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| **Sections** | **zyBooks Lessons** | **Topics** | **Supplementary Resources** |
| **Introduction to Databases** | 1 | • database basics • database systems • query languages • database design and programming • MySQL | **Competency 1:**  **Explains Database Attributes and SQL Commands - 44% of assessment**  **zyBook Lessons 1, 2, 3, & 5**    **Competency 2: Determines SQL Queries - 20% of assessment**  **zyBook Lessons 2 & 3**  **Competency 3: Defines Primary Keys - 36% of assessment**  **zyBook Lessons 4 ,7, & 9** |
| **Relational Databases** | 2 | • relational models • SQL • managing databases • working with tables • primary and foreign keys • referential integrity • constraints | This Data Modeling webinar [video](https://wgu.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=bae03e4f-4a5f-44ca-ae59-ca2bf66ce2f1) |
| ***Note:****Labs are for practice but there will be no coding to write on the exam* | 3 | • special operators and clauses • simple and aggregate functions • join queries • subqueries • view tables • relational algebra | **SQL Link**[**https://www.w3schools.com/sql/default.asp**](https://protect-us.mimecast.com/s/0AslCv2xEotO0opZ6UQDCNS?domain=w3schools.com) to help you work through SQL commands  **LinkedInLearning.com Videos**- [http://www.lynda.com/MySQL-tutorials/MySQL-Essential-Training/139986-2.html](https://protect-us.mimecast.com/s/FxyiCwpyGmC0ZXJn1sqaAxx?domain=lynda.com).  [IT Database](https://protect-us.mimecast.com/s/JOqnCxkzJvtmqKnjACY_S1s?domain=wisc-online.com)  (Joins) |
| Database Design | 4 | • entities, relationships, and attributes • discovery • cardinality • strong and weak entities • supertype and subtype entities • alternative modeling conventions • first, second, and third normal form • Boyce-Codd normal form | For **Normalization**, watch [4 short videos at LinkedIn Learning](https://www.linkedin.com/learning/programming-foundations-databases-2/normalization-2?u=2045532), following the instructions under the Data Modeling heading to access the Programming Foundations: Databases series.  You’ll be watching the first 4 videos in section 4 – Database Optimization.  [Normalization Practice Questions](https://westerngovernorsuniversity-my.sharepoint.com/:w:/g/personal/maria_schenk_wgu_edu/EaOypS0-xdxBnVv0qtwfkfsBc57Wuy8-1SZl12YDEHipmQ?e=2XdQp2), [Answer Key](https://westerngovernorsuniversity-my.sharepoint.com/:w:/g/personal/maria_schenk_wgu_edu/ERmmjtuXEO9KuLMQEMU3heMBHRYaOJnr1T9dkWYdhq66tg?e=a3efyg)  **Normalization You Tube Videos:** [https://www.youtube.com/watch?v=GFQaEYEc8\_8](https://protect-us.mimecast.com/s/ezO6CyPAKrS6mEq3MFRncNb?domain=youtube.com) |
| Data Storage | 5 | storage media • table structures • single-level, multi-level, and other indexes • tablespaces and partitions • physical design |  |
| Database Architecture | 6 | • MySQL architecture • cloud, distributed, and replicated databases • data warehouses • business intelligence programs • other database architectures | Read **Supplementary eBook**-  [Business Intelligence:  The Savvy Manager’s Guide](https://drive.google.com/file/d/146DcevZu9z2j-nC53geIIQp-N2rrDwEm/view)   You could take a look at this [video tutorial](https://protect-us.mimecast.com/s/SKz6Czp4LKC8NvQz2coTA31?domain=youtube.com) and/or relevant info from the supplementary eBook |
| Case Study (Diagrams) | 7 | • Cardinality • Supertype and weak entities • Implementing entities, relationships, and attributes | Read [Fundamentals](https://lrps.wgu.edu/provision/71492681) Book Chapters 2  · [Entity Relationships](https://protect-us.mimecast.com/s/n_4mCADX0PSrJML5WSM2Mvk?domain=lucidchart.com)  ·       [SuperTypes](https://protect-us.mimecast.com/s/AB-0CBBXkLiPJ3pN4ivyNvF?domain=learndatamodeling.com/" \t "_blank)  [Unary many-to-many example](https://drive.google.com/file/d/1U68CpBfKkkgvViNUlIe738S_ZjrUrMIj/view?usp=sharing) |
| Data Modeling | 9 | • binary, unary, and ternary relations | Read [Fundamentals](https://lrps.wgu.edu/provision/71492681) Book Chapters 2  [Unary many-to-many example](https://drive.google.com/file/d/1U68CpBfKkkgvViNUlIe738S_ZjrUrMIj/view?usp=sharing) |