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BIO/BMB/CHM 3100 Summer Session, 2006

Lectures: C-127 Life Sciences Building., 9:15-10:15 a.m., Monday, Tuesday, Wednesday, Thursday, Friday

Review: C-127 Life Sciences Building, 2:15-3:15 on days designated below

Lecturers: Dr. John Brewer (A316) (542-1773) and  
Dr. Joseph Mendicino (A428) (542-3010)

Textbooks: Horton, Moran, Scrimgeour, Perry and Rawn,  
Principles of Biochemistry, Fourth Edition (Prentice-Hall)  
Knopp, Knopp's Knotes, Pearson Custom Publishing, Third Edition

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**Outline of lectures.**

You are expected to prepare for classes by reading the relevant sections of the textbook **before** coming to class. The relevant sections are given in parentheses.

The three tests are worth 100 points each and the final exam is worth 200 points. The final grade will be assessed out of the total of 500 points and will be curved. No test may be dropped, and no test will be excused without documentation prior to or immediately after the date (e.g. in cases of sickness, a doctor's note will be required). Make up tests will not be given. If you miss a test for justifiable reasons, your grade will be scaled based on the other tests. Questions or complaints about test grades must be made to the instructor who provided the question(s) at issue within one (1) week after the graded test is available. Under no circumstances will tests be given early. Keys to tests given over 1998-2002 are viewable using Dr. Brewer's website (<http://bmbiris.bmb.uga.edu/brewer/keys>).

BIO/BMB is now four credits, so an additional class is offered at 2:15-3:15 on the days indicated below. We cannot reasonably cover more material, so we will use the fourth hour for review and answering questions. Pop quizzes may be given during this period.

The fourth hour will follow "Knopp's Knotes", which should be in the bookstore.

**Office hours:**

Dr. Brewer is usually around, so drop by and see. Or you can call and set up an appointment.

Dr. Mendicino is usually around all morning and in the later afternoon. Can be contacted using e-mail (mendicin@bmb.uga.edu).

The topics to be covered in the individual lectures are outlined below.

**Week 1 (Dr. Brewer)**

**Thursday, June 8.** Introduction; review of relevant chemistry/water (1.1-1.10; 2.1-2.10)

**Friday, June 9.** Amino acids; primary structure of proteins (3.1-3.5; 4.1-4.2)

**Week 2 (Dr. Brewer)**

**Monday, June 12.** Proteins: polypeptides, secondary and tertiary structures (4.4-4.10)

**Monday, June 12 (review).** (Knopp's Knotes, pp. 1-44)

**Tuesday and Wednesday, June 13 & 14.** Principles of protein purification and analysis (3.6-3.10)

**Thursday, June 15.** Hemoglobin and myoglobin (4.12-4.13)

**Thursday, June 15 (review).** (Knopp's Knotes, pp. 45-53)

**Friday, June 16.** Proteins as catalysts (enzymes) (5.1-5.11)

### **Week 3 (Dr. Brewer)**

**Monday, June 19.** First test (covers material from June 8 to June 16)  
**Tuesday, June 20.** Proteins as catalysts (enzymes)  
**Wednesday, June 21.** Mechanisms of action of some specific enzymes (6.1-6.8)  
**Wednesday, June 21 (review).** (Knopp's Knotes pp. 54-68)(discussion of test)  
**Thursday and Friday, June 22 & 23.** Vitamins and coenzymes (7.1-7.13)

### **Week 4 (Dr. Brewer/Dr. Mendicino)**

**Monday and Tuesday, June 26 & 27.** Bioenergetics (10.1-10.9)  
**Tuesday, June 27 (review).** (Knopp's Knotes pp. 69-75 and 97-105)  
**Wednesday, June 28.** Carbohydrates (8.1-8.7)  
**Thursday and Friday, June 29 & 30.** Glycolysis (11.1-11.7)  
**Friday, June 30 (review).** (Knopp's Knotes pp. 77-82, 107 and 114-116)

### **Week 5 (Dr. Mendicino)**

**Monday, July 3.** Glycolysis (11.1-11.7)  
**Wednesday, July 5.** Second test (covers material from June 20 to July 3)  
**Thursday, July 6.** Gluconeogenesis and pentose phosphate pathway (12.1-12.7)  
**Friday, July 7.** Citric acid cycle (13.7-13.7)  
**Friday, July 7 (withdrawal deadline) (review).** (Knopp's Knotes pp. 107-111)(discussion of test)

### **Week 6 (Dr. Mendicino/Dr. Brewer)**

**Monday and Tuesday, July 10 & 11.** Oxidative phosphorylation (14.1-14.17)  
**Tuesday, July 11 (review).** (Knopp's Knotes pp. 125-128)  
**Wednesday and Thursday, July 12 & 13.** Photosynthesis (15.1-15.10)  
**Friday, July 14.** Lipids and membranes (9.1-9.12)  
**Friday, July 14 (review).** (Knopp's Knotes pp. 83-86) (Chapters 15 and 9)

### **Week 7 (Dr. Mendicino)**

**Monday, July 17.** Third test (covers material from July 6 to July 14)  
**Tuesday, July 18.** Lipids and membranes  
**Wednesday, July 19.** Lipid metabolism (16.1-16.13)  
**Wednesday, July 19 (review).** Parts of chapters 9 and 16 covered Tuesday and Wednesday)(Knopp's Knotes pp. 123-124) (discussion of test)  
**Thursday and Friday, July 20 & 21.** Lipid metabolism

### **Week 8 (Dr. Mendicino/Dr. Brewer)**

**Monday, July 24.** Nucleic acids (19.1-19.7)  
**Monday, July 24 (review).** (Rest of chapter 16 and Knopp's Knotes pp. 91-95)  
**Tuesday and Wednesday, July 25 & 26.** DNA replication and repair (20.1-20.9)  
**Thursday, July 27** Transcription and RNA processing (21.1-21.9)  
**Thursday, July 27 (review).** (Chapters 20 and 21)  
**Friday, July 28.** Protein synthesis (17.6, 22.1-22.8)

### **Week 9 (Dr. Brewer)**

**Monday, July 31.** Protein synthesis  
**Tuesday, August 1.** Nitrogen fixation and metabolism (17.1, 17.2 and 17.9A)  
**Tuesday, August 1 (review).** (Chapters 22 and 17)  
**Thursday, August 3.** Final examination (comprehensive) 8-11 AM