
BIO/BMB 3100 Spring Semester 2007

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

Wednesday, January 10. Water/Amino acids (2.1-2.10; 3.1-3.5)

Wednesday, January 10. Review chapters 1,2,3.1-3.5)(Knopp's Knotes pp. 5-44)

Friday, January 12. Primary structure of proteins (4.1-4.3)

Week 2 (Dr. Brewer)

Wednesday, January 17. Proteins: polypeptides, primary and secondary structures (4.4-4.10)

Wednesday, January 17. Review of 4.1-4.10 (Knopp's Knotes pp. 45-48)

Friday, January 19. Principles of protein purification and analysis (3.6-3.10)

Week 3 (Dr. Brewer)

Monday, January 22. Principles of protein purification and analysis (3.6-3.10)

Wednesday, January 24. Hemoglobin and myoglobin (4.12-4.13)

Wednesday, January 24. Review of protein binding (4.12-4.13)(Knopp's Knotes pp. 49-53)

Friday, January 26. Proteins as catalysts (5.1-5.11)

Week 4 (Dr. Brewer)

Monday, January 29. Proteins as catalysts (5.1-5.11)

Wednesday, January 31. Mechanisms of action of some specific enzymes (6.1-6.7)

Wednesday, January 31. Review chapters 1-6

Friday, February 2. First test: chapters 1-6.

Week 5 (Dr. Brewer)

Monday, February 5. Vitamins and coenzymes (7.1-7.14)

Wednesday, February 7. Vitamins and coenzymes (7.1-7.14)

Wednesday, February 7. Review chapter 7 (Knopp's Knotes pp. 69-75); discussion of test.

Friday, February 9. Vitamins and coenzymes (7.1-7.14)

Week 6 (Dr. Brewer/Dr. Mendicino)

Monday, February 12. Bioenergetics (10.1-10.9)

Wednesday, February 14. Bioenergetics (10.1-10.9)

Wednesday, February 14. Review of chapters 7 and 10 (Knopp's Knotes pp. 69-75 and 97-105)

Friday, February 16. Carbohydrates: simple sugars and sugar polymers (starch and glycogen) (8.1-8.7)

Week 7 (Dr. Mendicino)

Monday, February 19. Glycolysis (11.1-11.7)

Wednesday, February 21. Glycolysis (11.1-11.7)

Wednesday, February 21. Review of chapters 11 and 8 (Knopp's Knotes pp. 77-81 and 107-111)

Friday, February 23. Citric acid cycle (12.1-12.7)

Week 8 (Dr. Mendicino)

Monday, February 26. Citric acid cycle (12.1-12.7)

Wednesday, February 28. Gluconeogenesis and pentose phosphate pathway (13.1-13.7)

Wednesday, February 28. Review of Chapters 7-8 and 10-12

Friday, March 2. Second test: chapters 7, 8 and 10-12

Week 9 (Dr. Mendicino)

Monday, March 5. Gluconeogenesis and pentose phosphate pathway (13.1-13.7)

Wednesday, March 7. Oxidative phosphorylation (14.1-14.14)

Wednesday, March 7. Review of chapters 13 and 14 (Knopp's Knotes pp. 125-128); discussion of test.

Friday, March 9. Oxidative phosphorylation (14.1-14.14)

Week 10 (Dr. Mendicino)

Monday, March 19. Oxidative phosphorylation (14.1-14.14)

Wednesday, March 21. Lipids and Membranes (9.1-9.11)

Wednesday, March 21. Review of chapters 9 and 14 (Knopp's Knotes, pp. 83-86 and 125-128)

Friday, March 23. Lipids and Membranes (9.1-9.11)

Week 11 (Dr. Mendicino)

Monday, March 26. Lipid Metabolism (16.1-16.11)

Wednesday, March 28. Lipid Metabolism (16.1-16.11)

Wednesday, March 28. Review of chapters 16 and 9 (Knopp's Knotes pp. 83-86)

Friday, March 30. Lipid Metabolism (16.1-16.11)

Week 12 (Dr. Brewer)

Monday, April 2. Photosynthesis (15.1-15.6)

Wednesday, April 4. Photosynthesis (15.1-15.6)

Wednesday, April 4. Review of Chapters 13-16 and 9

Friday, April 6. Photosynthesis (15.1-15.6)

Week 13 (Dr. Mendicino)

Monday, April 9. Third test, Chapters 13-16 and 9

Wednesday, April 11. Nucleic acids: structure and properties (19.1-19.6)

Wednesday, April 11. Review of Chapter 19 (Knopp's Knotes, pp. 91-95); discussion of test

Friday, April 13. DNA replication and repair (20.1-20.8)

Week 14 (Dr. Mendicino)

Monday, April 16. DNA replication and repair (20.1-20.8)

Wednesday, April 18. Transcription and RNA processing (21.1-21.9)

Wednesday, April 18. Review of chapters 20 and 21

Friday, April 20. Transcription and RNA processing (21.1-21.9)

Week 15 (Dr. Brewer)

Monday, April 23. Protein synthesis (22.1-22.10)

Wednesday, April 25. Protein synthesis (22.1-22.10, 17.5)

Wednesday, April 25. Review of chapter 22

Friday, April 27. Nitrogen fixation and metabolism (17.1-17.2, 17.7)

Week 16

Wednesday, May 2. Final examination: 12 noon - 3 p.m.