By the end of this unit you should be able to;

1. State that multicellular organisms signal between cells using extracellular signalling molecules.
2. Describe the role of receptor molecules.
3. Describe what happens when a ligand binds to a receptor protein.
4. State that in multicellular organisms different cell types may show a **tissue specific** **response** to the same signal.
5. Describe the action of the hydrophobic signalling molecules, in the control of transcription.
6. Name two examples of hydrophobic signalling molecules.
7. State that **peptide hormones** and **neurotransmitters** are hydrophilic signalling molecules which bind to transmembrane receptors, as they do not enter the cytosol.
8. Describe what happens when a ligand binds to a transmembrane receptor.
9. State that transduced hydrophilic signals often involve cascades of G-proteins or phosphorylation by kinase enzymes.
10. Understand that more than one intracellular signalling pathway can be activated by phosphorylation cascades.
11. Describe in detail the sequence of events which takes place when Insulin binds to

It’s receptor molecule on the membrane of **fat** and **muscle** cells.

1. Describe the causes of type 1 and type 2 diabetes.
2. State that exercise can trigger recruitment of GLUT4 transporters