**College of Technological Innovation**

**Fall 2017**

**SWE-320**

**Final Group Project Deadline, November 22, 2017 *\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Design and develop a GUI Java application to calculate the **semester GPA** for Zayed University student.

The user should enter the following:

**1. Semester, Student Name, Student ID, and credits completed by student**

**2. Five classes, their credit units (range between 1-4), and the score for each class**

When the user clicks on the command button “**Student** **Status**”, the application should display the

following output:

1. **Student name**

2. **Semester GPA**

3. **Academic Standing**

4. **Student GPA**

Here is the formula to calculate the Semester GPA,

**Semester GPA**= ((P1 \* U1) + (P2 \* U2)+ (P3 \*U3) + (P4\*U4) + (P5\*U5)) / **Total credit units**

**Total Credit Units**= U1 + U2 + U3+U4+U5 , Where as,

P1: Grade points of class 1 U1: credit units of class 1

P2: Grade points of class 2 U2: credit units of class 2

P3: Grade points of class 3 U3: credit units of class 3

P4: Grade points of class 4 U2: credit units of class 4

P5: Grade points of class 5 U3: credit units of class 5

Use the following **table** for the letter grade points

**Grade Points Table**



Use the following **table** to determine the academic standing

**Semester GPA Standing**

**\_\_GPA\_\_\_\_\_\_\_\_\_\_Standing\_\_\_\_\_\_\_\_\_\_\_\_**

0.0 – 0.9 Poor

1.0 - 1.9 Satisfactory

2.0- 2.9 Good

3.0 - 4.0 Excellent

Use the following **table** to determine the student rank

**Credits Completed Rank**

**\_Hours completed\_\_\_\_\_\_\_\_\_\_\_Rank\_\_\_\_\_\_\_\_\_**

0-30 Freshman

31-60 Sophomore

61-90 Junior

90 or more Senior

Here is a sample of home screen layout of the Semester GPA Calculator application



Run sample



**Report Format**

Section 0: Cover page, include project title, student names and submission date

Section 1: problem description as given to you in class

Section 2: Solution Design:

In this section you should provide the UML class diagram. There are two classes **student** and **Course**

Section 3: Implementation:

In this section, you should list your complete Java Code. Make sure that your code is optimized for speed and efficiency.

Section 4: Evaluation

In this section, you should include a screenshot of your program’s output, based on the sample input provided in the previous page. Your output should be as close as possible to the solution provided in the previous page.

Section 5: Self-reflection

In this section, the following questions should be answered:

1. How did you work on the project?

2. What did you learn our of the project?

3. How much time did you spend working on the project?

4. And what is your personal opinion about the project?