
BIO/BMB 3100 Spring Semester 2006

Lectures: C-127 Life Sciences Building., 12:20-1:10 p.m., Monday, Wednesday, Friday

Review: C-127 Life Sciences Building, Wednesday 5:00-5:50 p.m.

**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, Second Edition**

Provisional 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 exam will be comprehensive. 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 the years 1998-2002 are viewable using Dr. Brewer's website (<http://bmbiris.bmb.uga.edu/brewer/keys>).

BIO/BMB is four credits, so the class scheduled Wednesday afternoon will be given. We cannot reasonably cover more material, so we will use the fourth hour for review and answering questions, and we will try to make it worth while. Pop quizzes may be given then.

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. Can be contacted using e-mail (brewer@bmb.uga.edu).

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. These assignments may be updated during the course.

Week 1 (Dr. Brewer)

Monday, January 9. Introduction; review of relevant chemistry/water (1.1-1.10; 2.1-2.10)

Wednesday, January 11. Water/Amino acids (2.1-2.10; 3.1-3.5)

Wednesday, January 11. Review chapters 1,2,3.1-3.5)(Knopp's Knotes pp. 1-28)

Friday, January 13. Primary structure of proteins (4.1-4.3)

Week 2 (Dr. Brewer)

Wednesday, January 18. Proteins: polypeptides, primary and secondary structures (4.14-4.10)

Wednesday, January 18. Review of 3.6-3.10 (Knopp's Knotes pp. 33-38)

Friday, January 20. Principles of protein purification and analysis (3.6-3.10)

Week 3 (Dr. Brewer)

Monday, January 23. Principles of protein purification and analysis (3.6-3.10)

Wednesday, January 25. Hemoglobin and myoglobin (4.12-4.13)

Wednesday, January 25. Review of protein binding (4.12-4.13)(Knopp's Knotes pp. 39-42)

Friday, January 27. Proteins as catalysts (5.1-5.11)

Week 4 (Dr. Brewer)

Monday, January 30. Proteins as catalysts (5.1-5.11)

Wednesday, February 1. Mechanisms of action of some specific enzymes (6.1-6.7)

Wednesday, February 1. Review chapters 1-6

Friday, February 3. First test: chapters 1-6.

Week 5 (Dr. Brewer)

Monday, February 6. Vitamins and coenzymes (7.1-7.14)

Wednesday, February 8. Vitamins and coenzymes (7.1-7.14)

Wednesday, February 8. Review chapter 7 (Knopp's Knotes pp. 53-57); discussion of test.

Friday, February 10. Vitamins and coenzymes (7.1-7.14)

Week 6 (Dr. Brewer/Dr. Mendicino)

Monday, February 13. Bioenergetics (10.1-10.9)

Wednesday, February 15. Bioenergetics (10.1-10.9)

Wednesday, February 15. Review of chapters 7 and 10 (Knopp's Knotes pp. 75-79 and 53-57)

Friday, February 17. Carbohydrates: simple sugars and sugar polymers (starch and glycogen) (8.1-8.7)

Week 7 (Dr. Mendicino)

Monday, February 20. Glycolysis (11.1-11.7)

Wednesday, February 22. Glycolysis (11.1-11.7)

Wednesday, February 22. Review of chapters 11 and 8 (Knopp's Knotes pp. 81-91)

Friday, February 24. Citric acid cycle (12.1-12.7)

Week 8 (Dr. Mendicino)

Monday, February 27. Citric acid cycle (12.1-12.7)

Wednesday, March 1. Gluconeogenesis and pentose phosphate pathway (13.1-13.7)

Wednesday, March 1. Review of Chapters 7-8 and 10-12

Friday, March 3. Second test: chapters 7, 8 and 10-12

Week 9 (Dr. Mendicino)

Monday, March 6. Gluconeogenesis and pentose phosphate pathway (13.1-13.7)

Wednesday, March 8. Oxidative phosphorylation (14.1-14.14)

Wednesday, March 8. Review of chapters 13 and 14 (Knopp's Knotes pp. 81-100); discussion of test.

Friday, March 10. Oxidative phosphorylation (14.1-14.14)

Week 10 (Dr. Mendicino/Dr. Brewer)

Monday, March 20. Oxidative phosphorylation (14.1-14.14)

Wednesday, March 22. Photosynthesis (15.1-15.6)

Wednesday, March 22. Review of chapters 14 and 15 (Knopp's Knotes, pp. 97-100)

Friday, March 24. Photosynthesis (15.1-15.6)

Week 11 (Dr. Brewer/Dr. Mendicino)

Monday, March 27. Photosynthesis (15.1-15.6)

Wednesday, March 29. Lipids and membranes (9.1-9.11)

Wednesday, March 29. Review of chapters 15 and 9 (Knopp's Knotes pp. 65-68)

Friday, March 31. Lipids and membranes (9.1-9.11)

Week 12 (Dr. Mendicino)

Monday, April 3. Lipid metabolism (16.1-16.11)

Wednesday, April 5. Lipid metabolism (16.1-16.11)

Wednesday, April 5. Review of Chapters 13-16

Friday, April 7. Lipid metabolism (16.1-16.11)

Week 13 (Dr. Mendicino)

Monday, April 10. Third test, Chapters 13-16

Wednesday, April 12. Nucleic acids: structure and properties (19.1-19.6)

Wednesday, April 12. Review of Chapter 19 (Knopp's Knotes, pp. 71-74); discussion of test

Friday, April 14. DNA replication and repair (20.1-20.8)

Week 14 (Dr. Mendicino)

Monday, April 17. DNA replication and repair (20.1-20.8)

Wednesday, April 19. Transcription and RNA processing (21.1-21.9)

Wednesday, April 19. Review of chapters 20 and 21

Friday, April 21. Transcription and RNA processing (21.1-21.9)

Week 15 (Dr. Brewer)

Monday, April 24. Protein synthesis (22.1-22.10)

Wednesday, April 26. Protein synthesis (22.1-22.10, 17.5)

Wednesday, April 26. Review of chapter 22

Friday, April 28. Nitrogen fixation and metabolism (17.1-17.2, 17.7)

Week 16

Wednesday, May 3. Final examination: 12 noon - 3 p.m.