

**TUTORIAL EXERCISES FOR FIRST TWO WEEKS**

*Topics:*

*Definitions: vector space, vector subspace.*

*Spanning, linear independence, basis, dimension.*

Ch 2.I

1.21

1.31

2.20

2.21

2.24

2.25(c,d,e)

2.26(b,c,d)

Ch 2.II.

1.18(b,c)

1.19

1.24

1.29(b)

1.33

1.38(a)

Ch 2.III.

1.16

1.17

1.19

1.21(a,c)

1.26

1.28

1.32(a)

2.17

2.18

2.21

3.19-3.24

3.26

3.28

**TUTORIAL EXERCISES FOR THIRD WEEK**

*Topics:*

*Matrix representations of linear maps*

*and the rank-nullity theorem.*

Ch3.I.

p54:

1.18(c,d)

1.29

p62:

2.22(a,e)

2.23

2.24  
2.30  
2.31  
2.37

Ch3.II.

p70:  
1.14  
1.17(a,d,e)  
1.19  
1.22  
1.26

p75:  
2.11  
2.13

**TUTORIAL EXERCISES FOR FINAL WEEK**

*Topics:*  
*Change of basis matrices*  
*Diagonalisation*

Ch 3.III.

1.7(b,c,d)  
1.9  
1.10

2.12  
2.24(a)

Ch 5.I.

1.7  
1.11

2.7  
2.14

3.20  
3.21  
3.25  
3.26  
3.27