

Request for Proposal

CECS 343 Spring 2019

You are being asked to design and build a software system for a small university. The software must be a desktop application and written using either Eclipse with Java or Visual Studio with C++. I must be able to build and run your deliverables using a CECS lab load. I.e., the software that is installed in our computer labs. It must use a database and that database must be accessible from your executable without me having to use any software other than the lab load and what comes bundled in the image built by your IDE project. We will discuss alternatives for this in class.

Functional Requirements:

1. Allow for a University name of at most 60 characters. Must be configurable.
2. Allow for up to 10 colleges in the University.
3. College Name (60 characters)
4. College Dean (60 characters) Must be an Employee
5. Each College Contains up to 30 departments.
6. Department Name (60 characters)
7. Department Chair (60 characters) Must be an Employee
8. Each Department contains up to 50 Majors.
9. Major Name (60 characters)
10. Each Major contains up to 100 courses.
11. Course Name (60 characters)
12. Course Pre-requisites – a list of courses from any college/department/major
13. Each course can have any number of sessions.
14. Each Course Session has a Semester (Fall/Spring), Building Name, Room Number in Building, Start Time (Hour / Minute), End Time (Hour/Minute) Professor, List of enrolled students
15. Each Building/Room has an occupancy limit. This is the enrollment limit for any course in that room.
16. Each Professor must be an Employee.
17. A Professor may teach any course/section of the university.
18. Each Employee has a First Name, Last Name, Middle Initial, Salary (Float)
19. Each Student has a First Name, Last Name, Middle Initial. They must be registered in order to take courses. For each semester they must have paid the tuition in order to take classes.
20. Each student may take up to 20 units per semester
21. Students must have completed all prerequisites of a course in order to enroll in a course.
22. Only university Administrators may maintain
 - a. University's Name
 - b. Employees
 - c. Colleges

- d. Departments
 - e. Building Names, Room Numbers and Occupancies
 - f. Courses
 - g. Sessions for Courses
 - h. Assign Professors, Building Names/Room Numbers for a course/session.
 - i. Assign grade to a student for a course/session.
 - j. Indicate a student has paid tuition for a given semester.
23. Students may only add course/sessions and drop course/sessions.
24. A Professor may not have any time conflicts
25. A Student may not have any time conflicts
26. A Building/Room may not have any time conflicts.
27. Need displays for: (Contents will be specified in class)
- a. College/Department list
 - b. Department/Course list
 - c. Sessions
 - d. Student schedules

This is the basic system. I will be filling out more details and adding more functionality in class as part of your requirements analysis.