

# Microsoft Access, 2016

## Assignment #2

In this assignment you will use Access to store information about CMAP120 classes scheduled on all three campuses as well as the classrooms where they are scheduled to be taught. Once these tables are filled, you will connect them using a relationship and then build queries drawing data from both tables. The second query will include calculations to determine how many minutes of instruction are being offered on each campus per week. You will complete the assignment by creating custom reports displaying the results of your queries.

### Set-up

- 1) Create a new blank desktop database and save it as "CMAP\_Schedule\_LastName\_FirstName" replacing the words LastName and FirstName with your name.
- 2) Modify the default table by saving it as "classroom\_data" and creating the following fields:

Field Name	Data Type	Field Size	Notes
Room	Short Text	7	key field
Building	Short Text	20	
Campus	Short Text	30	

### Add Data

- 3) Save the table and view it in "DataSheet View" to add the following entries:

Room	Building	Campus
CS018	Computer Science	Rockville
CS021	Computer Science	Rockville
HT104	High Technology	Germantown
HU311	Humanities	Rockville
HU313	Humanities	Rockville
HU319	Humanities	Rockville
HU325	Humanities	Rockville
MT206	Macklin Tower	Rockville
SC450	Science Center	Rockville
ST329	Student Services	Takoma Park/Silver Spring
ST331	Student Services	Takoma Park/Silver Spring
ST332	Student Services	Takoma Park/Silver Spring

- 4) Close the "classroom\_data" table, and choose to import the Excel table "CMAP120\_schedule.xlsx" as a new table in the current database. The spreadsheet does contain column headings for each field name, and no primary key field. Save the new table as "schedule\_data" (do not bother to save the import steps).

## Create a Relationship

- 5) Close any open tables and start the Relationship Tool. If no relationships appear “add” the tables “classroom\_data” and “schedule\_data” to the workspace. If any relationships do appear with titles like “MSysNavPaneGroups” or “MSysNavPaneGroupCategories” select those tables and choose the option to “Hide Table”. Once the “Relationship Tool” has a blank canvas drag the “classroom\_data” and “schedule\_data” tables to the empty canvas.
- 6) Select the “Room” field from the “classroom\_data” table and drag it to the “Room” field in the “schedule\_data” table. Be sure to enforce referential integrity and cascading updates and deletes.
- 7) Once the relationship is built “Close” the Relationship Tools => Design tab saving your work if requested.
- 8) Open the “classroom\_data” table and click on one of the plus signs in front of a room record to be sure that it is linked to the classes scheduled to be taught in that room (HT104 should link to six classes). Once the link is verified, close the “classroom\_data” table.

## Create Queries for the Data

- 9) The first report to be generated will require a query that groups by campus, and then sorts by day and time. Create the query so it includes the “Campus”, “Building”, “Course”, “CRN”, “Days”, “Start”, “Stop”, and “Room”. Save the query as “campus\_schedule” and view the results to ensure you have 21 records in the result. Close the query.
- 10) The second report will show how many hours of class time are being offered on each campus for CMAP120 and will require a query with “Campus”, “CRN”, “Room”, “Days”, “Start”, and “Stop”. This query will also include three calculated fields in order to determine how many minutes of class time are being used on each campus. Open the query design tool and complete the following tasks:
  - Add the fields “Campus”, “CRN”, “Room”, “Days”, “Start”, and “Stop”;
  - In the next blank column of the query design type **Minutes\_Per\_Day: DateDiff("n",[Start],[Stop])** in order to use a function named DateDiff() to calculate how many minutes (“n”) occur between the start and stop of class;
  - In the next blank column type **Number\_Of\_Days: Len([Days])** to determine the number of days (length of the string) that the course is taught each week;
  - In the next blank column type **Total\_Minutes: [Minutes\_Per\_Day]\*[Number\_Of\_Days]** which multiplies minutes per day times days per week to get minutes per week.
- 11) View the query to confirm that the calculated fields were typed correctly and save the query as “campus\_minutes”. Close the query.

## Report the Results of the Queries

- 12) The first report will list the classes offered on each campus, grouped by campus and sorted by day and time (so a student can find a convenient campus and start time for their schedule). Create a report using the “Report Wizard” and be sure the query “campus\_schedule” has been selected. Add all of the available fields to the report except for “Course”. Choose to view your report “by schedule\_data” and group by “Campus”. Sort the records by “Days”, “Start” and “Stop” and display the results in a landscape orientation. Change the name of the report to “Schedule\_by\_Campus” and preview the report

- 13) Close the Print Preview view and view the report in "Layout View".
  - Change the width so the entire campus name shows (note "Takoma Park/Silver Spring").
  - Decrease the space for "Days" to reduce wasted space.
  - Move "Start", "Stop" and "Building" into the available space.
  - Expand the width of the "Building" column so all names are fully visible.
  - Change the title of the report to "CMAP120 Classes Offered by Campus".
- 14) Preview the report in "Print Preview" then save and close the report.
- 15) The second report will provide summary information about how much time is used in each classroom and campus to deliver CMAP120 classes. Using the "Report Wizard" create a report that is based on the "campus\_minutes" query. Add the fields "Campus", "Days", "Minutes\_Per\_Day", and "Total\_Minutes" and view the data "by classroom\_data". There is no grouping required, but the records should be sorted by "Days". Once "Days" has been selected for sorting, choose the "Summary Options" button to select the "Sum" option for "Total\_Minutes". Change the layout to a "Block" layout and save the report as "Room\_Use\_by\_Campus" and preview the report.
- 16) Close the Print Preview view and view the report in "Layout View"
  - Reposition the "Minutes\_Per\_Day" and "Total\_Minutes" so they are evenly spread across the page.
  - Resize the label that starts "Summary for 'Campus'..." so that it ends before the "Total\_Minutes" column starts.
  - Select the sum of total minutes (825 for Germantown) and position it so it is just under the last record of the campus it references.
  - Delete the label that says "Sum"
  - Move the grand total of minutes so it is not along the right margin.
  - Change the title of the report to "CMAP120 Room Use for Each Campus"
- 17) Preview the report in "Print Preview" then save and close the report.

### Finish the database

- 18) Save the database and add a comment in the document properties with your name and today's date.
- 19) Submit the worksheet following the instructions given to you by your instructor.