BL 121 Lecture 1

I. Announcements: Please check & sign attendance roster.
   Not on list? See Pat during break/class. Lab 1 Histology
   Thursday in 130 HUE: 10 am - 5 pm sections. 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 2

I. Announcements
   Lab 1 Histology today! 130 Huestis (HUE)
   blog vs. Canvas http://blogs.uoregon.edu/bi121/fall-2018/

II. 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. Homeostatic Balances? LS p 9, DC pp 5-6
   D. Why? Cell survival! LS fig 1-5 p 9, DC p 5
   E. Physiology in the News H2O? Are we like watermelons?
   F. How are balances maintained? Simplified Homeostatic
   Model cf: LS fig 1-7 p 14; T°C + BP balance e.g. + vs. - FB

III. Cell Anatomy, Physiology & Compartmentalization LS ch 2
   B. Basic survival skills LS ch 1 p 3
   C. Organelles = Intracellular specialty shops
   Endoplasmic Reticulum (ER), Golgi, Lysosomes,
   Peroxisomes & Mitochondria, LS fig 2-1, 2-2, 2-3 pp 20-3

BL 121 Lecture 3

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

I. Announcements Q from last time? Come to office hr!

II. Connections Homeostatic model: BP, H2O + T°C regulation

III. Cell Anatomy, Physiology & Compartmentalization LS ch 2
   B. Basic survival skills ch 1 p 3
   C. Organelles = Intracellular specialty shops w/membranes
   1. Endoplasmic Reticulum (ER) 2. Golgi 3. Lysosomes
   fig 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8 pp 20-7 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 Metabolism
   LS ch 2 pp 26-33, fig 2-15, 2-9, 2-10, 2-11, 2-12 +...
   A. Anaerobic: Cytosol ATP-PC immediate vs. Glycolysis
   B. Aerobic: Mitochondria citric acid cycle, electron transport

IV. Introduction to Genetics LS pp 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? Class skit! fig C-7, C-9
I. **Announcements**  Nutrition Analyses this Thursday! Please record diet on p 3-7 LM. Bring flash drive. Q?

II. **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!

III. **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!
   C. Blue Zones? Pondering Paleo, Marlene Zuk, NAHL 2015...
   D. How much protein? Excess animal protein & disease?
   E. Carbohydrate confusion. Minimize what? Simple sugars
   F. Anti-aging diets, total vs intermittent fasting? NAHL 2018
   G. Beware of Nutrition Quackery S. Kleiner & Monaco
   H. Best diets? Exercise? Practical guidelines for wt loss!

IV. **Introduction to Digestion** Steps + hydrolysis

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**BL 121 Lecture 6**

I. **Announcements**  Data + flash drive/e-mail for today’s lab!
   If you want to be sure to have your notebook to study for Exam I on Tuesday Oct 23rd, best to turn in prior to lecture next Tuesday Oct 16th. Review Session Sunday Oct 21st, 6-7 pm. Q?
   Sample Exam Q? Be sure to see Active Learning Questions!

II. **Nutrition Connections**  Why whole grains? Carbohydrates?
   Fasting, Intermittent dieting, Best diets? Practical weight loss?

III. **Gastrointestinal Physiology**  DC Module 3 pp 17-23, LS ch 15+
   A. Steps of digestion Dr. Evonuk + LS pp 437-9; DC p 23
   B. Hydrolysis + monomer to polymer: central linking themes!
   C. What’s missing? LS fig 15-1 p 438
   D. GI-Doughnut analogy Dr. Brilla @ WWU
   E. Common control mechanisms
   F. Gut layers & secretions LS p 438, 440-1
   G. Organ-by-organ review LS tab 15-1 pp 440-1 + DC fig 3-1
   H. Accessory organs of digestion
   I. Ulcers? Causes?

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**BL 121 Lecture 7**

I. **Announcements**  Exam I one week from today, Oct 23rd!
Discussion+Review, Sunday Oct 21st, 6-7:30 pm, here! Q?

II. **Gastrointestinal Physiology**  DC Mod 3 pp 17-23, LS ch 15+
   A. Central-linking themes: hydrolysis, polymer to monomer
   C. Control + Organ-by-organ review LS tab 15-1 pp 440-1 +…
   D. Zymogen? = inactive precursor LS fig 15-9 p 452…
   [http://www.cdc.gov/ulcer](http://www.cdc.gov/ulcer) Beyond the Basics LS p 456
   G. 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 pp 23-31+LS p 229+
   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, 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…