BMS503 – PRINCIPLES OF BIOCHEMISTRY – FALL, 2012
LECTURE: MON/WED/FRI, 9-10:15 AM
RECITATION: MONDAY OR FRIDAY, 2-3:30 PM
FARBER 134B
EXAMS WILL BE HELD ON THE DATES IN THE SCHEDULE BELOW

PART I – Protein Structure and Function
D. Kosman (DK) – 653 BRB (2842)  camkos@buffalo.edu (Course Coordinator)

PART II – Metabolic Pathways
G. Popescu (GP) – 647 BRB (3807)  popescu@buffalo.edu
M. Patel (MP) – 513 BRB (3074)  mspatel@buffalo.edu

PART III – Nucleic Acid Structure and Function
M. Sutton (MS) – 651 BRB (3581)  mdsutton@buffalo.edu
S. Sinha (SS) – B3-305 COE (881-7994)  ssinha2@buffalo.edu
L. Read (LR) – 249 BRB (3307)  lread@buffalo.edu


CLASS MEETINGS

Part I – Protein structure and function (DK)

August
27 Chemical and physical properties of amino acids, proteins and water
29 cont.
31 Protein structure and stability

September
5 cont.
WEDNESDAY AFTERNOON RECITATION
7 cont.
FRIDAY AFTERNOON RECITATION
10 Enzyme kinetics and catalysis
EXAM I, (through 9/7)
12 cont.
14 cont.
19 Kinetics as a probe of mechanism
21 Mechanisms of catalysis
FRIDAY AFTERNOON RECITATION
10 Fatty acid catabolism (MP)
EXAM III, OCT. 12 IN PM (through 10/10)
12 Fatty acid catabolism (MP)

October
1 Pyruvate metabolism (GP) RECITATION (GP)
3 The TCA cycle (GP)
5 Electron flow and Ox-Phos (GP)
8 Glycogen metabolism (GP)
10 Gluconeogenesis, Pentose Shunt (GP)
WEDNESDAY RECITATION (GP)
12 Fatty acid synthesis (MP)
15 Amino acid metabolism (MP)
19 The urea cycle (MP)
22 Integration of metabolism: the fed state (MP)
24 Integration of metabolism: the fasted state (MP)
WEDNESDAY RECITATION (MP)

Part II – Metabolic pathways
24 Metabolic circuitry (GP)
EXAM II, SEPT. 24 IN PM (through 9/21)
28 Glucose transport and metabolism (GP)

Part III – Nucleic acid structure and function
26 Structure of nucleic acids (MS)
EXAM IV, Oct. 26 IN PM (through 10/22)
29 Physical properties of nucleic acids (MS)
31 DNA replication and repair (MS)

November
2 cont. (MS)
5 cont. (MS)
7 cont. (MS) WEDNESDAY RECITATION (MS)
9 Transcription and its control (SS) cont. (SS)

EXAM V, NOV. 9 IN PM (through 11/5)
EXAM VI: WEDNESDAY, DEC. 12 (THROUGH 12/7, NOT CUMULATIVE) FARBER 144

**Exam Format and Policies:** All of the exams are CLOSED BOOK. The format will be short-answer, in some cases ‘fill in the blanks’. They will be written to be completed in 60 min with 30 min extra time given for students to go through their answers. The six exams will contribute equally to the final grade total.

**Exams are held in FARBER 144**

**Exam I September 10** – Chemical principles, physical properties (material through 9/7)

   **THIS EXAM IS HELD ON A MONDAY**

**Exam II September 24** – Protein structure, enzyme kinetics and mechanism (material through 9/21)

   **THIS EXAM IS HELD ON A MONDAY**

**Exam III October 12** – Glucose, glycogen/gluconeogenesis, energy metabolism (material through 10/10)

**Exam IV October 26** – Fatty acids/nitrogen metabolism, fed/fasted state (material through 10/22)

**Exam V November 9** – Nucleic acid properties, DNA replication/repair (material through 11/5)

**Exam VI** – Transcription/Regulation, RNA processing/translation (material through 12/7)

   **THIS EXAM IS HELD DURING FINALS WEEK ON WEDNESDAY AFTERNOON, DEC. 12**

**REVIEW SESSIONS**

We have Farber 134B reserved for a review sessions on Mondays, 2-3:30 pm. **Because of the University schedule, there will be TWO Wednesday recitations on September 5 and October 10, and TWO Friday recitations on September 7 and September 21 at 2-3:30 in Farber 134B. Additional recitations may be held as necessary and requested by the students.**

**REGISTRATION**

This course is designed for doctoral students in the Interdisciplinary Program in Biomedical Sciences. Masters students who wish to take a one-semester course in general biochemistry should register for BCH503. Masters students who have taken BCH503 or the equivalent can register for BMS503 with the permission of the course coordinator.