COURSE OUTLINE

IST 253	Database Concept	3
Course Number	**Course Title**	**Credits**

2	2	N/A	N/A	15
Class or Lecture Hours	**Laboratory Work Hours**	**Clinical or Studio Hours**	**Practicum, Co-op, Internship**	**Course Length (15 week, 10 week, etc)**

Not Applicable	Online
Performance on an Examination/Demonstration	**Alternate Delivery Methods**
(Placement Score (if applicable); minimum CLEP score)	(Online, Telecourse [give title of videos])

Required Materials:
Textbook: Database Concepts, 7Th Ed. By David M. Kroenke and David J. Auer.
   ISBN-10: 0133544621 | ISBN-13: 9780133544626

Material: Flash drive

Catalog Description:
Prepare Students for the Job Market with Operational and Analytical Database
Coverage: Students will learn to understand both operational and analytical databases to
prepare them for today's job market. Engage students with valuable hands-on practice on an
integrated web-based data-modeling suite as they create their own models.

Prerequisites: IST 109   **Corequisites:** None

Last Revised: Spring 2019

Course Coordinator (name, email, phone extension):
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Available Resources:

Available Resources: (Identify library resources relevant to the course, including books,
videos, journals, electronic databases, recommended websites.)

Week	Learning Objectives	Activities
1	Database Fundamentals Explain Fundamentals of relational databases[CG 4]	Chapter 1 Getting Started Lecture Exercises Page 57 Glory Project Question Page 60 Chapter 1 Test
2		Appendix A pdf Appendix A Exercises
3	Explain Data modeling and normalization[CG 4] Explain Database application development[CG 4] Explain Database administration and database processing environments[CG 4]	Chapter 2: The Relational Model Lecture Access Workbench Exercises Page 110 GLORY PROJECT QUESTION Page 114-115 Chapter 2 Test
4		Appendix B pdf Appendix B exercises
5	Review overview of Physical Database Design [CG3, 4] Explain file Structures[CG 4] Apply Query Optimization[CG3, 4] Apply Index Selection[CG3, 4] Identify additional Choices in Physical Database Design[CG 2]	Chapter 3: The Relational Model Lecture Access Workbench Exercises Page 218 Chapter 3 Test
6	Identify outer join problems[CG2] Explain Type I nested queries[CG 4] Explain Type II nested queries and difference problems[CG 4] Apply Nested queries in the FROM clause[CG3, 4] Solve Division problems[CG3, 4] Explain Null value effects[CG3, 4]	Chapter 3 GLORY PROJECT QUESTION Page 232
		MIDTERM EXAMINATION on Online Appendixes A & B
7	Explain notation basics [CG3, 4] Explain Entity relationships[CG3, 4] Explain generalization hierarchies[CG3, 4] Explain business rule representation[CG3, 4] Explain diagram rules[CG3, 4] Explain alternative notations[CG3, 4]	Chapter 4: Data Modeling and the Entity-Relationship Model Lecture Access Workbench Exercises Page 282 GARDEN GLORY PROJECT Page 285.

		Test Chapter 4
8	- Review overview of Physical Database Design[CG3, 4] - Explain file Structures[CG 4] - Apply Query Optimization[CG3, 4] - Apply Index Selection[CG3, 4] - Identify additional Choices in Physical Database Design[CG 2] - Identify outer join problems[CG2] - Explain Type I nested queries[CG 4] - Explain Type II nested queries and difference problems[CG 4] - Apply Nested queries in the FROM clause[CG3, 4] - Solve Division problems[CG3, 4] - Explain Null value effects[CG3, 4]	Chapter 5: Database Design Access Workbench Exercises Page 327 GARDEN GLORY PROJECT Page 330 Test Chapter 5.
9	- Explain Organizational context[CG 4] - Identify tools of database administration[CG 2] - Explain processes for database specialists[CG4] - Review overview of processing environments[CG3, 4]	Chapter 6: Database Administration lecture Access Workbench Exercises Page 386 Test Chapter 6
10	- Explain transaction basics[CG4] - Explain concurrency control[CG 4] - Explain recovery management[CG 4] - Explain transaction design issues[CG 4] - Explain workflow management[CG 4]	GARDEN GLORY PROJECT QUESTION Page 388
11	- Explain Organizational context[CG 4] - Identify tools of database administration[CG 2] - Explain processes for database specialists[CG4] - Review overview of processing environments[CG3, 4]	7. Database Processing Applications Lecture. Access Workbench Exercises Page 440 Test Chapter 7
12	- Explain transaction basics[CG4] - Explain concurrency control[CG 4] - Explain recovery management[CG 4]	GARDEN GLORY PROJECT QUESTION Page 442

	• Explain transaction design issues[CG 4] • Explain workflow management[CG 4]	
13	• Explain basic concepts and characteristics[CG4] • Explain business architectures and applications[CG 4] • Identify data cube concepts and operators[CG 2] • Identify relational DBMS features[CG 2] • Explain maintaining a data warehouse[CG 4]	8. Big Data, Data Warehouses, and Business Intelligence Systems Lecture Access Workbench Exercises Page 488 GARDEN GLORY PROJECT QUESTIONS Page 490 Test Chapter 8
14		Appendix E pdf Appendix E Exercises
15		Final Examination on Appendix E