

CS 309 Database Management System
Muntabir Choudhury, Jared Fellenbaum, Gibran Roye
EC Database Project

Elizabethtown College (EC) is a small liberal arts college in United States which located in Elizabethtown, PA. The school was founded in 1899 by the members of the 'Church of Brethren'. It is commonly referred as 'Etown College' and has an undergraduate student body population of approximately 1,900. The missions of this college are: transformative educational experience, qualities of education, relationship centered learning, international cross cultural perspective, experiential learning and purposeful life work.

Elizabethtown College is divided into several academic departments, each offering a variety of programs, activities and organizations. The college offers several interdisciplinary majors, minors, and advising programs and it employs a variety of staff consisting of a dean, professors, and non-teaching faculty. Each department employs a number of professors who are assigned to teach multiple classes during the semester. Each professor can be an academic or a FYS advisor for many students. Also, several departments have few professors who doesn't teach students but are assigned to do research. The classes are located in different academic buildings: Hoover, Science & Master's Center, Steiman, Zug, Thompson Gymnasium, and Nicarry. During each semester, every department offers many classes. However, a lot of classes may or may not offer in every semester. For instance, if Database Management classes are offered in the Fall semester of even numbered years then it will not be offered in the Spring semester of odd numbered years. Mainly, these programs generate classes. Since the class sizes are small to keep maintain the quality of education, each class has a limit to restrict the number of students that can take that class. Students are responsible to do advising with their assigned advisor and requesting for enrolling into specific classes they want to take through 'Jay Web'.

Departments play a great role in Elizabethtown College. With the help of each department we can have the information about the population of undergrad student, quality of research, and each student record. Having this information helps the department to understand how many students and faculty they have, which major needs a new professor, which student have done internship or research, the timeframe to offer classes, and any additional research that needs to be conducted.

The exact report we will be created are:

- **The number of students who have gone to professor for advising.**
Record and registration office always puts a hold on every student's account prior to meeting with their advisor. So, each student need to meet with their advisor for advising session to take classes in each semester. This report will be allowing us to track down those students who meet with their professor. This query is important because we will be able to know that how many students actually have done advising to put off holds from their account.

- **Display the professor's number with each class.**
A program can hold different classes during each semester, these classes are taught by different professors. So, this query will allow a department to track down how many professors are associated with each class they are taken.
- **Produce a report that shows the number of enrollments in each class.**
Each class have constraints towards the student enrollment. This report will allow us to know how many students are enrolled in each class. According to college policy, if a class has less enrollment than its capacity then that class will be cancelled. Therefore, with this query we can obtain the result that will allow us to know which class needs to be cancelled and the number of enrollment in each class.
- **Display how many professors are in each department and show how many specialties are then in each department.**
By doing this we will know if a department is overpopulated and we will be able to split according to the number of specialties inside the department. It will also allow us to know how many classes can be offered during a semester.
- **Display the number of classes offer in each semester.**
This report will allow us to know how many classes are going to offer in each semester. Each department offers a number of classes during different period of time based on even and odd numbered years. By doing this query, we can definitely track down what classes are offering in each semester.
- **Count the number of classes that are going to teach by a specific professor**
When a professor is assigned to teach classes, they will be added into the list of classes he is going to teach that semester. It is common for a department to alternate the professor teaching a class. Through this query, students will be able to know which classes a professor will teach, simultaneously, allowing a department to track which professor are teaching what classes.
- **Establish what departments are in the school.**
This is so possible students who are wanting to enroll into the school know what that school offers. We also need to do this so we can hire the appropriate professors and faculty.
- **Limit the number of classes that an enrolled student may take.**
This limit is set to ensure that students do not have too many classes or too few of classes to be considered a student. If the student does not enroll for enough classes/credits, they are not considered a full-time student and if the student enrolls for too many classes/credits, they will be considered to have an overloaded schedule.

- **Limit the number of classes offered in a semester.**
This is to limit the number of classes a professor can teach. This will ensure that the professor's schedules are not overloaded. If the classes offered during a semester, we may run into not having enough professors to teach all of the classes.
- **Enrollment will be available in a set time window.**
This is to prevent inaccurate numbers of students per class. It also gives the professor the knowledge of how many students they will be teaching and how to prepare the class material.
- **Count the number of credits earned by each student.**
This information will be useful for future organization of the courses and classes. This is to identify which year they are. Moreover, this information will be kept into account when preparing next semester course offer.
- **Keep a class record for each student.**
This will be necessary to see if a student can/is allowed to enroll in a particular class. Also we will want to know if that student has completed their program. If we would not keep this information, we would not know what the student has accomplished.