Bl 121 Lecture 1

Welcome to Human Physiology – what makes us tick!

I. Announcements: Please check & sign attendance roster. Not on list? See Pat during break/ class. Lab 1 Histology tomorrow in 130 HUE: 12 n 1 pm sections. Much fun!!

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

III. Human Physiology LS ch 1, DC Module 1
A. What? cf: Anatomy LS p 1
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

Thanks for signing attendance roster & noting late arrival or early departure time!

I. Announcements Lab 1 Histology today! 130 Huestis (HUE)

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; °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,
   Peroxosomes & 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? Office hr &/or e-mail Q.

II. Cell Anatomy, Physiology & Compartmentalization LS ch 2
A. Cell organelle overview; 100 Trillion!
B. 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
C. What about vaults? LS 2006, p 32
D. Physiol News Moms eggs execute Dad’s mitochondria?

III. Anaerobic vs Aerobic Metabolism Overview Many sources!
Mathews & Fox 1976...LS 2012 pp 26-33, fig 2-15 p 33

IV. 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

Bl 121 Lecture 4

Anatomy & Physiology Lab today!...
Exam I next Wednesday < 4th of July!!

I. Announcements Nutrition Analysis Lab next Tuesday!
Thanks for recording your diet on p 3-7 in LM. Estimating serving sizes, hints for recording (do sooner vs. later)...Q?

II. Cell Physiology, Mitochondria & Metabolism Connections LS 2012 fig 2-9 thru 2-12, 2-15 +...Mathews & Fox 1976!

III. Introduction to Genetics LS ch 2 p 20-1 + Appendix C
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!

IV. Nutrition Primer DC Module 2, 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. Carbohydrate confusion. Minimize what? Simple sugars
**BI 121 Lecture 6**

I. **Announcements** Next session Q? ~½ review, then Exam I.

II. **Nutrition News** Be a whiz at healthy grilling! AICR American Institute for Cancer Research, Grilling Quiz!

III. **GI Connections** LS ch 15, DC Module pp 17-23
   A. Gut control mechanisms
   B. Histology of the gut LS fig 15-2, 15-3 p 442-3
   C. Organ-by-organ review
   D. Stomach protein digestion + zymogens? LS fig 15-7, 15-9
   E. Accessory organs: Pancreas & Liver + Recycling!
      LS pp 457-63
      [http://www.cdc.gov/ulcer](http://www.cdc.gov/ulcer) Beyond the Basics LS p 456
   G. Summary of chemical digestion LS tab 15-5 p 466
   H. Large intestine? LS fig 15-24 pp 472-4