Video "Running an Analysis" (3:17 min)

MATLAB Screen (0:00):

In this short video we will take you through the entire data analysis process in MATLAB. When we open MATLAB we are in the default directory. You may need to change the directory if you want to keep your project somewhere else. We'll put each analysis in a separate directory to keep organized.

Create Project Directory (0:20):

To create the project directory right click in the current folder window and click the new folder option. I'm going to call this Getting Started Lesson. Double click on the new folder to make that folder your new directory. Notice that MATLAB shows I'm in the correct folder. We'll always create a document called a script to keep are analysis so that we can easily re-run the commands or apply them to another data set. Scripts also allow us to keep a record of what we did which is starting to be required for publications in peer reviewed journals. To create an empty document to hold my commands I go to new in the menu bar and select script. I get a new editor window for the script. I will dock it in the MATLAB screen so we can see it better. I'll save this script as getting started so I don't forget.

Getting Started Script (1:23):

Make sure you don't put blanks in your script names or put the .m at the end of the name. Now I'm ready to begin the analysis. The first step is to bring the data into the MATLAB workspace. The data we will use for this script is stored in the count.dat file that comes with MATLAB. I enter the load command and save my script. To run the script and do the load, I click on the green arrow. The load brings the count.dat data into MATLAB and creates a variable called count to hold the data. We'll have a variable for every data set that we work with. Variables allow us to work with the data using well defined names. The workspace browser shows all our variable and how big they are. Count is a variable with 24 rows and 3 columns. If I double click on the count variable in the workspace window that opens up a variable editor that I can use to look at and change the data. Compare those values to the data listed in the table at the beginning of the lesson. To get back to the script we click to the editor bar. Now lets plot the data. We enter the figure command to create a new figure window, the plot command to actually plot the data. Notice that just entering the commands into the script document does not make them execute. We have to save the script and run it to actually execute the commands. We hit the save icon to save the script and then we hit the green arrow to run the script. When the script runs we know that it will load the data and plot the data and produce a figure with three lines on the graph. Each line corresponds to one column in the data. We have done a complete data analysis in three lines of code. Unfortunately the graph isn't finished because it has no identifying information. We'll discuss labeling the graph in the next video.