Assessment Type: Assignment # 4	**Course Name / Code:** Linear Algebra II / ES304
Section: n/a	**Instructor:** Dr. Babar Zaman
Semester: Spring 2023	**Weightage: 2%**

Concerned CLOs:

- Be able to demonstrate understanding of vector spaces and solve problems related to vector spaces, including eigenspace and its associated parameters. (PLO1 -Engineering Knowledge) (Bloom's Taxonomy Level: C2 = Application)

Instructions:

- Assignment questions are from the **relevant sections of the textbook book covered in the class**. Please see the course handout to identify **the correct textbook edition.**
- Each assignment will be followed by a quiz and doing the assignment questions yourself will help you perform well in the **quizzes, and both carry significant weightage.**
- Thus, please make sure to **do the assignment yourself and in a manner such that the solutions for your questions are easily understood by the instructor**. These points will be considered in the marking of the assignment.
- Both, the **plagiarism policy as well as the late submission policy will be applied**, as follows:
    - **Plagiarism policy**: Any copying found in the assignment will be deemed plagiarism and **zero marks will be allocated to both/all the involved parties for the whole assignment.** Repeated violations may result in a more severe penalty.
    - **Late submission policy: (**Same day but late: -25%, One day late: -50%, More than 1 day late: -100%)
- The due date for this assignment is Monday**, December 4th, 2023**. **Please submit your assignments solutions in the class/quiz on the due date**.

Assignment Tasks:

- Read book sections **Chapter 4** (4.2-4.5)
- Solve the following end-problems from the book.

Sr. No.	Section No. and title	Problems
1	4.2 - Null Spaces, Column Spaces, Row Spaces, and Linear Transformations	2, 6, 13, 16, 19, 24, 32, 39 and 44
2	4.3 – Linearly independent sets; Bases	8, 10, 14, 16, 24, 31, 36 and 44
3	4.4 – Coordinate Systems	4, 8, 12, 14, 20, 22, 25 and 35b
4	4.5 – The dimension of a Vector Space	6, 8, 10, 16, 19, 25, 33, 36, 38, 40, 45 and 49