Bl 121 Lecture 1

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!!

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

II. 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

Announcements
Lab 1 Histology today!
130 HUE. Fun! Readings: DC, LS, LM? NB: UO Biology blog vs. Blackboard or Canvas
http://blogs.oregon.edu/bl121/fall-2015/

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 ≡ Membranous, cytoplasmic specialty shops!
   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?

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 3
Anatomy & Physiology Lab Thurs! Fun again...

I. Announcements
   UWGS Mentor? Registration? Q? Office hr?

II. Cell Anatomy, Physiology & Compartmentalization
   LS ch 2
   B. Basic survival skills ch 1 p 3
   C. Organelles ≡ Membranous, cytoplasmic specialty shops!
      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?

III. Anaerobic vs Aerobic Metabolism Overview
   Many sources!
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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? Class skit! fig C-7, C-9

Bl 121 Lecture 4

Announcements
Anatomy & Physiology Lab today!
Be sure to complete p 3-7 dietary record in LM < lab next wk!
Help with estimating serving sizes for Nutrition Lab 3. Q?

II. Medical Moment
Structure-Function in Clinical Practice

III. Physiology News
   vs Mitochondria; Vaults?
   Sci News

IV. Anaerobic vs Aerobic Metabolism Connections
   LS ch 2 pp 26-33
   A. Take-home points + key differences fig 2-15 + vpl
   B. Few details: Glycolysis, CAC, ETC fig 2-9, 2-10, 2-11, 2-12

V. Cytoskeleton
   LS 2012 fig 2-17, 2-18 + LS 2006 fig 2-20

VI. 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
Announcements Nutrition Analysis Lab this Thursday! Please record diet on p 3-7 LM & begin analysis using https://www.supertracker.usda.gov/ Bring flash drive? Q?

Introduction to Genetics LS 2012 ch 2 pp 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, ¹⁰ Carbohydrates, ⁰ Fats, ³⁰ 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?
V. Introduction to Digestion Steps + hydrolysis

Announcements Got Data? Crucial for today’s lab! Q?
If you want notebook to study for Exam I on Oct 27th, turn in prior lecture next Tuesday, Oct 20th. Sample Exam Q.

Nutritional Physiology in the News Shake the salt habit! Gain weight by drinking your calories? Coconuts are on a roll? UCB Identifying Nutrition Quackery, Kleiner & Monaco

Nutrition Connections DC Mod 2, Sizer & Whitney (S&W) Sci Lib
A. Diet & endurance? What’s the best path to losing weight?
B. Low-carbohydrate dieting? What about fasting?
C. Balanced approach, Dr. Sacks AHA NPAM Council

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...
http://www.cdc.gov/ulcer Beyond the Basics LS p 456
G. Large intestine? LS fig 15-24 pp 472-4

Announcements Exam I next session; 11 am & 12 n lab sections go directly to 11 PAC & 12 PAC. All others here (100 WIL)! Review: Sunday, 6 pm 100 WIL! Lab notebooks. Q?

Cardiovascular Connections LS 2012 ch 9, Torstar Books+

CV Physiology in News AHA + NHLBI websites. Nic? ACSM, AHA, DHHS Healthy people exercise guidelines!

CV Pathophysiology & 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?