

# In-Class Activity 1 - Using the Plot Function

## ME 3001-002- Mechanical Engineering Analysis - Fall 2021

### Overview:

You will write a program to generate sample data and graph this data in a correctly formatted scatter plot shown in the figure window.

### Learning Objectives:

- You will practice and learn to produce organized graphs to represent a response equation.

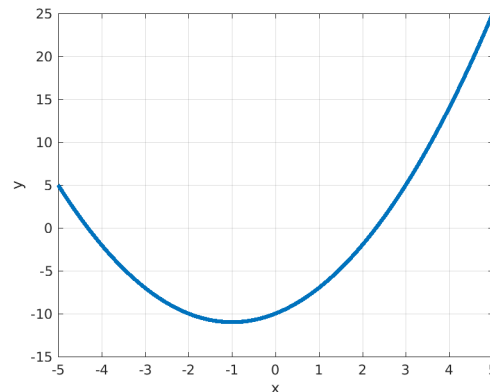
### Required Materials:

- **Your Computer:** This activity requires a computer with MATLAB or Octave installed.

### Activity:

1. Consider the parabola shown below and write the mathematical function describing the height  $y(x)$  and a function of the variable  $x$ .

$$y(x) = fn(x) =$$



2. Write a simple MATLAB program named `<USERNAME>_using_plot.m` to graph the function in the *Figure(1) window*. Use a range range of x-values ranging from  $x = -5$  to  $x = 5$  and a stepsize that allows the curve to appear smooth. Label all the axes and give the plot a reasonable title.
3. Estimate or find the values of  $x$  that make the function  $y(x)$  equal to zero. Show two additional markers on the plot to indicate these points.
4. Save the figure as a PNG file called `<USERNAME>_using_plot.png`

### Submit:

Submit `<USERNAME>_using_plot.m` and `<USERNAME>_using_plot.png` to the Activity 1 folder before the posted due date.