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 ch 11, DC Module 5 pp 35-9
   A. Formed vs Nonformed/cells vs plasma fig+tab 11-1
      Cell origin - bone marrow. What’s in plasma? p 316
   B. Red blood cells/erythrocytes: O₂ carrying pp 317-8
      Normal flexible vs fragile sickle cell fig 11-5 p 320
   C. White blood cells/leukocytes: defense/immunity differential + general functions pp 326-30 fig 11-1
   D. Platelets/thrombocytes: clotting pp 321-2 fig 11-6

III. Blood Chemistry Lab: Basics LM + LS ch 11 & 17
   A. What’s blood typing? ABo System ch 11 LS pp 341- 4
      Rhesus factor? Erythroblastosis fetalis? LS p 343
   B. Physiology in the News: Eat right for your type?
   C. What’s blood glucose? Diabetes? LS ch 17 pp 560- 73
   D. Questions about blood chem lab?

IV. Exam Comments + Return We survived the exam! Happy Halloween!! Remember nutrient ρ & have safe fun!
Today & next week we’ll cover blood chemistry to ensure for adequate lab prep time & incubation.
What's in Blood? Plasma & Blood Cells

- Plasma (55% of whole blood)
- Buffy coat: platelets and leukocytes (<1% of whole blood)
- Erythrocytes (45% of whole blood)
  - Platelets
  - Leukocytes (white blood cells)
  - Erythrocytes (red blood cells)
What a difference one amino acid can make!

Amino acid sequence of normal hemoglobin:
Val-His-Leu-Thr-Pro-Glu-Glu

Amino acid sequence of sickle-cell hemoglobin:
Val-His-Leu-Thr-Pro-Val-Glu
Q?
Discussion
Break
A Antigens
(Agglutinogens)
B Antigens
(Agglutinogens)
A & B Antigens
(Agglutinogens)
No Antigens
(Agglutinogens)
A Antibodies
(Agglutinins)
Clumping with anti-A serum
No Clumping with anti-A serum
Blood Type Distribution, General Population

- Type O+: 38%
- Type A+: 34%
- Type B+: 9%
- Type AB+: 3%
- Type AB-: 1%
- Type B-: 2%
- Type O-: 7%
- Type A-: 6%
Does one size fit all?

By Bonnie Liebman

"If you’ve ever suspected that not everyone should eat the same thing or do the same exercise, you’re right," says the cover of Peter D’Adamo’s Eat Right 4 Your Type.

D’Adamo claims that your blood type determines what foods you should eat to avoid obesity, cancer, heart disease, ear infections, learning disabilities, strep throat, infertility, and more. (Example: Type Os should go for ground beef and broccoli but avoid cantaloupe and whole wheat bread.)
The book hasn’t a shred of evidence to back up its promises. But it’s cashing in on an extremely appealing idea: No one wants to be lumped with the masses. Why not tailor diets to the individual?

The dairy, egg, meat, salt, and sugar industries love the one-size-doesn’t-fit-all concept. It’s being held aloft not just by food industry PR departments, but by three myths about diet and health.
All like Type O!

Goldstein

Key
- N-acetylglucosamine
- Glucose
- Galactose
- Fucose
Erythroblastosis Fetalis?

eg, Rh- mom Rh+ baby

The graph illustrates the comparison of blood glucose levels over time between diabetes and normal conditions. The dashed red line represents the glucose levels in diabetes, showing a peak at approximately 2 hours and a gradual decrease thereafter. The solid red line represents normal glucose levels, which remain within a consistent range throughout the 5-hour period.
No food, drink or gum in lab!

Thanks sincerely!
**PREPARATION**

1. **WASH & DRY**

2. **ALCOHOL**
OBTAIN μSAMPLE

BLOOD GLUCOSE

BLOOD TYPING
BLOOD GLUCOSE

READ & RECORD!!
BLOOD TYPING

1. Add Antisera

2. Mix w/toothpicks

3. Read & record!!
CLEAN-UP!

1. FOLD DIAPER

2. BLOOD PRODUCTS

3. REWASH!!
Q about Blood Chem Lab?
WOW!  SUPER 😊

~ TOP 5 - 10 ~

EXCELLENT!!

~ TOP 15 ~

GREAT EFFORT

~ TOP 20 - 25 ~
Class Frequency Distribution Report for BI 121 Midterm F15, Multiple Choice, Part II

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Mean Score: 68.37%