**CSC 572A – Project**

The project is completed in two parts. Part 1 is the information-level design phase, worth 40 points. Part 2 is the implementation (physical-level design phase), worth 60 points. If you have questions about any of the user views please request clarification.

**Marvel College**

Marvel College needs a database system which will satisfy the following assumptions and requirements.

1. Each faculty member is assigned to exactly one department.

2. Each student can be employed by more than one department. Each student may work for a given department in only a single capacity, however.

3. Each student graduated from exactly one high school.

4. Each student has exactly one faculty member as an advisor. The advisor must be assigned to the department in which the student is majoring.

5. The grade that a student receives for a course has to be one of the values (A, B, C, D or F). A student may only take a specific course one time.

6. The database system must be able to support the following queries (the user is prompted on the screen to provide the department, faculty, course or student number to get the information requested):

a. For a given department, list the number (D2) and name (C20) as well as the number (D4) and name (C20) of all faculty assigned to the department. In alphabetical order by faculty name.

b. For a given department, list the number and name as well as the number (D4) and name (C20) of all students who work for the department and the capacities (C20) in which they work. In alphabetical order by student name.

c. For a given faculty member, list the number and name as well as the numbers, names, and GPAs (D3,2) of all students advised by the faculty member.

d. For a given course, list the number (C6), description (C20), and number of credits (D1) offered by the course as well as the number and name of each of the faculty members who is capable of teaching the course.

e. For a given student, list the number and name of the student as well as the number, description, and number of credits of each of the courses taken by the student as well as the grade (C1) received for each course.

7. The database system must be able to support the following printed reports:

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a. For each faculty member, list the number and name as well as the number and name of the department to which the faculty member is assigned. Printed in alphabetical order of faculty name.

b. For each student, list the number, name, and GPA as well as the number and name of the student’s advisor and the number and name of the department in which the student is majoring. Printed in alphabetical order of student name.

c. For each course, list the number, description, and the number of credits. Printed in course number order.

d. For each high school, list the code (C6) and the name (C20) as well as the number and name of all of the students at Marvel College who graduated from the high school. Printed in alphabetical order of high school name and then alphabetical order of student name within each high school.

e. For each student, list the number, name, and GPA of the student as well as the code and name of the high school from which the student graduated and the number and name of all the departments in which the student is working and in what capacities. Printed in student number order with department number order within each student.

8. The system must also satisfy the following input screens (forms):

a. Input a new course.

b. Input a new student.

c. Input a new faculty member.

9. The final system should be packaged as an application. It should contain a main switchboard (with possible sub-switchboards), a security plan, forms, reports, views and a rationale for assigning new Ids.