

COMP310 Knowledge Areas

Topic	Sub-Topic	Chapters Covered
1 Database Environments and DBMSs	a External,Conceptual,Internal ANSI-SPARC Arch.	1–3
2 Relational Data Model	a Data Structures	4
	b Integrity Constraints	4
	c Relational Algebra	5
	d Relational Calculus	5
3 Standard Query Language (SQL)	a Selecting	6
	b Ordering	6
	c Grouping	6
	d Aggregates	6
	e Sub-queries	6
	f Any,all,exists,not exists	6
	g Joins (Inner,Outer, left, right)	6
	h Set Operations	6
	i Data Types and Integrity Constraints	7
	j Creating and altering tables and indices	7
	k Creating Views	7
4 Database Design	a Entity-Relationship Modeling (ER Modeling)	12
	b Relational Database Normalization	14
	c Database Design & Development Methods	10–11,16–18
5 Professional Knowledge (Table 4.2 from CC2020 (pg 50))	a Analytical and Critical Thinking	All
	b Collaboration and Teamwork	1,10,11
	c Ethical and Intercultural Perspectives	1,10,11
	d Mathematics and Statistics	4–5
	e Multi-Task Prioritization and Management	1,10,11
	f Oral Communication and Presentation	1,10,11
	g Problem Solving and Troubleshooting	1,10,11
	h Project and Task Organization and Planning	1,10,11
	i Quality Assurance / Control	1,10,11
	j Relationship Management	1,10,11
	k Research and Self-Starter/Learner	
	l Time Management	
	m Written Communication	1,10,11