Today we will dive deeper into the spring-mass oscillations.

**To do List**

1. Watch the videos on undamped systems, take detailed notes then and attempt problem 1.

**NOTE:** I will not collect the worksheet problems. These problems are meant to check your understanding and generate questions to ask me during office hours if you get stuck.

**Objectives**

By the end of this lecture you should be able to

1. Set up a second order system describing undamped spring-mass systems and solve them.

**Problems**

1. A spring with a $4 - kg$ mass has a natural length of $1\text{ metre}$, and is maintained stretched to a length of $1.3\text{ metres}$ by a force of $24.3N$. If the spring is compressed to a length of $0.8$ and then released with zero velocity, find the position function. Assuming no damping.

**Reading**

Pages 147-149.

Have a good weekend!