# CM 1 – HW 1 – Due 16 August Midnight 11.59 pm

## Textbook: Introduction to Classical Mechanics, David Morin

1. {20 marks} Exercise 2.20. Block under an overhang.

2. {30 marks} Exercise 2.32. Ladder on a corner.

# CM 1 – HW 2 – Due 30 August Midnight 11.59 pm

Textbook: Introduction to Classical Mechanics, David Morin

1. {30 marks} Exercise 3.30. Atwood's 4.

2. {20 marks} Exercise 3.44. Newton's apple.

3. {20 marks} Exercise 3.57. Rotating hoop.

4. {30 marks} Exercise 3.69. A force $F_\theta = 2m\dot{r}\dot{\theta}$.

# CM 1 – HW 3 – Due 6 September Midnight 11.59 pm

Textbook: Introduction to Classical Mechanics, David Morin

1. {40 marks} Exercise 4.22. Projectile on a spring.

2. {10 marks} Exercise 4.29. Resonance.

# CM 1 – HW 4 – Due 13 September Midnight 11.59 pm

Textbook: Introduction to Classical Mechanics, David Morin

1. {30 marks} Exercise 4.23. Corrections to the pendulum.

2. {20 marks} Exercise 4.33. Beads on angled rails.

# CM 1 – HW 5 – Due 20 September Midnight 11.59 pm

Textbook: Introduction to Classical Mechanics, David Morin

1. {12.5 marks} Exercise 5.49. Pendulum projectile.

2. {25 marks} Exercise 5.61. Spherical Shell.

3. {12.5 marks} Exercise 5.63. Speedy travel.

# CM 1 – HW 6 – Due 27 September Midnight 11.59 pm

## Textbook: Introduction to Classical Mechanics, David Morin

1. {20 marks} Exercise 5.81. Right angle in billiards.

2. {30 marks} Exercise 5.91. Falling chain. [Do not forget to read the note on page 192].

# CM 1 – HW 7 – Due Wed Oct 16 Midnight 11.59 pm

Textbook: Introduction to Classical Mechanics, David Morin

1. {25 marks} Problem 7.7. Rutherford scattering.

2. {25 marks} Exercise 7.21. Repulsive potential.

# CM 1 – HW 8 – Due 12 November Midnight 11.59 pm

Textbook: Introduction to Classical Mechanics, David Morin

1. {20 marks} Exercise 6.25. Spring on a $T$.

2. {20 marks} Exercise 6.33. Second order change.

3. {20 marks} Exercise 6.37. Cartesian coordinates.

4. {20 marks} Exercise 6.40. Atwood's machine.

5. {20 marks} Exercise 6.45. Mass sliding on a rim.

# CM 1 – HW 9 – Last HW

## Due Nov 22 Friday Midnight 11.59 pm

Textbook: Introduction to Classical Mechanics, David Morin

1. {25 marks} Problem 11.47. Successive Lorentz transformations.

2. {25 marks} Exercise 12.6. Head on collision.

3. {25 marks} Exercise 12.7. Compton scattering.