Due: upload to Gradescope by Friday 25 October 2019 at 3pm.

Reading: Chapter 3.1, 3.2 from the textbook.

Grading: 1 point per exercise for completeness. The exercises marked with a ($\star$) will also be graded for correctness, and will be assigned an additional 3 points each.

Submit your written solution to the following question:

Q1: Verify that the kernel and image of a linear transformation are closed under addition, scalar multiplication and contain the origin.

Submit written solutions to the following questions from the textbook:

Chapter 3.1:
Ex. 2
Ex. 3
Ex. 8 ($\star$)
Ex. 14
Ex. 17
Ex. 19 ($\star$)
Ex. 24
Ex. 34

Chapter 3.2:
Ex. 1($\star$)
Ex. 4
Ex. 8
Ex. 13
Ex. 15
Ex. 22
Ex. 24
Ex. 29
Ex. 30 ($\star$)

Optional exercise (this will not be graded, and you should not upload your solutions for this): Chapter 2.4 Ex. 48.