SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
CIS 213S DATABASE MANAGEMENT CONCEPTS
3 CREDIT HOURS

COURSE DESCRIPTION
Comprehensive introduction to fundamental database management systems including database design,
database languages, and database-system implementation. This course introduces the basic nature and
purpose of database systems (relational databases and object-based databases). Topics covered include
detailed coverage of the SQL query language, normalization and views, and database administration.
Advanced topics include concurrency issues, performance tuning, distributed databases, data warehouses,
big data, and NoSQL. Students will gain valuable experience in building and manipulating databases.
Prerequisite: CIS 110S. Lab Fee.

COURSE GOALS
The student will:

Bloom's Level		Program Outcomes
2	1. Describe the principles of effective database design.	7, 8
3	2. Execute the database development process when designing databases and writing queries to visualize data and solve real world problems.	3, 4, 7
3	3. Use the Structured Query Language to write queries.	3, 7
3	4. Use UML and the E-R model to implement a formalized approach to design.	3, 7
3	5. Use a team approach to develop a database case study.	3, 6
3	6. Apply appropriate documentation techniques within database queries.	7
4	7. Analyze program error statements and implement appropriate corrective actions.	3, 7
2	8. Discuss the importance of ethics in the computer industry.	1

CORE VALUES
The Core Values are a set of principles that guide Edison State Community College in creating its
educational programs and environment. They will be reflected in every aspect of the College. Students'
educational experiences will incorporate the Core Values at all levels, so that a student who completes a
degree program at Edison State Community College will not only have been introduced to each value, but
will have had them reinforced and refined at every opportunity.

TOPIC OUTLINE
1. Database Systems
2. Data Models
3. The Relational Database Model
4. Entity Relationship Modeling
5. Advanced Data Modeling
6. Normalization of Database Tables
7. Introduction to Structured Query Language (SQL)
8. Advanced SQL
9. Database Design
10. Transaction Management and Concurrency Control
11. Database Performance Turning and Query Optimization
12. Distributed Database Management Systems
13. Business Intelligence and Data Warehouses
14. Big Data and NoSQL
15. Database Administration and Security