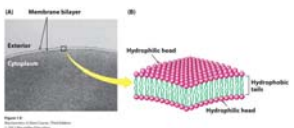
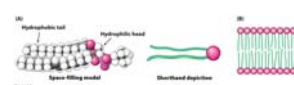


Living Systems

C383



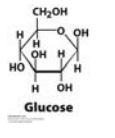
Chemical Basis of Life

- **What is life?**
- Study at the “biological level” vs. study at the “chemical level”
 - Thermodynamics and kinetics
 - Molecular structure
 - Intermolecular interactions
 - Reactions and reactivity
- Broad field
 - **Structure/function**
 - **Metabolism**
 - Central dogma

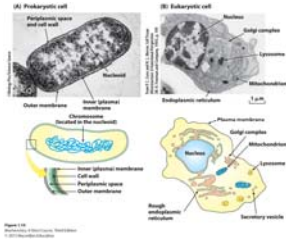
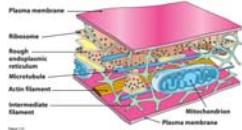
Biomolecules

- Polymers and monomers
- Proteins
- Nucleic Acids
- Carbohydrates
- Lipids

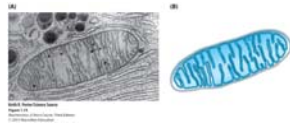
Basic Tour of the Cell

- Prokaryotes vs eukaryotes
- Cellular membranes
 - Environmental equilibrium
- Cytoskeleton



Organelles

- Nucleus
- Mitochondrion
- Endoplasmic Reticulum
- Golgi Complex



In and Out

- Exocytosis
 - Obtain essential nutrients
 - Lysosome for breakdown
- Endocytosis

