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BIO/BMB/CHM 3100 Summer Session, 2005

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, Ochs, Rawn and Scrimgeour, Principles of  
Biochemistry, Third Edition (Prentice-Hall)  
Knopp, Knopp's Knotes, Pearson Custom Publishing, Second 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](mailto:mendicin@bmb.uga.edu)).

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

**Week 1 (Dr. Brewer)**

**Thursday, June 9.** Introduction; review of relevant chemistry/water (1.1-1.10; 2.1-2.10)

**Friday, June 10.** Amino acids; primary structure of proteins (3.1-3.5; 4.1-4.2)

**Week 2 (Dr. Brewer)**

**Monday, June 13.** Proteins: polypeptides, secondary and tertiary structures (4.3-4.11)

**Monday, June 13 (review).** (Knopp's Knotes, pp. 1-32)

**Tuesday and Wednesday, June 14 & 15.** Principles of protein purification and analysis (3.6-3.10)

**Thursday, June 16.** Hemoglobin and myoglobin (4.12-4.13)

**Thursday, June 16 (review).** (Knopp's Knotes, pp. 33-42)

**Friday, June 17.** Proteins as catalysts (enzymes) (5.1-5.11)

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

**Monday, June 20.** First test (covers material from June 9 to June 17)  
**Tuesday, June 21.** Proteins as catalysts (enzymes)  
**Wednesday, June 22.** Mechanisms of action of some specific enzymes (6.1-6.8)  
**Wednesday, June 22 (review).** (Knopp's Knotes pp. 43-51)(discussion of test)  
**Thursday and Friday, June 23 & 24.** Vitamins and coenzymes (7.1-7.13)

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

**Monday and Tuesday, June 27 & 28.** Bioenergetics (10.1-10.9)  
**Tuesday, June 28 (review).** (Knopp's Knotes pp. 53-57 and 75-79)  
**Wednesday, June 29.** Carbohydrates (8.1-8.7)  
**Thursday and Friday, June 30 & July 1.** Glycolysis (11.1-11.7)  
**Friday, July 1 (review).** (Knopp's Knotes pp. 61-63, 81 and 99)

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

**Tuesday, July 5.** Second test (covers material from June 21 to July 1)  
**Wednesday and Thursday, July 6 & 7.** Citric acid cycle (12.1-12.8)  
**Thursday, July 7 (review).** (Knopp's Knotes pp. 81-95)(discussion of test)  
**Friday, July 8 (withdrawal deadline).** Gluconeogenesis and pentose phosphate pathway (13.1-13.10)

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

**Monday and Tuesday, July 11 & 12.** Oxidative phosphorylation (14.1-14.17)  
**Tuesday, July 12 (review).** (Knopp's Knotes pp. 81-100)  
**Wednesday and Thursday, July 13 & 14.** Photosynthesis (15.1-15.10)  
**Friday, July 15.** Lipids and membranes (9.1-9.12)  
**Friday, July 15 (review).** (Chapters 15 and 9)

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

**Monday, July 18.** Third test (covers material from July 6 to July 15)  
**Tuesday, July 19.** Lipids and membranes  
**Wednesday, July 20.** Lipid metabolism (16.1-16.13)  
**Wednesday, July 20 (review).** Parts of chapters 9 and 16 covered Tuesday and Wednesday)(discussion of test)  
**Thursday and Friday, July 21 & 22.** Lipid metabolism

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

**Monday, July 25.** Nucleic acids (19.1-19.7)  
**Monday, July 25 (review).** (Rest of chapter 16 and Knopp's Knotes pp. 71-74)  
**Tuesday and Wednesday, July 26 & 27.** DNA replication and repair (20.1-20.9)  
**Thursday, July 28** Transcription and RNA processing (21.1-21.9)  
**Thursday, July 28 (review).** (Chapters 20 and 21)  
**Friday, July 29.** Protein synthesis (17.6, 22.1-22.8)

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

**Monday, August 1.** Protein synthesis  
**Tuesday, August 2.** Nitrogen fixation and metabolism (17.1, 17.2 and 17.9A)  
**Tuesday, August 2 (review).** (Chapters 22 and 17)  
**Thursday, August 4.** Final examination (comprehensive) 8-11 AM