**CIS 515 Week 3 Assignment 3 Submission**

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Instructors, training on how to grade is within the Instructor Center.

**Assignment 3: University Database** Due Week 3 and worth 120 points

A prestigious university has recently implemented a consolidation strategy that will require it to centralize their student records. In order to move forward, the local university will need to develop a data model that will retain student records and perform various data extract transform and load (ETL) processes. Imagine that you have been hired as a database consultant to assist in the development of a data design strategy for the student records.

You met with various university subject matter experts and have determined the following after performing various business analysis processes:

* Faculty groups are divided by core competencies that the university offers. For example, there are groups such as the Art Faculty, Computer Technology Faculty, Language Faculty, and Science Faculty. Each faculty member has an assigned Dean and is designated to teach at one particular campus and school. They are able to teach as many courses as required.
* Courses are categorized by course code and title. Certain courses have prerequisites and the university has asked for this to be cataloged as well.
* There are various schools within each campus. For example, the Los Angeles campus holds the following schools: School of Science, School of Law, and School of Computer Technology. Additionally, each school offers different professional study programs such as Forensic Computer Science, Marine Biology, Business Management, and Civil Engineering to name a few.
* The study path for students requires that they be enrolled in a specific professional study program. The professional study program requires the students to complete a specific set of core courses. The university also requires that an online grade book be available. The online grade book should show grades awarded to students for specific courses and the term they completed the course.
* The university identifies each student by his or her name, date of birth, social, and professional study program.

Using these findings, write a three to four (3-4) page paper in which you:

1. Analyze the university’s requirements and provide a proposal to organize all the required data elements. The proposal should include the following:
   1. Provide an Entity Relationship Model (ERM) that will describe the data structure that will store all data elements. **Note:** The graphically depicted solution is not included in the required page length.
   2. Describe any assumptions or limitations for each relationship. For example, professors are able to teach more than one course or students can only be enrolled in one program.
2. Create the primary key and foreign keys using a UML Class diagram for each table.
3. Suggest at least four (4) types of business intelligence reports that could help the university in course management, student enrollment, or historical tracking. Support your answer by providing specific business functions that these reports could assist executives of the university.
4. As an alternative for development of the database, you are considering outsourcing the functions above. Research the Internet and other media sources for vendors who develop registrar and school management database systems.
   1. Suggest three (3) vendors that developed and are employing efficient registrar and school management database systems and support your reasons to choose from one (1) of these three (3) vendors.
   2. Compare and contrast the key aspects that each system offers. Examples of system aspects include but not limited to cloud based, pricing model, open source, etc.
5. Use at least three (3) quality resources in this assignment. **Note:** Wikipedia and similar Websites do not qualify as quality resources.

Your assignment must follow these formatting requirements:

* Be typed, double spaced, using Times New Roman font (size 12), with one-inch margins on all sides; citations and references must follow APA or school-specific format. Check with your professor for any additional instructions.
* Include a cover page containing the title of the assignment, the student’s name, the professor’s name, the course title, and the date. The cover page and the reference page are not included in the required assignment page length.
* Include charts or diagrams created in Excel, Visio, MS Project, or one of their equivalents such as Open Project, Dia, and OpenOffice. The completed diagrams / charts must be imported into the Word document before the paper is submitted.

The specific course learning outcomes associated with this assignment are:

* Describe the role of databases and database management systems in managing organizational data and information.
* Recognize the historical development of database management systems and logical data models.
* Design and implement a database solution to solve a proposed business problem.
* Use technology and information resources to research issues in the strategic implications and management of database systems.
* Write clearly and concisely about topics related to the strategic planning for database systems using proper writing mechanics and technical style conventions.