CAPP-523: USING MICROSOFT ACCESS - LEVEL 1 (FORMERLY CAPP-123)

Effective Term
Fall 2024

BOT Approval Date
04/13/2023

Discipline
CAPP - Computer Applications

Course Number
523

Course Title
Using Microsoft Access - Level 1 (formerly CAPP-123)

Short Title
Using Microsoft Access Lvl 1

Credit Status (CB 04)
D - Credit - Degree applicable

Units

Lecture Units
3.00

Total Units
3.00

Hours

Lecture Contact Hours
48-54

Out of Class Hours Lecture
96-108

Total Contact Hours
48 - 54

Total Out of Class Hours
96 - 108

Total Student Learning Hours
144 - 162

Distance Education
Yes

Distance Education

Distance Education Type
Both Fully Online and Hybrid Online

Fully Online Delivery Requirements:
a. Students must be notified via the college schedule of classes and the syllabus for the class if proctored tests are required for this course

b. Any planned face-to-face meetings, such as an orientation or study session, must be optional
c. The MSJC curriculum committee requires the use of accessible, asynchronous discussion as a component of every fully online course

Are you using publisher content?
Yes

Link to VPAT
https://nextcatalog.msjc.edu/courseadmin/419/mindtap-voluntary-product-accessibility-template-M180000314452.pdf

Regular Substantive Interaction
Instructor-to-student, student-to-student, and student-to-content contact shall be distributed in a manner that will ensure regular substantive interaction (RSI) is maintained not only weekly but also for the duration of the course. Instructor interactions should be equivalent in time, quality and consistency to the engagement students would receive in a face-to-face course—for example, through announcements, discussion participation, personalized feedback, video messages, or other instructional communications. Instructors are expected to be responsive to student inquiries within a 24-72 hour time frame excluding holidays. RSI will be maintained through a variety of methods: • Orientation - Students must be oriented to the online and face-to-face portions at the start of the course. • Announcements - Announcements using the course management system must be posted at least weekly to keep students current on course events, due dates, materials, etc. • Discussion Forums - Content-related discussion forums within the designated CMS will include appropriate instructor participation and will be initiated and maintained, with timely feedback provided. Instructors are required to monitor the discussions and related activities to provide guidance and direction. Open-ended discussion boards may be used to further learning and interaction. • MSJC Communication – Instructor will use MSJC-administered communication tools (such as email or the designated CMS communication tools) to regularly communicate with and provide ease of access to students. • Timely Feedback - Timely feedback on student work will be provided by the instructor, which may include comments and/or rubrics, within the Grades area of the designated CMS. • Scheduled Meetings – Hybrid and synchronous courses will meet at regularly scheduled times. ADA Compliance - All course interactions and content must be designed with accessibility in mind and meet ADA requirements.

Catalog Description
This course introduces the functions and capabilities of the Microsoft Access database application. Fundamental database design concepts will be presented, and students will build database applications that include tables, forms, queries and reports. This course will prepare the student to take the Microsoft Office Specialist (MOS) exam. (formerly CAPP-123)

Codes

TOP Code (CB 03)
0514.00* - *Office Technology/Office Computer Applications

CIP Code
52.0407 - Business/Office Automation/Technology/Data Entry.

Repeatability Code
No

Grading Option
Letter grade OR P/NP

Learning Objectives

Learning Objectives

Learning Objective
1. Construct a database that contains relational tables.
2. Analyze, design, and build fields and table primary keys.
3. Create, run, and save simple and advanced queries.
4. Design and create a form in accordance with standard design principles.
5. Design and create a report in accordance with problem specifications.
6. Define data validation criteria appropriate to the data type and problem domain.
7. Improve database performance by reviewing and creating indexes where appropriate.

8. Investigate and assess new sources of information and learning opportunities to stay abreast of emerging information modelling, storage, and access technologies.

9. Prepare and develop data models that capture and store information in a manner that respects an individual's name, race, age and gender.

10. Analyze technical information (e.g. database models, problem/program specifications) as well as listen effectively to, communicate orally with, and prepare memos, reports and documentation for a wide range of audiences.

11. Identify and consider the benefits of diversity, equity and inclusion in the tech workspace (e.g. advantages to teamwork, creativity and innovation, enhanced opportunities for competitive advantage, etc.).

Learning Outcome Information

Course Learning Outcomes

Learning Outcome
1. Students will build simple queries, reports, and forms.
2. Students will create queries and reports that exploit the sorting and grouping features.
3. Students will create multi-level and multi-table forms.
4. Students will create calculated field in a query.
5. Students will analyze technical information (e.g. database models, problem/program specifications) as well as listen effectively to, communicate orally with, and prepare memos, reports and documentation for a wide range of audiences.
6. Students will list career paths related to the program of study, as well as any qualifications and/or professional certifications that may be associated with those careers.

Program Learning Outcomes

Learning Outcome
Analyze data to determine relevant information needed to produce reports, visual presentations, and other business documents.
Communicate effectively through appropriate modes of communication (listening, speaking, reading, writing) as they pertain to the business environment with emphasis on the use of computer technology.
Identify and solve business problems, assess results, and determine alternative courses of action.
Employ application software and software tools in the application of information technologies to help individuals, groups, and organizations achieve their goals.

Institutional Learning Outcomes

Critical Thinking: The student will analyze problems, gather and synthesize relevant information, evaluate ideas, information, and evaluate alternative points of view to create, innovate and implement effective solutions.
Information and Technology Literacy: The student will access, interpret, evaluate, and apply relevant information sources and digital media effectively, and in an ethical and legal manner.
Social Awareness: The student will recognize and analyze the interconnectedness of global, national, and local concerns, analyzing cultural, political, social, and environmental issues from multiple perspectives and appreciate similarities and differences among cultures.

Content

Course Lecture Content

1. Getting started with Access 2019
   a. Identify good database design
   b. Create a table and define fields
   c. Change the structure of a table
   d. Create a query, form and report
   e. Use a template to create a database
   f. Examine table and field definitions in light of diversity and inclusiveness
2. Sort and query a database
   a. Create table relationships
   b. Sort records in a table
   c. Create a query in design view
   d. Sort query results

   e. Specify criteria in a query
   f. Use compound criteria in a query
   g. Create calculated fields in a query
3. Forms, filters and reports
   a. Create and use a form to add and delete records
   b. Filter records
   c. Use the Forms wizard
   d. Create a report by using the report tool and modify the report in layout view
   e. Create a report by using the report wizard
   f. Modify the design of a report
4. Enhancing tables
   a. Manage existing tables
   b. Modify existing tables
   c. Create a table in design view
   d. Create a lookup field
   e. Set field properties
   f. Create data validation rules
5. Enhancing queries
   a. Create calculated fields in a query
   b. Use aggregate functions in a query
   c. Create a parameter query
   d. Make a table query
   e. Create an append query
   f. Create a delete query
6. Customizing forms and reports
   a. Create a form in design view
   b. Change and add controls
   c. Format a form
   d. Create a report in design view
   e. Add controls to a report
   f. Group, sort, and total records in design view
7. Creating advanced forms and reports
   a. Create a split form
   b. Create a form and a subform
8. Professional comportment
   a. Ethics
   b. Working in a team to design and develop database solutions
   c. Maintaining a personal 'work' journal
   d. Lifelong learning - staying abreast of new and emerging technologies in the database and office applications workspace
9. Diversity, Equity and Inclusion Issues related to Information Technology
   a. Barriers to DEI in the tech workspace
   b. Benefits that accrue from a diverse, inclusive, and equitable workplace
   c. The gender gap in the tech workspace
   d. The 'age gap' in the tech workplace

Methods of Instruction

Method

Lecture

Integration

Lecture (with supporting visual materials - presentation, multimedia, or video capture) will introduce conceptual and practical skills such as: database design and modelling, query and report development, and forms layout and design, and professional comportment. Weekly presentations on selected topics (lifelong learning, maintaining a personal 'work' journal, gender gap in IT, traits of an effective team member, professional comportment) will serve as the jumping off point for online discussion activities.

DE Adaptations for MOI

Lecture presentations (e.g. accessible slide decks, captioned videos) will be posted on the CMS in the appropriate learning module, and student follow-up will be mediated in chat and/or discussion forums on the CMS.

Method

Observation and Demonstration

Integration

Guided practice and demonstration will highlight 'good' database design features up thru third normal form, creating and modifying tables, and designing and building forms and subforms that are easy to navigate.

DE Adaptations for MOI

Guided practice sessions include using simulations and screen capture software, instructor prepared materials which may include PDF documents for screen reader accessibility, online instructional videos with closed captioning or transcripts, and/or links to web pages dealing with Access demonstrations. These demonstrations will then be deployed in the appropriate learning module in the CMS, and shared with students in either an asynchronous or synchronous fashion. Videos will be captioned, and presentations will have been checked for accessibility.

Method

Online Activity/Discussion

Integration

Individual presentations, and/or pair and small-group problem solving, will be assigned as a means to facilitate the understanding of assigned readings (e.g. creating and modifying table structures, forms development and redesign, report and query building and modification).

DE Adaptations for MOI

The CMS discussion feature will be used to 'collect and present' the results of these group activities. Private discussion forums will be set up for each group to coordinate their efforts, and groups are free to use any outside resources (e.g. Google groups) in the furtherance of these activities (provided those tools are accessible to all group/team members).

Method

Discussion

Integration

Bi-weekly discussions will be conducted as a means to further explore topics such as personal work journals, teamwork principles, benefits of equity, diversity and inclusion in the workplace, professional ethics, job and career opportunities related to database technologies.

DE Adaptations for MOI

The CMS discussion facility will be used to accommodate the discussions. The instructor will post a topic along with supporting background material, and students will post their replies. Captioning will be included for any video postings.

Methods of Evaluation

Method

Exams/Tests

Integration

Small problem / multiple choice online exams will be given to evaluate the student's understanding of various Access features tools and capabilities; query building; forms elements, layout styles, and best practices in design. Exam material can be developed and delivered through the CMS or through the publisher-supplied online resources, and where appropriate, accommodations (e.g. extra

time) can be provided. Exam questions will be graded on correctness. Instructor feedback will be returned in a timely manner via the CMS using graded rubrics, direct comments in the grade area, and/or annotations included in the student document.

DE Adaptations for MOE

Exam material can be developed and delivered through the CMS or through the publisher-supplied online resources, and where appropriate, accommodations (e.g. extra time) can be provided. Instructor feedback will be returned in a timely manner (usually no later than within one week of the assigned deadline) via the CMS using graded rubrics, direct comments in the grade area, and/or annotations included in the student document.

Method

Projects

Integration

Several weekly Access projects will be assigned that give the student the opportunity to properly apply the database concepts, Access features, and development techniques that have been presented. The focus of these assignments might be on the construction of database tables, the creation of queries or reports, or the development of forms.
Projects will be evaluated based on the completeness and correctness of the solution. In some cases additional credit may be awarded for 'elegant' solutions (intuitive user interface, efficiencies of memory utilization, storage, and time).
Assignments will be submitted thru the CMS, and grades and comments on the assignments will be returned to the student via the CMS. Projects will typically be graded within 24 hrs of the due date.

DE Adaptations for MOE

Assignments will be submitted through the CMS, and grades and comments on the assignments will be returned to the student via the CMS. Projects will typically be graded within 24 hrs of the due date.

Method

Class Participation

Integration

Census surveys are used to gather information about the population and inform the decisions that the government makes for a myriad of decisions especially regarding funding and redistricting.
Based on the most recent census survey forms, students will examine one of the demographic categories in that instrument and evaluate it for any data encoding biases and post their analysis. The analysis be posted to one of the discussion forums and will include the demographic category that was evaluated, any data encoding biases that were identified along with recommendations for improvement. Students will be evaluated on well they describe data encoding bias and how their recommendations would address the biases they identified.
Instructor feedback will be provided within 3 (work) days of the assignment due date.

DE Adaptations for MOE

Discussion/participation would be facilitated by the CMS. Since the discussions will be held online, deadlines for posting would explicitly define when initial and respondent postings would be required. Grading rubrics will be posted along with the assignment.

Assignments

Assignment Type

Other

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Access Project #1

Healthy Myles Fitness Center
CREATING A TABLE, QUERY, FORM, AND REPORT

GETTING STARTED
• Open the file NP_AC16_1a_FirstLastName_1.accdb

PROJECT STEPS
1. You are employed at Healthy Myles Fitness Center and are in charge of consolidating the company's records and other important information into a database. The owners expect that the database will help them run the business more smoothly. You start by setting up the basic structure of the database.
Create a new table in Datasheet View:
a. Save the table as tblClient. (Hint: Do not type the period.)
b. Change the name of the ID field in the tblClient table to ClientID. (Hint: Do not type the period.)
c. Change the data type of the ClientID field to Short Text.
d. Create the following fields in the table, using the Short Text data type, in the order shown: FirstName, LastName, Address, City, State, and Zip. (Hint: Do not type the period.)
2. With the tblClient table still open in Datasheet View, enter the records shown in Table 1 on the next page. (If necessary, resize the Address field to best fit the data it contains.) Close the tblClient table, saving if necessary.

Table 1: tblClient Table Records

ClientID FirstName LastName Address City State Zip
A10027 Jenny Lin 220 Delaware Ave. Buffalo NY 14202
B18423 Adam Smith 266 Elmwood Ave. Buffalo NY 14222

3. Open the tblLocation table in Datasheet View, and then update the table as described below:
a. Change the name of the ID field to LocationID. (Hint: Do not type the period.)
b. Change the data type of the LocationID field to Short Text.
c. Save the table, but do not close it.
4. With the tblLocation table still open in Datasheet View, change the data type of the LocationOpened field to Date/Time. Save, but do not close, the table.
5. With the tblLocation table still open in Datasheet View, enter the records shown in Table 2 below into the tblLocation table. Close the tblLocation table.

Table 2: tblLocation Table Records

LocationID LocationName LocationOpened Address City State ZipCode Phone
301 Elmwood 5/2/2014 1400 Elmwood Ave. Buffalo NY 14216 716-555-1212
308 Sheridan 1/5/2015 5200 Sheridan Dr. Buffalo NY 14221 716-555-7621

6. You have been provided with a support file that contains a table with additional equipment data. The tblEquipment table has the same design as the tblGym table in the support file. Copy all the records from the tblGym table in the file Support_NP_AC16_1a_Equipment.accdb, available for download from the SAM website, and paste them at the end of the tblEquipment table in the current database. Close the tblEquipment table.
7. Use the Simple Query Wizard to create a query based on the tblTrainer table as described below:
a. Include the FirstName, LastName, and Specialty fields (in that order) from the tblTrainer table in the query.
b. Name the query qrySpecialties, and then close the query.
8. You now want to create a simple form to allow employees to update information on the trainers employed at Healthy Myles Fitness Center.
a. Use the Form tool to create a simple form based on the tblTrainer table.
b. Save the form with the name frmTrainer. (Hint: Do not type the period.)
9. Switch the frmTrainer form to Form View, use the navigation buttons to navigate to the third record (with the TrainerID field value 454), and then change the Certification field value to ACSM. (Hint: Do not type the period.)
10. With the frmTrainer form still open in Form View, navigate to the last record (with the TrainerID field value 709) in the frmTrainer form, and then change the Specialty field value to Strength Training. (Hint: Do not type the period.) Navigate back to the first record in the tblTrainer table, and then close the form.
11. Use the Report tool to create a report based on the tblEquipment table. Save the report as rptEquipmentList, then close the report.

12. You decide to adjust the formatting of the rptTrainer report to make it easier to read and to make it fit on one page.
a. Open the rptTrainer report in Layout View, and then reduce the width of the TrainerID column so it is approximately as wide as the text "TrainerID" in the column heading, or 0.8".

b. Select the text box that appears below the TrainerID column (and contains the number 9) in the rptTrainer report. Then use the mouse to resize the height of the text box slightly so that it is tall enough to completely display the value it contains, or approximately 0.27" high, as shown in Figure 1 on the next page. Save the report.
c. Select the text box that appears below the Specialty column and that contains the text "Page 1 of 1". Use an arrow key to move the text box to the left so that its left edge vertically aligns with the left edge of the Specialty column above it. Right-align the text. View the report in Print Preview to see the changes you made. Save and close the report.
Figure 1: rptTrainer Report

Save and close any open objects in your database. Compact and repair your database, close it, and then exit Access. Follow the procedure to submit your completed project. Projects will be graded within 3 days of the project deadline.

How assignment will be adapted in online format

For all class modalities (online, face-to-face, hybrid), the assignment is posted on the CMS as a starting document, which the student downloads, and updates by including/making the modifications indicated in the instruction file. Upon completion the student document is uploaded to the assignment folder on the CMS. Graded feedback, with comments, will be provided via the CMS gradebook within one week of the assignment due date.

Assignment Type

Other

In-class and/or outside of class

In-class

Formative or Summative

Summative

Assignment

The Comprehensive Final Exam contains a random selection of multiple-choice questions, randomly drawn from the test bank (the same test banks that were used for the module quizzes).

How do you display the results of a query listed in the Navigation Pane?
a. Right-click the query, and then click Design View on the shortcut menu.
b. Right-click the query, and then click Run on the shortcut menu.
c. Double-click the query.
d. Click the query, and then click the Open button in the Navigation Pane.

If you used D*n as the criterion in a Short Text field called FirstName, what would appear in that field in the query results?
a. names that start with D and include n anywhere else, such as Donald
b. names that start with D, such as Drew
c. names that end with n, such as Leon
d. names that start with D and end with n, such as Dean

Which control allows you to type an entry or choose an entry from a list?
a. combo box
b. list box
c. label
d. text box

Which of the following commands can you use to add a picture to a form? Select all the options that apply.
a. Insert Image
b. Logo
c. Online Pictures
d. Background Image

_____ are properties of an action that provide additional information on how the action should execute.
a. Comments
b. Arguments
c. Events

d. Conditions

Which of the following tasks is a good candidate for a macro?
a. Modifying the design of a form
b. Printing several reports
c. Creating a report
d Adding a chart to a tab control

To select records in the Sales table that have no related records in the Customers table, create a(n) _____ join.
a. right inner
b. orphan outer
c. select inner
d. right outer

How assignment will be adapted in online format

Question pools are stored on the CMS and tests are generated 'on the fly' from these pools by the CMS. The CMS scores the final exam, and presents immediate feedback to the student. Tests are timed, and the CMS can provide extra-time accommodations for qualified students. Feedback is provided immediately upon completion of the via the CMS.

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Summative

Assignment

Algorithmic bias describes systematic and repeatable errors in a computer system that create unfair outcomes, such as privileging one arbitrary group of users over others. Limited data encoding schemes (e.g. binary values for gender) can also introduce bias.

Think of a specific example of data encoding bias. Describe the nature of the bias. What negative and unfair outcomes might occur with respect to race, gender, or other identity factors? Be specific. What are some ways that potential bias in such a system could be reduced or mitigated? The system described can be an actual documented system that has been proven to be biased (cite your source), or you can describe a fictitious system of your own imagination that contains some form of data encoding bias.

How assignment will be adapted in online format

This assignment will be administered through the assignments area of the course management system. Students will post their discussion responses to the appropriate discussion thread of the course management system. Postings will be graded within one week of the assignment deadline.

Assignment Type

Reading

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Read the chapter and supplemental lecture material on query building. Once you have a good understanding of the material, review the key terms in the module summary, and provide a working definition and example for each term. Check your work against the module content. For those terms you didn't understand, review the appropriate section in the module. If you are unclear about any of the techniques or terms presented in the module post a question in the QUESTIONS discussion forum.

How assignment will be adapted in online format

Questions (from the student) will be posted in a discussion forum on the CMS, and will be responded to within two work days of the posting.

Course Materials

Textbooks

Gaskin, S., Graviett, N. (2020). GO! with Microsoft Office 365, Access 2019 Comprehensive Pearson. ISBN-10: 0135442044 | ISBN-13: 9780135442043

Class Size Information

Class Size

35

Class Size Category

B - Facilitated learning 35

Diversity and Inclusion

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

Learning materials are ADA compliant. Projects and assignments in Business Administration should include datasets and case studies that address diversity. Instruction should acknowledge the challenges that technology poses to diversity and equity (e.g. Digital Divide, racial and gender bias in Artificial Intelligence, data encoding bias, etc.), as well as the opportunities that technology affords in confronting and overcoming racial, gender, age and other biases. Diversity and inclusion is infused in the course through an acknowledgement of biases and prejudices that may exist, and a holistic view that each individual can make a positive impact in combating bias and prejudice in the workplace and society in their sphere of influence.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

Learning materials are ADA compliant. Instruction will include diverse view points and should include readings and videos by authors that promote diversity and inclusion, and should highlight achievements and at least participation of diverse individuals in the business world - both historical, and present day.

Data encoding bias can come about in many ways, not the least of which is the way data is encoded and stored. In the projects and activities where we examine ways to model and capture information, we continue to be mindful of the context of the student in terms of interests, identities, cultural and linguistic practices and histories.

Interactions

Explain how the course will incorporate student-to-student interaction.

A 'student cafe' will be available for students to chat amongst themselves (w/o instructor interaction (or 'peeping') unless called in to examine inappropriate behaviors: bullying, harassment, ...).
Students will also engage with one another in periodic discussion activities. These topics generally focus on professional ethics, career development, DEI, and working with others. There is also a shared ‘reflection’ discussion where students have the opportunity to share (as much or as little) as they choose about their learning process in the class, areas where they excelled, areas where they had trouble, and any barriers they encountered along the way.

Explain how the course will incorporate instructor-to-student interaction.

Instructor-student interaction includes pre-semester welcome letter, course announcements and reminders that highlight major calendar events, module/chapter introductions and overviews on database design, reports and queries creation, and forms development, detailed lecture and video presentations on the course material, timely feedback on assignments and database projects, and opportunities to engage in traditional and online office hours.

Explain how the course will incorporate student-to-content interaction.

Assigned projects that require the student to examine the material and apply what they've learned in the design and development of all aspects of database application. The course structure permits multiple attempts on projects and quizzes. Weekly / bi-weekly peer-

to-peer discussion activities are designed to foster community and to explore different perspectives on career choices, professional comportment and working with others.

Explain how the course will incorporate student-to-self interaction (metacognitive).

Self reflection activities occur a couple of times during the course where consideration is given to their approach to learning the material, how successful they've been in mastering the material, and how they might change their study habits / participation in course, so as to satisfy the goals they had set for themselves when entering the course.
How are they doing with data modeling and the design process in general: are the linkages between data elements ‘intuitive’ or ‘baffling’ or somewhere in between. Are report and forms layout considerations ‘logical’ or troublesome – what might help to make the process more understandable. Which aspects of database programming remain problematic, and how might these issues be resolved.

Key: 639