Fall 2021 | MECH 6318
Engineering Optimization – Prof. Jie Zhang
HOMEWORK #4
September 21, 2021

DUE: Tuesday, September 28, 2021 **5pm (central time)**
Submit the HW to eLearning

Points Distribution
30 points maximum
-5 to 0 points reserved for **Neatness and Professional Presentation**
(legible, stapled, show key Matlab commands, properly labeled plots, etc.)

Matlab Problem:

Write a Matlab code for the Simplex method for linear programming that estimates the minimum of the function in Problem 11.8. Verify the correctness of your solution from HW3.

Additional Problem:

Consider the following LP Problem:

$$\text{Minimize } f = 3x_1 + x_3 + 2x_5$$

Subject to

$$x_1 + x_3 - x_4 + x_5 = -1$$
$$x_2 - 2x_3 + 3x_4 + 2x_5 = -2$$
$$x_i \geq 0, \; i = 1 \text{ to } 5$$

Solve this problem using the dual simplex method.