



## Department of Business and Office Administration

### COURSE OUTLINE – WINTER 2016

#### OA 2291 MICROSOFT ACCESS COMPREHENSIVE - 3 (0-0-4.5) 67.5 HOURS

**INSTRUCTOR:** Sharron Barr      **PHONE:** 780-539-2979 Office  
780-897-6676 Cell  
Please text and call me.  
780-532-9236 Home

**OFFICE:** C203 or A313B      **E-MAIL:** sbarr@gprc.ab.ca

**OFFICE HOURS:** Please contact me anytime for help.

#### **PREREQUISITE(S)/COREQUISITE:**

None

#### **REQUIRED TEXT/RESOURCE MATERIALS:**

Microsoft Office Access 2013 Levels 1 & 2, Benchmark Series, Rutkosky, Rutkosky, EMC Paradigm

#### **CALENDAR DESCRIPTION:**

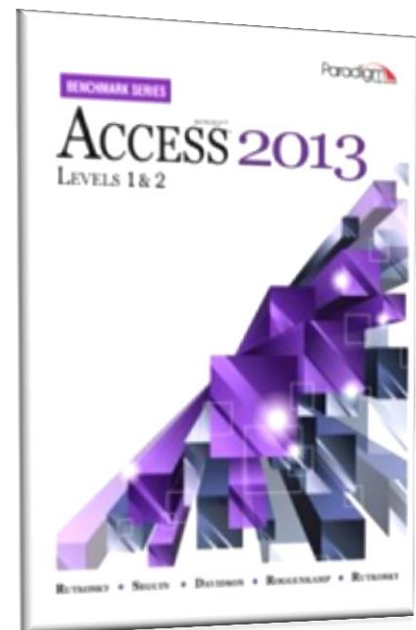
Students will master the complete concepts and techniques of using Microsoft Access. Students will engage in practical-based activities that prepare them to take the MCAS Access examination.

#### **CREDIT/CONTACT HOURS:**

3 / 67.5 hours

#### **DELIVERY MODE(S):**

Lecture/Lab AND On-line Deliver



## **COURSE OBJECTIVES:**

- Create database tables to organize business or personal records
- Modify and manage tables to ensure that data is accurate and up to date
- Perform queries to assist with decision making
- Plan, research, create, revise and publish database information to meet specific communication needs
- Given a workplace scenario requiring the reporting and analysis of data , assess the information requirements and then prepare the materials that achieve the goal efficiently and effectively

## **LEARNING OUTCOMES:**

### **TABLES LEVEL 1 AND LEVEL 2**

Access 2013 Level 1, Chapter 1 Managing and Creating Tables

Upon completion of this chapter you will be able to:

- Open and close objects in a database
- Insert, delete, and move rows and columns in a table
- Hide, unhide, freeze, and unfreeze columns
- Adjust table column width
- Preview and print a table
- Design and create a table
- Rename column headings
- Insert a column name, caption, and description
- Insert Quick Start fields
- Assign a default value and field size

Access 2013 Level 1, Chapter 2 Creating Relationships between Tables

Upon completion of this chapter you will be able to:

- Define a primary key in a table
- Create a one-to-many relationship
- Specify referential integrity
- Print, edit, and delete relationships
- Create a one-to-one relationship
- View and edit a Subdatasheet

Access 2013 Level 1, Chapter 4 Creating and Modifying Tables in Design View

Upon completion of this chapter you will be able to:

- Create a table in Design view
- Assign a default value
- Use the Input Mask Wizard and the Lookup Wizard
- Validate field entries
- Insert, move, and delete fields in Design view

- Insert a Total row
- Sort records in a table
- Print selected records in a table
- Complete a spelling check
- Find specific records in a table
- Find and replace data in records in a table
- Apply text formatting
- Use the Help feature

Access 2013 Level 2, Chapter 1 Access 2013 Level 2, Chapter 1

Designing the Structure of Tables

Upon completion of this chapter you will be able to:

- Design the structure of a table to optimize efficiency and accuracy of data
- Select the appropriate field data type based on analysis of the source data
- Disallow blank field values
- Allow or disallow zero-length strings in a field
- Create a custom format for ShortText, numeric, and Date/Time data type fields
- Create a custom input mask
- Define a rich text formatting for a Long Text data type field
- Store the history of changes to a Long Text data type field
- Define and use an Attachment data type field with multiple attachments

Access 2013 Level 2, Chapter 2 Building Relationships and Lookup Fields

Upon completion of this chapter you will be able to:

- Create and edit relationships between tables, including one-to-many, one-to-one, and many-to-many relationships
- Define a table with a multiple-field primary key
- Create and modify a lookup field to populate records with data from another table
- Create a lookup field that allows having multiple values in records
- Create single-field and multiple-field indexes
- Define the term normalization
- Determine if a table is in first, second, or third normal form

## **QUERIES LEVEL 1 AND LEVEL 2**

Access 2013 Level 1, Chapter 3 Performing Queries

Upon completion of this chapter you will be able to:

- *Design query to extract specific data from tables*
- *Modify queries*

- *Design queries with Or and And criteria*
- *Use the Simple Query Wizard to create queries*
- *Create a calculated field*
- *Use aggregate functions in queries*
- *Create crosstab, duplicate, and unmatched queries*

Access 2013 Level 2, Chapter 3 Advanced Query Techniques

Upon completion of this chapter you will be able to:

- *Save a filter as a query*
- *Create and run a parameter query to prompt for criteria*
- *Add tables to and remove tables from a query*
- *Create an inner join, left join, and right join to modify query results*
- *Create a self-join to match two fields in the same table*
- *Create a query that includes a subquery*
- *Create a query that uses conditional logic*
- *Assign an alias to a table name and a field name*
- *Select records using a multiple-value field in a query*
- *Create a new table using a make-table query*
- *Remove records from a table using a delete query*
- *Add records to the end of an existing table using an append query*
- *Modify records using an update query*

## **FORMS LEVEL 1 AND LEVEL 2**

Access 2013 Level 1, Chapter 5 Creating Forms

Upon completion of this chapter you will be able to:

- *Create a form using the Form button*
- *Change views in a form*
- *Print and navigate in a form*
- *Add records to and delete records from a form*
- *Create a form with a related table*
- *Customize a form*
- *Create a split form and multiple items form*
- *Create a form using the Form Wizard*

Access 2013 Level 2, Chapter 4 Creating and Using Custom Forms

Upon completion of this chapter you will be able to:

- *Create a custom form in Design view using all three form sections*
- *Add fields individually and as a group*
- *Move, size, and format control objects*
- *Change the tab order of fields*
- *Create tabbed pages in a form and insert a subform on each page*

- *Add and format a calculation to a custom form*
- *Group and ungroup multiple controls*
- *Adjust the alignment and spacing of controls*
- *Add graphics to a form*
- *Anchor a control to a position in a form*
- *Create a datasheet form*
- *Modify form properties to restrict actions allowed in records*
- *Create a blank form*
- *Add list boxes to a form*
- *Sort records in a form and locate a record using a wildcard character*

## **REPORTS LEVEL 1 AND LEVEL 2**

Access 2013 Level 1, Chapter 6 Creating Reports and Mailing Labels

Upon completion of this chapter you will be able to:

- *Create a report using the Report button*
- *Display a report in Print Preview*
- *Create a report with a query*
- *Format and customize a report*
- *Group and sort records in a report*
- *Create a report using the Report Wizard*
- *Create mailing labels using the Label Wizard*

Access 2013 Level 2, Chapter 5 Creating and Using Custom Reports

Upon completion of this chapter you will be able to:

- *Create a custom report in Design view using all five report sections*
- *Move, size, format, and align control objects*
- *Insert a subreport into a report*
- *Add page numbers and date and time controls*
- *Add graphics to a report*
- *Group records including adding functions and totals*
- *Add and format a calculated field to a custom report*
- *Modify section or group properties to control print options*
- *Create and modify charts in a report*
- *Create a blank report*
- *Add hyperlinks and list boxes to a report*
- *Change the shape of a tab control*
- *Change the tab order of fields*
- *Insert a subform into a report*

Access 2013 Level 1, Chapter 7 Modifying, Filtering, and Viewing Data

Upon completion of this chapter you will be able to:

- *Filter data by selection and form*

- *Remove a filter*
- *View object dependencies*
- *Compact and repair a database*
- *Encrypt a database with a password*
- *View and customize document properties*
- *Customize the Recent tab Backstage view*
- *Save a database in an earlier version of Access*
- *Save a database object in PDF file format*

#### Access 2013 Level 1, Chapter 8 Exporting and Importing Data

Upon completion of this chapter you will be able to:

- *Export Access data to Excel*
- *Export Access data to Word*
- *Merge Access data with a Word document*
- *Exporting an Access object to a PDF or XPS file*
- *Import data to a new table*
- *Link data to a new table*
- *Use the Office Clipboard*

#### Access 2013 Level 2, Chapter 6 Using Access Tools and Managing Objects

Upon completion of this chapter you will be able to:

- *Create a new database using a template*
- *Add a group of objects to a database using an Application Parts template*
- *Save a database as a template*
- *Create a new form using an Application Parts Blank Form*
- *Create a form to be used as a template in a database*
- *Create a table by copying the structure of another table*
- *Evaluate a table using the Table Analyzer Wizard*
- *Evaluate a database using the Performance Analyzer*
- *Split a database*
- *Print documentation about a database using the Database Documenter*
- *Rename and delete objects*
- *Create a database using templates, Application Parts, Quick Start, and wizards*

#### Access 2013 Level 2, Chapter 7 Automating, Customizing, and Securing Access

Upon completion of this chapter you will be able to:

- *Create, run, edit, and delete a macro*
- *Assign a macro to a command button on a form*
- *View macro code created for a command button in a form's Property Sheet task pane*
- *Convert a macro to Visual Basic*
- *Create and edit a Navigation form*
- *Change database startup options*
- *Show and hide the Navigation pane*

- *Customize the Navigation pane by hiding objects*
- *Define error-checking options*
- *Import and export customizations*
- *Customize the ribbon*

Access 2013 Level 2, Chapter 8 Integrating Access Data

Upon completion of this chapter you will be able to:

- *Create and restore a backup database file*
- *Create an ACCDE database file*
- *View Trust Center settings*
- *Import data from another Access database*
- *Link to a table in another Access database*
- *Determine when to import from versus link to external sources*
- *Reset or refresh links using Linked Table Manager*
- *Import data from a text file*
- *Save import specifications*
- *Export data in an Access table or query as a text file*
- *Save and run export specifications*
- *Export an object as an XPS document*
- *Create a database in an older format*

### **Transferability**

Students are cautioned that it is their responsibility to contact the receiving institution to ensure transferability

### **GRADING CRITERIA:**

Final grades will be calculated as an average of all of the following assignments:

#### **ASSIGNED WORK**

Chapter Projects	16%
End-of-Chapter Exercises	16%

#### **TESTS**

On-line Chapter Tests	16%
Unit Tests	20%
Final Exam	32%

All assigned work and tests must be completed in order to get a grade in this course.

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GRADING CONVERSION CHART			
Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation
A <sup>+</sup>	4.0	90 – 100	EXCELLENT
A	4.0	85 – 89	
A <sup>-</sup>	3.7	80 – 84	FIRST CLASS STANDING
B <sup>+</sup>	3.3	77 – 79	
B	3.0	73 – 76	GOOD
B <sup>-</sup>	2.7	70 – 72	
C <sup>+</sup>	2.3	67 – 69	SATISFACTORY
C	2.0	63 – 66	
C <sup>-</sup>	1.7	60 – 62	
D <sup>+</sup>	1.3	55 – 59	MINIMAL PASS
D	1.0	50 – 54	
F	0.0	0 – 49	FAIL
WF	0.0	0	FAIL, withdrawal after the deadline

### Student Responsibilities

To read, understand and comply with GPRC academic policies.

\*\*Note: all Academic and Administrative policies are available at

<https://www.gprc.ab.ca/about/administration/policies/>

### STATEMENT ON PLAGIARISM AND CHEATING:

Refer to the Student Conduct section of the College Admission Guide at

<http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at [www.gprc.ab.ca/about/administration/policies/](http://www.gprc.ab.ca/about/administration/policies/)\*\*

\*\*Note: all Academic and Administrative policies are available on the same page.

## LATE ASSIGNMENTS

All Projects will receive a penalty of 25% if handed in after the end of class on the due date

Missed Exams will result in a grade of 0%

## COURSE SCHEDULE AND TIMELINE

### Course Schedule—Benchmark Access 2013

16-week semester, three 1.5-hour classes per week or ON LINE total of 67.5 hours

**IMPORTANT: You will complete Level 1 and 2 for each Access component starting with TABLES. This enables you to complete to understand all the core to expert components associated with each component in Access.**

Please refer to the grade sheet below to see the schedule of assignments and due dates.

Week	Class	Chapter	Description
1	Class 1 Course Outline   Course Schedule   Tour Moodle   Telephone conversation with instructor of course overview and orientation		
	<b>TABLES LEVEL 1 AND LEVEL 2</b>		
	Class 2	Level 1, Ch 1	Creating Database Table
2	Class 3	Level 1, Ch 1	Creating Database Table
	Class 4	Level 1, Ch 2	Creating Relationships Between Tables
	Class 5	Level 1, Ch 4	Modifying and Managing Tables
3	Class 6	Level 1, Ch 4	Modifying and Managing Tables
	Class 7	Level 2, Ch 1	Designing the Structure of Tables
	Class 8	Level 2, Ch 1	Designing the Structure of Table
4	Class 9	Level 2, Ch 2	Designing and Building Relationships and Lookup Fields
	<b>QUERIES LEVEL 1 AND LEVEL 2</b>		
	Class 10	Level 1, Ch 3	Performing Queries
	Class 11	Level 1, Ch 3	Performing Queries
5	Class 12	Level 2, Ch 3	Advanced Query Techniques
	Class 13	Level 2, Ch 3	Advanced Query Techniques
	Class 14	Level 2, Ch 3	Advanced Query Techniques
6	<b>FORMS LEVEL 1 AND LEVEL 2</b>		
	Class 15	Level 1, Ch 5	Creating Forms
	Class 16	Level 1, Ch 5	Creating Forms
7	Class 17	Level 2, Ch 4	Creating and Using Custom Forms
	Class 18	Level 2, Ch 4	Creating and Using Custom Forms
	<b>REPORTS LEVEL 1 AND LEVEL 2</b>		
8	Class 19	Level 1, Ch 6	Creating Reports and Mailing Labels
	Class 20	Level 1, Ch 6	Creating Reports and Mailing Labels
	Class 21	Level 2, Ch 5	Creating and Using Custom Reports
	Class 22	Level 2, Ch 5	Creating and Using Custom Reports
	Class 23	Level 2, Ch 5	Creating and Using Custom Reports
<b>MODIFYING, FILTER, AND VIEW DATA AND IMPORTING AND EXPORTING DATA LEVEL 1</b>			
	Class 24	Level 1, Ch 7	Modifying, Filtering and Viewing Data

Week	Class	Chapter	Description
9	Class 25	Level 1, Ch 7	Modifying, Filtering and Viewing Data
	Class 26	Level 1, Ch 8	Importing and Exporting Data
	Class 27	Level 1, Ch 8	Importing and Exporting Data
10	<b>ACCESS TOOLS, CUSTOMIZING, SECURING AND INTEGRATING ACCESS LEVEL 2</b>		
	Class 28	Level 2, Ch 6	Using Access Tools and Managing Objects
	Class 29	Level 2, Ch 6	Using Access Tools and Managing Objects
	Class 30	Level 2, Ch 6	Using Access Tools and Managing Objects
11	Class 31	Level 2, Ch 7	Automating, Customizing and Securing Access
	Class 32	Level 2, Ch 7	Automating, Customizing and Securing Access
	Class 33	Level 2, Ch 7	Automating, Customizing and Securing Access
12	Class 34	Level 2, Ch 8	Integrating Access Data
	Class 35	Level 2, Ch 8	Integrating Access Data
	Class 36	Level 2, Ch 8	Integrating Access Data
13	<b>TESTING</b>		
	Class 37	<b>Level 1, U1</b>	<b>Level 1, Unit 1 Test</b>
	Class 38	<b>Level 1, U1</b>	<b>Level 1, Unit 1 Test</b>
	Class 39	<b>Level 1, U2</b>	<b>Level 1, Unit 2 Test</b>
14	Class 40	<b>Level 1, U2</b>	<b>Level 1, Unit 2 Test</b>
	Class 41	Level 2, U1	Level 2, Unit 1 Test
	Class 42	Level 2 U1	Level 2, Unit 1 Test
15	Class 43	<b>Level 2 U1</b>	<b>Level 2, Unit 1 Test</b>
	Class 44	<b>Level 2, U2</b>	<b>Level 2, Unit 2 Test</b>
	Class 45	<b>Level 2, U2</b>	Level 2, Unit 2 Test
16		<b>FINAL EXAM</b>	<b>SCHEDULED EXAM OR MOS CERTIFICATION</b>

Assigned in chapter Project and End-of-Chapter work schedule and timeline:

Week	Chapter	Description	Due Date
1	Level 1, Ch 1	Creating Tables Projects	11 p.m. Sunday Week 1
	Level 1, Ch 1	Creating Tables End-of-Chapter Assessments	
2	Level 1, Ch 2	Creating Relationships Between Tables Projects and End-of-Chapter Assessments	11 p.m. Sunday Week 2
	Level 1, Ch 4	Modifying and Managing Tables Projects	
	Level 1, Ch 4	Modifying and Managing Tables End-of-Chapter Assessments	
3	Level 2, Ch 1	Designing the Structure of Tables Projects	11 p.m. Sunday Week 3
	Level 2, Ch 1	Designing the Structure of Tables End-of-Chapter Assessments	
	Level 2, Ch 2	Designing and Building Relationships and Lookup Fields Projects and End-of-Chapter Assessments	

Week	Chapter	Description	Due Date
4			
	Level 1, Ch 3	Performing Queries Projects	11 p.m.
	Level 1, Ch 3	Performing Queries End-of-Chapter Assessments	Sunday Week 4
5			
	Level 2, Ch 3	Advanced Query Techniques Projects	11 p.m.
	Level 2, Ch 3	Advanced Query Techniques End-of-Chapter Assessments	Sunday Week 5
6			
	Level 1, Ch 5	Creating Forms Projects and End-of-Chapter Assessments	11 p.m.
	Level 2, Ch 4	Creating and Using Custom Forms Projects	Sunday Week 6
7			
	Level 2, Ch 4	Creating and Using Custom Forms End-of-Chapter Assessments	
	Level 1, Ch 6	Creating Reports and Mailing Labels Projects	11 p.m.
8			
	Level 1, Ch 6	Creating Reports and Mailing Labels End-of-Chapter Assessments	Sunday Week 7
9			
	Level 2, Ch 5	Creating and Using Custom Reports Projects	11 p.m.
	Level 2, Ch 5	Creating and Using Custom Reports End-of-Chapter Assessments	Sunday Week 8
10			
	Level 1, Ch 7	Modifying, Filtering and Viewing Data Projects	11 p.m.
	Level 1, Ch 8	Importing and Exporting Data Projects and End-of-Chapter Assessments	Sunday Week 9
11			
	Level 2, Ch 6	Using Access Tools and Managing Objects Projects and End-of-Chapter Assessments	11 p.m.
	Level 2, Ch 6	Using Access Tools and Managing Objects Projects and End-of-Chapter Assessments	Sunday, Week 10
12			
	Level 2, Ch 7	Automating, Customizing and Securing Access Projects and End-of-Chapter Assessments	11 p.m.
	Level 2, Ch 7	Automating, Customizing and Securing Access Projects and End-of-Chapter Assessments	Sunday Week 11
13			
	Level 2, Ch 8	Integrating Access Data Projects and End-of-Chapter Assessments	11 p.m.
	Level 2, Ch 8	Integrating Access Data Projects and End-of-Chapter Assessments	Sunday Week 12
14			
	<b>Level 1, U1</b>	<b>Level 1, Unit 1 Test</b>	<b>Please request a start time for these exams during the weeks assigned.</b>
	<b>Level 1, U1</b>	<b>Level 1, Unit 1 Test</b>	
<b>Level 1, U2</b>	<b>Level 1, Unit 2 Test</b>		
15	<b>Level 1, U2</b>	<b>Level 1, Unit 2 Test</b>	
	<b>Level 2, U1</b>	<b>Level 2, Unit 1 Test</b>	
	<b>Level 2, U1</b>	<b>Level 2, Unit 1 Test</b>	
16	<b>Level 2, U1</b>	<b>Level 2, Unit 1 Test</b>	
	<b>Level 2, U2</b>	<b>Level 2, Unit 2 Test</b>	
	<b>Level 2, U2</b>	<b>Level 2, Unit 2 Test</b>	
<b>FINAL EXAM</b>	<b>SCHEDULED EXAM OR MOS CERTIFICATION</b>		

# Certification: Microsoft Office Specialist

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NOTE: you are encouraged to consider taking the MOS Access Certification Exam in lieu of the Final Exam for this course. The certification skills are listed below. Please contact Grace Walton, MOS Testing Center Administrator for more information at [gwalton@gprc.ab.ca](mailto:gwalton@gprc.ab.ca)

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With the release of Office 2013, Microsoft has developed a new set of certification objectives, which are available at <http://www.microsoft.com/learning/en/us/mos-certification.aspx>. The following books in the Benchmark Series have been validated and approved by ProCert Labs ([www.procert.com](http://www.procert.com)) as courseware covering the Core-level objectives in the Microsoft Office Specialist Certification exam.

- *Benchmark Series Microsoft Word 2013 Levels 1 & 2*
- *Benchmark Series Microsoft Excel 2013 Levels 1 & 2*
- *Benchmark Series Microsoft Access 2013 Levels 1 & 2*
- *Benchmark Series Microsoft PowerPoint 2013*

The following table correlates the *Benchmark Access 2013 Levels 1 & 2* text with the certification exam objectives.

## Benchmark Access Levels 1 & 2 and Microsoft Office Specialist Certification Exam (77-424) Correlation

Certification Exam Objective	Text Reference
<b>1.0 Create and Manage a Database</b>	
1.1 Create a New Database	
1.1.1 create new databases	L1C1, pg. 5; L1C2, pg.74; L2C1, pgs. 5-10; L2C6 pgs. 257-259
1.1.2 create databases use templates	L2C6, pgs. 227-231
1.1.3 create databases in older formats	L2C8, pgs. 337
1.1.4 create databases use wizards	L2C6, pgs. 257-259
1.2 Manage Relationships and Keys	
1.2.1 edit references between tables	L1C2, pgs. 56, 58; L2C2, pgs. 40- 42; L2C3, pgs. 75-82
1.2.2 create and modify relationships	L1C2, pgs. 45-64; L2C2, pgs. 37-45
1.2.3 set primary key fields	L1C2, pgs. 46-49; L2C1, pgs.6, 9-10; L2C3, pg. 46
1.2.4 enforce referential integrity	L1C2, pgs. 50-55; L2C2, pgs.40-44
1.2.5 set foreign keys	L1C2, pgs. 46, 48, 52; L2C2, pgs. 37-42
1.2.6 view relationships	L1C2, pgs. 53-55; L2C2, pgs. 43-45

Certification Exam Objective	Text Reference
1.3 Navigate through a Database	
1.3.1 navigate to specific records	L1C1, pg.11; L1C5, pgs. 187-188; L2C7, pgs. 270-274
1.3.2 set a form as the startup option	L2C7, pgs.289-291
1.3.3 use navigation forms	L2C7, pgs. 285-289
1.3.4 set navigation options	L2C7, pgs. 289-293
1.3.5 change views	L1C5, pgs. 186, 188; L2C1, pgs. 11-12; L2C7, pgs. 289-293
1.4 Protect and Maintain a Database	
1.4.1 compact databases	L1C7, pgs. 276-278
1.4.2 repair databases	L1C7, pgs. 276-278
1.4.3 backup databases	L1C7, pgs. 282-283; L2C8, pgs. 311-313
1.4.4 split databases	L2C6, pgs. 251-253
1.4.5 encrypt databases with a password	L1C7, pgs. 277-278
1.4.6 merge databases	L2C8, pgs. 317-320, L2C3, pgs. 94-95
1.4.7 recover data from a backups	L2C8, pgs. 311-313
1.5 Print and Export a Database	
1.5.1 print reports	L1C6, pgs. 236-240; L2C5, pgs. 188-190
1.5.2 print records	L1C1, pgs. 17-21; L1C4, pgs. 147, 149-152; L2C1, pg. 14
1.5.3 maintain backward compatibility	L1C7 pgs. 281-283; L2C8 pg. 337
1.5.4 save databases as templates	L2C6, pgs. 231-233
1.5.5 save databases to external locations	L1C1, pgs. 3, 6; L2C6, pgs. 258-259
1.5.6 export to alternate formats	L1C8, pg. 304; L2C8, pgs. 330-336
<b>2.0 Build Tables</b>	
2.1 Create a Table	
2.1.1 create new tables	L1C1, pgs. 22-32; L1C4, pgs. 132-147; L2C1, pgs. 9-10
2.1.2 import external data into tables	L1C8, pgs. 309-310; L2C8, pgs. 324-329
2.1.3 create linked tables from external sources	L1C8, pgs. 305-308; L2C8, pgs. 320-324
2.1.4 import tables from others database	L2C8, pgs. 317-320
2.1.5 create tables from templates and application parts	L2C6, pgs. 234-240
2.2 Format a Table	
2.2.1 hide fields in tables	L1C1, pgs. 15-17; L2C3, pgs. 70-71
2.2.2 change data formats	L1C4, pgs. 148-152; L2C1, pgs. 13-18
2.2.3 add total rows	L1C4, pgs. 143, 147
2.2.4 add table descriptions	L1C4, pgs. 132-135, 138-140
2.2.5 rename tables	L1C1, pgs. 17, 21; L2C6 pgs. 255-257
2.3 Manage Records	

<b>Certification Exam Objective</b>	<b>Text Reference</b>
2.3.1 update records	L2C1, pgs. 14, 22-24
2.3.2 add new records	L1C1, pgs. 11-13; L2C1, pgs. 11-12, 20-21
2.3.3 delete records	L1C1, pgs. 11, 13; L2C3, pg. 93
2.3.4 append records from external data	L2C3, pgs. 94-95, L2C8 pg. 342
2.3.5 find and replace data	L1C4, pgs. 154-157
2.3.6 sort records	L1C4, pgs. 147, 149
2.3.7 filter records	L1C7, pgs. 265-273; L2C3, pgs. 70-71
2.3.8 group records	L1C3, pgs.109-112, L1C6, pgs.224-247; L2C5, pgs. 190-193
<b>2.4 Create and Modify Fields</b>	
2.4.1 add fields to tables	L1C1, pgs. 13-14; L2C1, pgs. 9-10, 25-26
2.4.2 add a validation rules to fields	L1C4, pgs. 141, 143-147
2.4.3 change field captions	L1C1, pgs. 27-28; L2C1, pgs. 10-12, L2C3, pgs. 81-85, 87
2.4.4 change field sizes	L1C1, pgs. 29-32; L1C4, pgs. 135, 138-139; L2C1, Pgs. 8-10, L2C8 pgs. 310-313
2.4.5 change field data types	L1C4, pgs. 132-136; L2C1, pgs. 8-10, L2C2, pgs. 47-52; L2C6, pgs. 258-259
2.4.6 configure fields to auto-increment	L2C8, pgs. 326-329; L2C1, pg. 8
2.4.7 set default values	L1C1, pgs. 29-32; L1C4, pgs. 136-140
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<b>4.1 Create a Form</b>	
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5.3.3 set margins	L1C6, pgs. 236, 239-242, 244
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