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 pp1-6, DC pp1-5
   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

Bl 121 Lecture 3

--- Anatomy & Physiology Lab Thurs! Fun again!

I. **Announcements** Registered? AEC Notes? **Come to office hr!**

II. **Connections** Videos + Q about Homeostatic Model for BP

III. **Cell Anatomy, Physiology & Compartmentalization** LS ch 2
   B. Basic survival skills LS ch 1 p 3
   C. Organelles = Intracellular specialty shops w/membranes
      1. Endoplasmic Reticulum (ER)
      2. Golgi
      3. Lysosomes
      4. Peroxisomes & Mitochondria. LS 2012 pp 20-34
         fig 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8 pp 20-27 tab 2-1 p 36
   D. What about vaults? LS 2006, p 32
   E. **Physiol News** Moms eggs execute Dad’s mitochondria?

IV. **Anaerobic vs Aerobic Metabolism Connections**

   Mathews & Fox 1976...LS 2012 pp 26-33, fig 2-15 p 33

V. **Introduction to Genetics** LS 2012 ch 2 p 20-1 + Appendix C
   A. What’s a gene? Where? p A-18, fig C-2, C-3
   B. Why are genes important? p A-18
   C. What’s DNA & what does it look like? pp A-18 thru A-20
   D. How does information flow in the cell? fig C-6
   E. How does DNA differ from RNA? pp A-20 thru A-22
   G. How are proteins made? fig C-7, C-9
**Announcements** | Nutrition Analyses this Thursday! Please record diet on p 3-7 LM & begin analysis using [https://www.supertracker.usda.gov/](https://www.supertracker.usda.gov/) Bring flash drive? Q?
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**Metabolism Connections** | Mitochondrial metabolism +
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**Introduction to Genetics** | LS 2012 ch 2 p 20-1 + Appendix C A. How does DNA differ from RNA? pp A-20 thru A-22
C. How & where are proteins made? fig C-7, C-9
D. Class skit: Making proteins @ ribosomes!

**Nutrition Primer** | Sizer & Whitney (S&W) Sci Lib A. Essential Nutrients: H₂O, ¹ Carbohydrates, ² Fats, ³ Proteins, Vitamins, Minerals; Macro- vs Micro-?
B. Dietary Guidelines: USDA, AICR, Eat Like the Rainbow!
D. Beware of Nutrition Quackery S. Kleiner & Monaco 1990!

**Nutrition in the News** | Gain weight by drinking calories?
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**Introduction to Digestion** | Steps + hydrolysis

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**Announcements** | Exam I one week from today, Oct 25th! Sunday Oct 23rd, 6-7:30 pm, here! Q?
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**Final Comments & Discussion** | Recommended diets? Nutrition Quackery? Kleiner & Monaco. Diet & disease?
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**Gastrointestinal Physiology** | DC Module 3 pp 17-23, LS ch 15+
B. How is the gut controlled?
C. Organ-by-organ review A&P LS tab 15-1 pp 440-1 +... D. Zymogen? = Inactive precursor LS fig 15-9 p 452...
G. Large intestine? LS fig 15-24 pp 472-4

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**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, inlets, 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+...