TAFT COLLEGE
West Kern Community College District

Computer Science (COSC) 1902 Introduction to Databases--Microsoft Access (1.5) CSU

Advisory: Eligibility for English 1000 and Reading 1005 strongly recommended

Total Hours: 16 hours lecture, 24 hours lab (40 hours total)

Catalog Description: This course is an introduction to Database Management Systems (DBMS) in the Microsoft Windows environment. This course will cover the operation and features of Microsoft Access to support common data management requirements in a business environment.

Type of class/course: Degree credit

Text: Pratt, Phillip J. and Mary Z Last. *Microsoft Office 365 Access 2016 Intermediate*. Cengage Learning, 2017.

Course Objectives:

By the end of the course, a successful student will be able to utilize Microsoft Access to complete the following tasks with a high degree of accuracy and efficiency

1.   create a database,
2.   create database tables and define table fields,
3.   add records to a table,
4.   delete records from a table,
5.   modify existing records,
6.   restructure a table,
7.   print the contents of a table,
8.   understand, design, and use database queries,
9.   create custom forms,
10.   create custom reports,
11.   add calculated controls to forms and reports,
12.   create validation rules,
13.   specify referential integrity,
14.   use subdatasheets,
15.   order records,
16.   use Yes/No, Date/Time, Memo, OLE Object, and Attachment fields, and
17.   create, modify, and use SQL queries.

Course Scope and Content:

Unit I   Introduction to Databases and Database Objects
                  A.   Design a database to satisfy a collection of requirements

B.   Describe the features of the Access window
C.   Create a database
D.   Create a table and add records
E.   Close a table
F.   Open and close a database
G.   Print the contents of a table
H.   Create and use a query
I.   Create and use a form
J.   Create and print a custom report
K.   Modify a report

Unit II   Querying a Database
A.   Create queries in Design view
B.   Use text and numeric data in criteria
C.   Create and use parameter queries
D.   Save a query and use the saved query
E.   Use compound criteria in queries
F.   Sort data in queries
G.   Join tables in queries
H.   Create reports and forms from queries
I.   Export data from a query to other applications
J.   Perform calculations and calculate statistics in queries
K.   Create crosstab queries
L.   Customize the Navigation Pane

Unit III   Maintaining a Database
A.   Add, change, and delete records
B.   Search for records
C.   Filter records
D.   Update a table design
E.   Use queries to update and delete records
F.   Specify validation rules, default values, and formats
G.   Create and use Lookup fields
H.   Add fields to an existing report
I.   Format a datasheet
J.   Specify referential integrity
K.   Use a subdatasheet
L.   Sort records

Unit IV   Creating Reports and Forms
A.   Create reports and forms using wizards
B.   Modify reports and forms in Layout view
C.   Group and sort in a report
D.   Add totals and subtotals to a report
E.   Conditionally format controls
F.   Resize columns
G.   Filter records in reports and forms
H.   Print reports and forms
I.   Apply themes
J.   Add a field to a report or form

K. Change the format of a control
L. Move controls
M. Create and print mailing labels

Unit V Multitable Forms
  A. Add Yes/No, Date/Time, Memo, OLE Object, and Attachment fields
  B. Use the Input Mask Wizard
  C. Update fields and enter data
  D. Change row and column size
  E. Create a form with a subform in Design view
  F. Modify a subform and form design
  G. Enhance the form title
  H. Change tab stops and tab order
  I. Use the form to view data and attachments
  J. View object dependencies
  K. Use Date/Time, Memo, and Yes/No fields in a query
  L. Create a form with a datasheet

Unit VI Advanced Report Techniques
  A. Create and relate additional tables
  B. Create queries for reports
  C. Create reports in Design view
  D. Add fields and text boxes to a report
  E. Format report controls
  F. Group and Ungroup report controls
  G. Update multiple report controls
  H. Add and modify a subreport
  I. Modify section properties
  J. Add a title, page number, and publish a report
  K. Add totals and subtotals
  L. Include a conditional value in a report

Unit VII Advanced Form Techniques
  A. Add combo boxes that include selection lists
  B. Add combo boxes for searching
  C. Format and resize controls
  D. Apply formatting characteristics with the Format Painter
  E. Add command buttons
  F. Modify buttons and combo boxes
  G. Add a calculated field
  H. Use tab controls to create a multipage form
  I. Add and modify a subform
  J. Insert charts
  K. Modify a chart type
  L. Format a chart

Course Scope and Content: (Laboratory)

Unit I Introduction to Databases and Database Objects
  A. Design a database utilizing appropriate data types, field names, and tables

B.   Add data to the database tables
C.   Create a query wizard
D.   Create a report

Unit II   Querying a Database
A.   Create simple queries using the query design grid
B.   Order records using the query design grid
C.   Create parameter queries
D.   Create queries for joined tables
E.   Create queries using calculated fields
F.   Calculate statistics using the query design grid
G.   Create a crosstab query

Unit III   Maintaining a Database
A.   Add additional fields to an existing database table
B.   Create and use an update query
C.   Create validation rules
D.   Delete records using Filter by Form
E.   Specify referential integrity

Unit IV   Creating Reports and Forms
A.   Design a report
B.   Modify an existing report design
C.   Design a grouped report displaying subtotals
D.   Design a form
E.   Create mailing labels

Unit V   Multitable Forms
A.   Add additional fields to an existing table using datasheet view
B.   Add attachment and OLE fields to a database table
C.   Design a form displaying a subform
D.   Apply special effects and color to form controls
E.   Change tab stop and tab order of form controls

Unit VI   Advanced Report Techniques
A.   Add new tables to an existing database
B.   Create a report in design view
C.   Customize report labels
D.   Add text boxes to a report
E.   Format report controls
F.   Group and ungroup report controls
G.   Add a subreport to an existing report design
H.   Modify report controls
I.   Add report headers and footers
J.   Change report margins

Unit VII   Advanced Form Techniques
A.   Create a form including command buttons and combo boxes
B.   Apply formats to form controls
C.   Create queries

D.   Create a form with a subform

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 5 hours per week outside of the regular class time doing the following

1.   completing assigned reading in the textbook and online course materials,
2.   completing lab activities,
3.   answering assigned questions, and
4.   participating in discussion activities.

Methods of Instruction:

1.   Lecture, demonstration, class discussion, and problem solving.
2.   Assigned reading from the textbook and online course materials.
3.   Assigned hands-on lab activities.
4.   Assigned independent final project.

Methods of Evaluation:

1.   Computational or non-computational problem-solving demonstrations, including:
    a.   Quizzes
    b.   Demonstrated ability to use Microsoft Access 2010 through satisfactory completion of lab activities
2.   Other examinations, including:
    a.   Multiple choice
    b.   Demonstrated ability to use software tools
3.   Evaluation of discussion activities.