I. Basic location, structures and functions of the heart.
   A. Introduction
      1. Cardiovascular system
      2. Cardiology

   B. Describe the general plan of the heart, its location in the mediastinum, its surface projection, and its general function in the circulatory system. (See Fig. 20.1 and also review basic body cavities from first semester)
      1. Size, shape, and location
      2. General function of heart
      3. Surface projection
         a. apex of heart
         b. apical heart beat
         c. PMI (point of maximal impulse)

   C. Tissue layers surrounding the heart and associated disorders (Fig. 20.2).
      1. Pericardium
         a. Fibrous pericardium (pericardial sac)
         b. Serous pericardium
            1. Parietal pericardium
            2. Visceral pericardium (epicardium)
               c. Pericardial cavity and pericardial fluid
      2. Clinical connections
         a. Pericarditis
         b. Cardiac tamponade
         c. CPR

   D. Wall of the heart and associated disorders
      1. Epicardium
      2. Myocardium
      3. Endocardium
      4. Endocarditis
THE HEART
Text Reference: Chapter 20 and Refer to Lab 1

II. Flow of blood through the heart (Read text & review lab material).
A. Identify the chambers of the heart (Fig. 20.4 in detail), the valves and associated structures, and vessels associated with the heart.
B. Trace the flow of blood through the heart. (Be able to draw from memory)
C. Identify where the blood is oxygenated or deoxygenated.
D. Define/Compare/Contrast: Pulmonary vs. Systemic Circulation (Fig.20.7—on page 706)

III. Describe the circulation of blood through the heart wall itself: Coronary (cardiac) circulation (refer to text and lab in detail, include areas supplied or drained) and discuss related clinical considerations.
A. Coronary Circulation (Fig. 20.3 a and b pages 699 and 700 & Fig.20.8 pg. 707)
   1. Coronary arteries
      c. Left coronary artery ➔ anterior interventricular (left anterior descending artery or LAD) ➔
      d. Left coronary artery ➔ circumflex artery
      e. Right coronary artery ➔
   2. Anastomoses (eg: circumflex and posterior interventricular branch)
   3. Capillaries ➔ cardiac veins ➔ (eventually) coronary sinus
   4. 70% ➔ right atrium
   5. 30% via sinusoids within myocardium ➔ right ventricle (and some to left ventricle)
   6. What is the function of the venae cavae here? (trick question)
   7. Blood supply to the heart during contraction? (Why/why not?)

Revised Spring 2006
THE HEART
Text Reference: Chapter 20 and Refer to Lab 1

B. Coronary Artery Disease: Describe risk factors and arteriosclerosis vs. atherosclerosis. Also describe myocardial ischemia, angina, and myocardial infarction. Describe the diagnosis of CAD and methods used to reestablish flood flow to occluded coronary arteries. Outline this in detail on your own—pages 726-729—and study figures 20.20 and 20.21.

See the next handout: *Angina and Myocardial Infarction*, as well.