

# Kentucky Class Notes

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859.252.NOTE

BIO 308 Steiner  
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Test 1

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- Artificial Pancreas Prototype in Development for Type I Diabetes
  - The artificial pancreas will be available in as little as 4 years
  - Type I Diabetes is a condition where the patient can't produce insulin
- CHAPTER 2
  - Oxidation & Reduction
    - **OXIDATION** is the gain of oxygen or the loss of hydrogen
    - **REDUCTION** is the loss oxygen or the gain hydrogen
    - The following structures of organic compound go from most reduced to most oxidized: alcohol, aldehyde, organic acid
  - **ISOMERS**
    - Isomers are compounds that contain the same atoms but have different structures
    - An example of a pair of isomers is glucose and fructose (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>)
  - Deoxy sugars and sugar alcohols
    - Sorbitol is better than glucose in not causing plaque buildup or cavities
    - Deoxyribose and ribose are other sugars
    - Glycerol is the backbone for phospholipids and glycerides
    - Mannitol fermentation is used in diagnostic tests
  - **SACCHARIDES**
    - Monosaccharides include glucose, fructose
    - Disaccharides include sucrose
    - Polysaccharides include starches [i.e. dextran (polysaccharide of glucose)]