I. **Announcements**

No Lab today! Break for exam week!
Next R Blood Chemistry. Thanks sincerely for helping us optimize safety by reading ≥ 2x Lab 5, LM pp 5-1 to 5-6.

II. **Blood Form & Function**

- **LS fig + tab 11-1**
  - Formed vs Nonformed/cells vs plasma
  - Cell origin - bone marrow. What’s in plasma? LS p 297
- **LS p 301**
  - Red blood cells/erythrocytes: O₂ carrying
  - Normal flexible vs fragile sickle cell
- **LS p 301**
  - White blood cells/leukocytes: defense/immunity
  - Differential + general functions
- **LS pp 304-6 fig 11-6+7**
  - Platelets/thrombocytes: clotting

III. **Blood Chemistry Lab: Basics**

- **LM + LS ch 11 & 17**
  - What’s blood typing? ABO System
  - Rhesus factor? Erythroblastosis fetalis?
  - LS p 303-4
  - What’s blood glucose? Clinically healthy range?
  - LS ch 17 pp 532-5

IV. **Exam Comments & Return**

- Personal data I can use for a lifetime!!
- Heck yeah!

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I. **Announcements**

To make Lab 5 educational, fun & safe for all, please read pp 5-1 thru 5-6 in LM twice before Thursday!
Remainig exams & notebooks returned > lecture. Key posted in glass box in Huestis near 120 HUE. Estimate grade? Q?

II. **Blood Chemistry Review**

- **LS ch 11 + 17, DC Module 5, Q?**

III. **Endocrinology Overview**

- **LS ch 17, DC Module 13, SI Fox+**
  - Vignette: Cushing’s syndrome
  - Endocrine system DC p 103 fig 13-1, LS fig 17-1, tab 17-1
  - What’s an endocrine? + classes ~ LS pp 495 - 6
  - Hypothalamus (Master) – Pituitary (subcontroller)
    - DC pp 104-6 + LS pp 499-506
  - Posterior pituitary + hormones DC p 108, LS fig 17-4 p 502
  - Anterior pituitary + hormones DC pp 105-7, LS pp 502-6
  - Peripheral endocrine organs DC pp 109-13, LS pp 513-36
  1. Pancreas (insulin – glucagon see-saw!) 2. Thyroid 3. Adrenals

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I. **Announcements**

Thanks to you, Katie, Kelsey, Steph, Janelle & Patrick!
For your effort & your effort!!

II. **Endocrine Connections**

- **Peripheral Endocrine Organs... Adrenals. Q? DC Module 13 p 109-13, LS ch 17 pp 513-36**

III. **Introduction to the Nervous System**

- **LS ch 5, DC Module 9**
  - How is the nervous system organized? LS fig 5-1 DC p 67
  - What’s myelin? How does it help? DC fig 9-3, LS pp 83-5
  - Brain structure & function DC fig 9-6 thru 9-10 pp 71-5 +...
  - Protect your head with a helmet! Bicycle head injury statistics, NHTSA & BHSI from 2013 & 2014

IV. **Autonomic Nervous System**

- **LS ch 7 pp 178-85+...**
  - Sympathetic vs Parasympathetic branches LS fig 7-3
  - Neurotransmitters & receptors LS fig 7-1 & 7-2, tab 7-2
  - Actions LS tab 7-1
  - Fight-or-flight stories!
BI 121 Lecture 14

I. Announcements Last Lab 6, Pulmonary Function Testing + Optional notebook check this Thurs. Exam II, Dec 7, 8 am Q?

II. Nervous System Connections LS 7
A. How does the signal cross the nerve-muscle gap? ch 7 p 185-92 fig 7-5 p 190
B. What do black widow spider venom, botulism/Botox, curare & nerve gas have in common? LS fig 7-5 p 190

III. Muscle Structure-Function & Adaptation LS ch 8 + DC Mod 12
A. Muscle types: cardiac, smooth, skeletal LS fig 8-1 pp194-6
B. How is skeletal muscle organized? LS fig 8-2, DC fig 12-2
C. What do thick filaments look like? LS fig 8-4, DC fig 12-4
D. Thin filaments? Banding pattern LS fig 8-5, 8-3, 8-7
E. How do muscles contract? LS fig 8-6, 8-10
F. What's a cross-bridge cycle? LS fig 8-11 +...
G. Summary of skeletal muscle contraction, videos courtesy David Bolinsky, XVIVO & Malcolm Campbell, Davidson C.
H. Exercise adaptation variables, strength vs. endurance

BI 121 Lecture 15

I. Announcements Civil War Blood Drive!
Lab 6, Pulmonary Function Testing (PFT) + optional notebook check today. Exam II Dec 7 Thursday, 8 am!

II. Skeletal Muscle Structure & Function Connections
Banding pattern, crossbridge cycling, crucial calcium! Contraction & relaxation LS ch 8, DC Module 12

III. Skeletal Muscle & Other Exercise Adaptations
Endurance vs. Strength training, the Energy Continuum LS ch 8 +...

IV. Introduction to PFT Lab 6
Pulmonary Function Testing
Lab Manual, pp 6-1 thru 6-8

V. Respiratory System LS ch 12, DC Module 7, Fox +...
A. Steps of respiration? External vs. cellular/internal? LS fig 12-1 pp 345-347
B. Respiratory anatomy LS fig 12-2 p 347, DC, Fox +...
C. Histology LS fig 12-4 pp 347-349, DC

BI 121 Lecture 16

I. Announcements Notebooks? Exam II, Dec 7th Thurs 8 am. Review session in class next Thursday. Q?

II. Muscle Adaptation Connections LS ch 8, DC Module 12

III. Respiratory System LS ch 12, DC Module 7, Fox +...
A. Steps of respiration? External vs. cellular/internal? LS fig 12-1 pp 345-347
B. Respiratory anatomy LS fig 12-2 p 347, DC, Fox +...
C. Histology LS fig 12-4 pp 347-349, DC
D. How do we breathe? LS fig 12-12, fig 12-25 pp 349-356, pp 373-378
E. Gas exchange LS fig 12-19 pp 362-5
F. Gas transport LS tab 12-3 pp 365-70
BI 121 Exam II is at 8 am on Thursday, December 7th

12 n lab section report directly to 112 Huestis Hall

1 pm lab section report directly to 130 Huestis Hall

All others except AEC report to 100 Willamette (our lecture hall) for Exam II

Exam II start times for all locations is 8 am!

If you need special assistance for Exam II please contact Pat by sending an e-mail to lombardi@uoregon.edu

Best of luck on all exams and papers!