2** | **3** |
| **beginning** | **satisfactory** | **exemplary** |
| **Teamwork (assessed with a team project survey)** | Team did not collaborate well. | Team collaborated well with only a few occurrences of communication breakdowns. | Team collaborated well. |
| Number of Students |  |  |  |
|  |  |  |  |
| **Contribution (assessed with a team project survey)** | Contribution of each member is not balanced at all. Some team members worked independently without regarding the goal of the project. | Some team members contributed more to certain deliverables, but the contribution of each member eventually balanced out through the entire project. | Each team member made equal contribution throughout the project. |
| Number of Students |  |  |  |
|  |  |  |  |
| **Subject Knowledge (assessed with a team project)** | Does not know how to incorporate the course content into the project. | Demonstrated the knowledge of course content by incorporating appropriate concepts into the project. | Demonstrated the knowledge of course content by incorporating appropriate concepts into the project. Showed a research effort to adopt new knowledge into the project. |
| Number of Students |  |  |  |
|  |  |  |  |
| **Functionality (assessed with team project)** | Program does not run and/or does not satisfy most of the requirements. | Program runs and satisfied most of the requirements. | Program runs and satisfied all of the requirements. |
| Number of Students |  |  |  |
|  |  |  |  |
| **Final Documentation (assessed with team project report)** | Poor documentation | Presents all required items at the acceptable level of quality | Presents all required items. Clear, consistent, accurate, sufficient and well organized |
| Number of Students |  |  |  |

## Part 3: Assessment Conclusions, Findings, and Recommendations

### BSCS Outcome b (BSSE Outcome e) conclusions

### BSCS/BSSE Outcome c conclusions

### BSCS/BSSE Outcome d conclusions

### Findings and Recommendations