material already covered in MAT137

The following is a list of the material from Salas, Hille, Etgen textbook (for brief we denote it by SHE, 10th edition, which has been used for MAT137). These material are either identical to the material in MAT237 or they are used as a direct prerequisite.

It is the responsibility of the students to make sure these background material are mastered before the lectures reach the relevant material.

1.1: section 1.2 and 1.3 of SHE: definition and properties of absolute value and inequalities and triangle inequality for absolute value. Section 1.4 of SHE: equations of line, parallel and perpendicula lines.

1.2: sections 1.2 and 1.3 of SHE.

1.3: section 1.7 of SHE: composition of functions. sections 2.1 and 2.2 of SHE: the limit process and ϵ-delta arguments. Section 2.3 of SHE: limit theorems (see also the supplementary proofs.) Section 2.4 of SHE: continuity theorems and arguments. Theorems 2.4.4 (composition of functions and continuity), section 2.4 exercises 45-47, 50, also section 2.5

1.4: section 1.8 of SHE: proof by induction and sequences, sections 11.2 and 11.3 in detail

1.5: section 11.1 of SHE

1.6: section 2.6 of SHE together with Appendix B sections

1.7: section 2.6 of SHE together with Appendix B

1.8: section 2.5 exercises 53, 54

2.1: sections 3.1, 3.3, 4.1, 4.2 of SHE

2.2: section 4.11 of SHE

2.3: sections 3.5 of SHE

2.4: section 4.1 of SHE

2.5: section 3.7 of SHE

2.6: section 3.3 of SHE

2.7: section 12.6 of SHE

2.8: section 4.3 of SHE and eigne values and diagonaliation of a matrix from Linear ALgebra

2.9: sections 4.4 and 4.5 of SHE

2.10:

3.1: sections 3.7, 2.6 and Appendix B of SHE, also solving systems of linear equations from linear Algebra

3.2: sections 10.5 and 10.6 of SHE

3.3:

3.4: section 10.2 of SHE

4.1: sections 5.2, 5.8 and 5.9 of SHE

4.2: sections 5.3, 5.4 and 5.8 of SHE

4.3:

4.4: section 5.7 of SHE

4.5: sections 5.3 and 5.4 of SHE

5.1: section 6.5 of SHE

5.2: section 5.2 of SHE

5.3:

5.4:

5.5:

5.7:

5.8: section 5.6 of SHE