**BI 121 Lecture 1**

I. **Announcements**: Please check & sign attendance roster.
   Not on list? See Pat during break/class. *Lab 1 Histology*
   Thursday, 10 am – 5 pm sections in 130 HUE. Much fun!!

II. **Introduction**: Staff, office hr, required sources, course overview, grading, expectations & success. Q?

III. **Human Physiology**
   LS ch 1, DC Module 1,
   A. What? cf: Anatomy LS p 1
   B. Where? Body Levels of Organization LS pp 1-6, DC pp 1-5
   C. How? Different Study Approaches LS p 1

IV. **Homeostasis**
   LS ch 1, DC Module 1
   A. What? Maintenance of ECF LS p 8
   B. Where? ECF = Plasma + Interstitium + ? LS fig 1-4 p 8
   C. How? Simplified Homeostatic Model cf: LS fig 1-7 p 14
      Balances LS p 9, DC pp 5-6
   D. Why? Cell survival! LS fig 1-5 p 9, DC p 5

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**BI 121 Lecture 2**

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**BI 121 Lecture 3**

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**BI 121 Lecture 4**

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I. **Announcements** Nutrition Analysis Lab this Thursday!
   Please record diet on p 3-7 LM & begin analysis using
   [https://www.supertracker.usda.gov/](https://www.supertracker.usda.gov/)

II. **Introduction to Genetics** LS 2012 ch 2 p 20-1 + Appendix C
   A. What’s a gene? Where located? Why important?
      p A-18, fig C-2, C-3
   B. How does information flow in the cell? fig C-6
   C. How does DNA differ from RNA? pp A-20 thru A-22
   E. How & where are proteins made? fig C-7, C-9
   F. Class skit: Making proteins @ ribosomes!

III. **Nutrition Primer** Sizer & Whitney (S&W) Sci Lib
   A. Essential Nutrients: H2O, 10 Carbohydrates,
      20 Fats, 30 Proteins, Vitamins, Minerals; Macro- vs Micro-?
   B. Dietary Guidelines: USDA, AICR, Eat Like the Rainbow!
   C. Diet or exercise? Diet composition & endurance? Fasting?
      Zuti & Goldberg 1976; Sacks AHA NPAM Council 2009;
      AMDR? Adjusted Macronutrient Distribution Range!
   D. Beware of Nutrition Quackery S. Kleiner & Monaco 1990!

II. **Announcements** Lab Notebooks? Q? from last time?
II. **GI Physiology Connections** DC Module 3 pp 17-23, LS ch 15+
   A. How is the gut controlled? Common control mechanisms
   B. GI layers LS fig 15-2 pp 439-43 [DC p 23]
   D. Organ-by-organ review A&P LS tab 15-1 pp 440-1 +
   E. Zymogen? = Inactive precursor LS fig 15-9 p 452...
   F. Accessory organs? Pancreas, Liver, Recyling! pp 457-63
      [http://www.cdc.gov/ulcer Beyond the Basics LS p 456]
   H. Large intestine? LS fig 15-24 pp 472-4

III. **Cardiovascular System** DC Mod 4, LS ch 9, Torstar, G&H+
    A. Circulatory vs. Cardiovascular (CV)? CV vs. Lymphatic
       CV Pulmonary & Systemic circuits DC pp23-31+LS p229+
       DC fig 4-1 p 24, LS fig 9-2b p 231
    B. Arteries, capillaries, veins, varicosities? G&H, Torstar, DC
    C. layers, box, chambers, valves, inflents, outlets
       LS fig 9-4 p 233, fig 9-2a p 231; DC pp 23-6
    D. Normal vs. abnormal blood flow thru & CVS LS, Fox+...

I. **Announcements** Exam I next session; 12 n lab section
   go directly to 129 Huestis (HUE). All others here (100 WIL)!
   Review: Sunday, 6 pm here (100 WIL) Lab notebooks. Q?

II. **Cardiovascular Connections** LS 2012 ch 9, Torstar Books+
    III. **CV Physiology in News** AHA + NHLBI websites. Nic? ACSM,
        AHA, DHHS Healthy people exercise guidelines!
    IV. **Cardiopulmonary Risk Reduction** LS ch 9, 10+
        A. AMI, CVA, CVD, PVD, TIA, HTN? + surgical treatments
        B. Atherosclerosis? LS fig 9-27, 9-25, 9-26 pp 266-8
        C. How to minimize risk of CVDs? Treatment triad:
           Exercise, Diet, Drugs+Surgery
        D. Food choices make a difference?
           What’s HAPOC?