

EC-240 Database Engineering-Course Contents

- a. **Credits** : 3+1
- b. **Textbook** : Modern Database Management, Jeffery, Mary & Fred, 8th Edition,
Prentice Hall, Latest Issue
- c. **Reference** : 1. Beginning SQL Server 2008 for Developers: From Novice to Professional, Robin Dewson, Apress, 2008
2. Simply SQL, Rudy Limeback, SitePoint Pty. Ltd, 2008
- d. **Objectives/Goals** : To introduce students to the fundamentals of Database Engineering and impart hands-on practice of developing a database system through lab work.
- e. **Course Outcomes:** On completion of the course, the students will;
1. Get broad overview of the subject.
 2. Differentiate between the two basic approaches, i.e., traditional file processing systems and a database approach.
 3. Understand about the database development process starting by capturing the user requirements then design and finally implementation.
 4. Know about the principal techniques of conceptual modelling of any organization using ER diagrams.
 5. Learn to model the business rules of any complex organization using EER diagram and business rule notations.
 6. Understand the techniques to map conceptual models to logical database design & relational model.
 7. Learn to implement the database design in a contemporary DBMS system (SQL Server 2xxx) in a group project .
 8. Learn to develop a database application using any one contemporary programming language (C#, ASP.Net) in a group project
 9. Learn and practice the fundamentals of Structured Query language (SQL).

f. Topics:

1. Introduction to Database Environment
2. Database Development Process
3. Modelling data in organization
4. The enhanced E-R Model and Business Rules
5. Logical database design and relational model
6. Software Requirements
7. Structured Query Language (SQL)
8. Lab practice using contemporary DBMS (SQL Server)
9. Lab practice using contemporary programming language (C#, ASP.Net)
10. Database Project