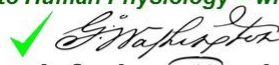




...Welcome to Human Physiology – what makes us tick!



### BI 121 Lecture 1

- 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
  - B. Where? Body Levels of Organization LS pp1-6, DC pp1-5
  - C. How? Different Study Approaches LS p 1
  - D. Why? Security+Decision-Making Power LS p xxi, DC p v
- 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



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

### BI 121 Lecture 3

- 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
    - 4. Peroxisomes & 5. Mitochondria. LS 2012 pp 20-34 fig 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8 pp 20-7 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
  - F. Genetic code? pp A-22, A-23
  - G. How are proteins made? fig C-7, C-9



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



### BI 121 Lecture 2

- I. **Announcements** Lab 1 Histology today! 130 Huestis (HUE) Fun! Worksheets. Readings: DC, LS, LM? **NB:** UO Biology blog vs. Canvas <http://blogs.uoregon.edu/bi121/summer-2019/>
- 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** H<sub>2</sub>O? 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
  - A. How big? What boundaries? Why compartments? pp 19-21
  - 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

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



### BI 121 Lecture 4

- 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
  - A. What's a gene? DNA? Why important? pp A-18 thru A-20 +
  - B. How does information flow in the cell? fig C-6
  - C. How does DNA differ from RNA? pp A-20 thru A-22
  - D. Genetic code? pp A-22, A-23
  - 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: H<sub>2</sub>O, 1<sup>o</sup> Carbohydrates, 2<sup>o</sup> Fats, 3<sup>o</sup> 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





Hey - I'll be ready because I book it!!



**I. Announcements** Data + Flashdrive for Nutrition Lab! Q?

**II. Sample Exam Q + Q about Exam?**

**III. Nutrition Primer** DC Module 2, Sizer & Whitney (S&W) Sci Lib

- A. Essential Nutrients: H<sub>2</sub>O, 1<sup>o</sup> Carbohydrates, 2<sup>o</sup> Fats, 3<sup>o</sup> Proteins, Vitamins, Minerals; Macro- vs Micro-?
- B. Dietary Guidelines: HHS-USDA, AICR, Eat the **Rainbow!**
- C. **Blue Zones?** Habits of longest lived people?
- D. Okinawan Longevity Diet?
- E. Pondering Paleo? Marlene Zuk, U Minn
- F. Animals vs. Plants? Protein, WHO, Meat?
- G. TMAO, Neu5GC and Inflammation?
- H. Carbohydrate Confusion. Why Plants & Whole Grains?
- I. Exercise, Carbohydrates & Fats
- J. How Optimal % Body Fat US Wt Registry, Zuti & Golding



**IV. GI (Gut) Structure & Function** DC Module 3, LS 2012 ch 15

- A. Gut Doughnut Analogy + Secretions L Brilla WWU
- B. Digestion Steps Dr. Evonuk + LS pp 437- 439; DC p 23
- C. Hydrolysis + Polymer → Monomer: Central Themes! LS p 438, SI Fox 2009 + ...

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
- F. Small intestine? Ulcers? LS fig 15-20, 15-22 pp 467-8 <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

**Exam I Review Slides**

