Chapter 5 – Protein Function

5.1 Reversible Binding of a Protein to a Ligand: Oxygen-Binding Proteins
The following sub-sections are important:

- The Introduction
- Oxygen Can Bind to a Heme Prosthetic Group
- Globins Are a Family of Oxygen-Binding Proteins
- Protein-Ligand Interactions Can be Described Quantitatively
- Protein Structure Affects How Ligands Bind
- Hemoglobin Transports Oxygen in Blood
- Hemoglobin Subunits are Structurally Similar to Myoglobin
- Hemoglobin Undergoes a Structural Change on Binding Oxygen
- Hemoglobin Binds Oxygen Cooperatively
- Cooperative Ligand Binding Can be Describes Quantitatively
- Two Models Suggest Mechanisms for Cooperative Binding
- Hemoglobin Also Transports H^+ and CO_2
- Sickle Cell Anemia is a Molecular Disease of Hemoglobin

5.2 Complementary Interactions between Proteins and Ligands: The Immune System and Immunoglobins
The following sub-sections are important:

- The Introduction
- The Immune Response Includes a Specialized Array of Cells and Proteins
- Antibodies Have Two Identical Antigen-Binding Sites
- Antibodies Bind Tightly and Specifically to Antigen
- The Antibody-Antigen Interaction is the Basis for a Variety of Important Analytical Procedures