CSCE 520 - Database System Design
Credit Hours: 3 hours
Contact Hours: 3 lecture hours
Instructor: Drs. Farkas and Fenner


Bulletin Description: Database management systems; database design and implementation; security, integrity, and privacy.

Prerequisites: CSCE 240 or GEOG 563

Required Course in CIS, and SE in CE, CS programs

Learning Outcomes: Students will be able to:

1. Describe the major components of a database management system and state their functions and purpose.
2. Develop a data model for a database application using an appropriate modeling tool such as ER diagrams.
3. Use the concepts of data normalization to develop well-designed database applications.
4. Implement a database application using an appropriate relational DBMS.
5. Use SQL to access database information.
6. Describe major operational issues associated with database applications, including transaction management, security, and integrity.

Student (Program) Outcomes addressed by course (Detailed mappings of these course outcomes to the Student Outcomes of the programs are in the detailed syllabus and the Assessment plan.)

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<tr>
<th>Student Program Outcomes</th>
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<tr>
<td>Computer Engineering</td>
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<td>Computer Science</td>
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Topics covered and approximate weight:

1. E/R diagrams,
2. the relational database model,
3. relational algebra,
4. SQL,
5. XML and semistructured databases,
6. Datalog,
7. transactions,
8. access control.