Mechanics 2
SCHEDULE 2018-2019 (NB: Will be updated regularly)

Updated: 01 January 2019

Date	Lecture	Self-study	To be handed in
24-Jul-18	**General information** **Chapter 1: The motion of projectiles** 1.1 Velocity as a vector: pp. 1–4 Examples 1.1.1, 1.1.2, 1.1.3 Exercise 1A: Pr. 2, 5, 8, 9 1.2 Coordinate methods: pp. 4–12 Examples 1.2.1, Example 1.2.4 Exercise 1B: 1, 2, 4, 6, 8	Read pp. 1–4 Read pp: 4-12 Examples 1.2.2, 1.2.3 Exercise 1B: 3, 5, 7, 9, 19	Exercise 1A: 1, 4, 6, 7, 10 **Hand in on:** 31 July 2018
31-Jul-18	1.2 Coordinate methods: pp. 4–12 Examples 1.2.1, Example 1.2.4 Exercise 1B: 1, 2, 4, 6, 8	Read pp: 12 – 17 Examples 1.3.1, 1.3.2 Exercise 1C: 2, 4, 5, 7, 9, 11, 13	Exercise 1B: 3, 19 Exercise 1C: 2, 7, 11 **Hand in on:** 07 August 2018
07-Aug-18	Exercise 1B: 8, 15, 18, 14 1.3 Some general formulae: pp. 12 – 17 Examples 1.3.2 Exercise 1C: 1, 3, 6, 8, 10, 12	Exercise 1C: 2, 4, 5, 7, 9, 11, 13	**Hand in on**: 14 August 2018
14-Aug-18	**Chapter 2: Moments** 2.1 Rigid objects: pp. 21 – 22 2.2 Centre of mass: pp. 22 – 28 2.3 The moment of a force: pp. 23 – 28 Examples 2.3.1 Exercise 2A: 5, 6, 7	Read pp: 21 – 26 Examples 2.3.1, 2.3.2 Exercise 2A: 2, 4	Exercise 2A: 1, 3 **Hand in on:** 21 August 2018
21-Aug-18	2.4 Forces from supports: pp. 28 – 29 Examples 2.4.1, 2, 3 Exercise 2B: 1, 3 2.5 Forces in different directions: 33 – 38 Examples 2.5.1, 2, 3 Exercise 2C: 2(a), 3(b), 4(c), 5(a), 9	Read pp. 28-31, 33-35 Examples 2.4.1-3, 2.5.1-3 Exercise 2B: 2, 7 Exercise 21: 1, 2, 3, 4, 5, 14	Exercise 2B: 2, 7 Exercise 2C: 2(d), 3(d), 4(b), 14 **Hand in on:** 28 August 2018
28-Aug-18	**Chapter 3: Centre of mass** 3.1 One-D objects: pg. 41 – 43 3.2 Two-D objects: pp. 43 – 48 Exercise 3A: 10, 16 Miscellaneous exercise 3: 1, 5 3.3 Hanging and balancing: pp. 48 – 51	Read pp. 41-45 Examples 3.2.1, 3.2.2 Exercise 3A: 1, 2 Miscellaneous Exercise 3: 2, 3, 4	Exercise 3A: 2, 7 **Hand in on:** 04 September 2018
04-Sep-18	**Chapter 4: Rigid objects in equilibrium** 4.1 Equilibrium equations: pp. 59 – 65 Examples 4.1.1, 2, 4 Exercise 4A: 1, 5 4.2 Breaking equilibrium by sliding or toppling: pp. 65 – 68 Examples 4.2.1	Read: pp. 43-53 Examples: 4.2.1- 4.2.4 Examples: 4.4.1- 4.4.3	Exercise 4A: 2, 3 Exercise 4B: 2, 3 **Hand in on:** 11 September 2018
11-Sep-18	**4.3 Locating lines of action: pg. 68 – 70** Examples 4.3.1, 2 Exercise 4B: 4, 8 Miscellaneous Exercise 4: 11, 4		
18-Sep-18	**Tutorial**		
25-Sep-18	**Sport Prize giving – no class**		

Holiday			
09-Oct-18	**Revision**		
16-Oct-18	**Revision**		
23-Oct-18	**No class**		
	School exams and Holiday		
15-Jan-19	**Chapter 5: Elastic strings and springs** 5.1 The elastic string model: pp. 79 – 82 Example 5.1.1 , 5.1.3 5.2 Springs and rods: pp. 82 – 86 Example 5.2.1 Exercise 5A: 2, 4, 6	Read pp. 79 – 84 Example 5.1.1-5.1.4 Example 5.2.1 Exercise 5A: 1, 3, 5, 9, 13	Exercise 5A: 3, 5, 9, 13 **Hand in on:** 22-Jan-19
22-Jan-19	5.3 Work done in stretching and compressing: pp. 86 – 87 Example 5.3.1 5.4 Elastic potential energy: pp. 87 – 91 Example 5.4.1 Exercise 5B:3 Miscellaneous Ex. 14	Read pp. 86 – 89 Example 5.3.1 Example 5.4.1, 5.4.2 Exercise 5B:2 Miscellaneous Ex. 1, 7, 13, 17	Exercise 5B: 2 Miscellaneous Ex.5: 1, 7, 17 **Hand in on:** 29-Jan-19
29-Jan-19	**Chapter 6: Motion round a circle** 6.1 Two practical example: pg. 101 6.2 Angular speed: pp. 102 – 104 Examples 6.2.1-6.2.3 Exercise 6A: 11 6.3 Calculating the acceleration: pp. 104 – 107 Examples 6.3.1, 6.3.3, 6.3.4 Exercise 6B: 9 6.5 Three dimensional problems: pp. 109 – 112 Examples 6.5.1, 6.5.2 Exercise 6C: 7	Read pp. 99 – 111 Work through all the examples in the chapter	Exercise 6A: 10 Exercise 6B: 1 Exercise 6C: 9 Miscellaneous Ex. 6: 7, 13 **Hand in on:** 05-Feb-19
05-Feb-19	**Chapter 8: Centre of mass of special shapes** 8.1 Uniform wire shapes: pp. 129 – 130 Ex. 8.1.1 8.2 Uniform lamina shapes: pp. 130 – 135 Example. 8.2.1 Exercise 8A: 1, 2 8.3 Uniform solid shapes: pp. 135 – 136 Example. 8.3.1 8.4 Uniform shell shapes: pp. 137 – 138	Read pp. 129 – 139 Read Example 8.2.2.	Exercise 8A: 3, 4, 8 Miscellaneous Ex. 8: Nr .7 Practise examination 1, pg. 191: Nr 3 **Hand in on:** 12-Feb-19
12-Feb-19	**Chapter 9: Linear motion with variable forces** 9.1 Velocity-time equations: pp. 145 – 147 Example 9.1.1, 9.1.2	Read pp. 144 – 149	Exercise 9A: 2, 9 Miscellaneous Ex. 9: Nr .2

	9.2 Displacement-time equations: pp. 148 – 150 Example 9.2.1, 9.2.2 Exercise 9A: Nr. 1, 7		**Hand in on:** 19-Feb-19
19-Feb-19	**9.3 Velocity-displacement equations: pp. 151 – 154** Example 9.3.1, 9.3.2 9.4 Reintroducing time: pp. 155 – 156 9.5 Work done by a force: pp. 156 – 158 Exercise 9B: Nr. 1 (b), 2 (d),7 9.6 Vertical motion with air resistance: pp. 158 – 164 Miscellaneous exercise 9, Nr. 1, 3, 10,	Start working through the exam papers and pose questions via email	Exercise 9B: 1 (a) 2(b). 9 **Hand in on:** 26-Feb-19
26-Feb-19	**Revision**		
05-Mar-19	**Revision**		
12-Mar-19	No class		
Holiday			
17-Apr-18	**Revision**		
24-Apr-18	**Revision**		
01-May-18	**Public holiday**		
08-May-18	**Revision**		
15-May-18	**Revision**		
22-May-18	**Revision**		
23-May-18	**Examination**		