

Chapter 7 – Protein Function: Myoglobin and Hemoglobin

Objective	In-text reading	Pre-class materials/activities	In-class materials/activities	Practice problems from text
1. Describe hemoglobin's oxygen binding characteristic using a graph and correlate with the protein's function	7.1A-7.1B	Ch. 7 – Protein Function (Dr. Hayden's Lecture) Haemoglobin and Oxygen Dissociation Curves (Video)	S8 – Hemoglobin: Protein Structure and Function, Part I	5 th 3, 4, 5, 4 th 3, 4, 5, 9 3 rd 3, 10
2. Describe and correctly apply the term <i>cooperative binding/homotrophic interaction</i>	7.1C	Ch. 7 – Protein Function (Dr. Hayden's Lecture) Structure and Function of Haemoglobin, Cooperativity (video)	S8 – Hemoglobin: Protein Structure and Function, Part I	5 th 2, 23, 24 4 th 2, 3 rd 2,
3. Define and describe the use of the <i>p₅₀ value</i> .	7.1C-7.1D	Ch. 7 – Protein Function (Dr. Hayden's Lecture) Oxygen-Hemoglobin Dissociation Curve (video)	S8 – Hemoglobin: Protein Structure and Function, Part I	5 th 4, 7, 21, 22 4 th 4, 6, 13 3 rd 6
4. Describe how the change in conformation of hemoglobin caused by allosteric binding is important in hemoglobin function.	7.1C-7.1D	Ch. 7 – Protein Function (Dr. Hayden's Lecture)	S8 – Hemoglobin: Protein Structure and Function, Part II	5 th 6, 8, 10 4 th 8, 15 3 rd 7
5. Depict the effect of allosteric binding using a graph.	See figure 7.11, 7.13	Ch. 7 – Protein Function (Dr. Hayden's Lecture)	S8 – Hemoglobin: Protein Structure and Function, Part II	5 th 26 4 th 12 3 rd 9
6. Apply your knowledge about protein structure/function relationship to predict how changes in hemoglobin sequence (structure) might lead to pathological abnormalities in hemoglobin function.	7.1E	Ch. 7 – Protein Function (Dr. Hayden's Lecture)	S8 – Hemoglobin: Protein Structure and Function, Part II	5 th 9, 10, 7 4 th 14, 16 3 rd 8,