# MET 3601 Syntax Problem #7

Please do your work in the syntax-problems folder on the JupyterHub and DON'T forget to also upload both the figure and the .ipynb file to Canvas!

https://fit24f-1.ees220002.projects.jetstream-cloud.org/

**Objectives**

1. Practice Writing Python code
2. Practice Running Python code
3. Use of comment block at beginning of code and comments throughout code
4. Practice selective execution with Python syntax

*Due by 11:59 p.m. on 9/26/2024 (Thursday)*

**Problem**

1. Write a Python program that will read the input file KMLB.txt (downloaded from Mesowest (https://mesowest.utah.edu/) and perform a few tasks. (File is available in the syntax folder in the JupyterHub and on Canvas). Use the existing syntax7.ipynb file – it will give you a head start!

a) Plot line graph of the temperature and dewpoint on the same plot. Make sure there is a 1) title, 2) appropriate labels (with the temperature units on the y axis and time (UTC) on the x) and 3) a legend on the figure. Save the figure to a '.png' file and name it kmlb_temps_lastname.png.

**Helpful Hints:**

Read the data using the cousin of loadtxt, i.e. "genfromtxt" numpy module:

np.genfromtxt(path+file, delimiter='\t', dtype='?', usecols=?, skip_header=?)

where \t indicates that the data are tab delimited, dtype = 'str' or 'float', usecols = the column that the data is in[1] and skip_header = # of header lines to skip to get to the first data line in the file.

For plotting purposes, you will need the date time string (usecols = 1), the temperature (usecols = 2), and the dew point temperature (usecols = 4).

The path and file variables are the directory (folder) and filename as shown in class.

*Notes*:

See the previous syntax assignments.

[1] DRL read each of the variables (the datetime string, temperature, and dewpoint) as separate lines).