

Steven A. Fink; Instructor
MSA 005
MTWTh 8 - 10:35
sec. #0392
OFFICE HOURS: 2:25-2:35 [MSA 005]

Winter 2015
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BIOLOGY 3-A LECTURE

Course Description: This is a course in general biology designed to fulfill a laboratory science requirement and will also provide a foundation for advanced courses in biology, including human anatomy, physiology, and microbiology. The lecture portion of the course emphasizes the basic principles in biology, cell structure and function, and the levels of organization in the human body. Lecture topics include the scientific method, biological chemistry, cellular respiration, photosynthesis, heredity, molecular genetics, evolution & ecology.

The laboratory portion of the course includes an introduction to the microscope, detailed study of cells and tissues, a survey of the microorganisms, plants, and animals that comprise the 5 Kingdoms of life, and a detailed dissection and study of the fetal pig. Emphasis is on critical analysis and the diversity of life.

The Biology 3-A Lecture is a 3-unit course.

The Biology 3-B Lab is a 1-unit course.

You will receive a separate grade for each.

It is not necessary to have the same instructor for both.

We recommend that you take both the same semester.

Student Learning Objectives: A student who completes this class will be able to explain:

- (1) the scientific method, its applications & limitations
- (2) the principal characteristics of living organisms
- (3) the levels of organization of matter, from atoms to biomes
- (4) the mechanisms of evolutionary adaptation
- (5) the principal categories of chemicals that both make-up living organisms
- (6) the production of energy by cells and how it is used
- (7) interrelationships of organisms with each other and the environment
- (8) how cells reproduce and how organisms reproduce
- (9) the inheritance & transmission of different genetic traits
- (10) the structure & action of genes

(11) the structure & function of the different organ systems in the body

Student Learning Outcomes:

1. Identify the steps which are involved in scientific discovery and be able to arrange these steps in their proper order. Identify the dependent and independent variables in an experiment and also be able to name and identify the “control” and “experimental” groups from a scientific experiment.

As assessed by successful completion of a multiple choice or matching examination.

2. Identify the functions of carbohydrates, lipids, proteins, nucleic acids, vitamins & minerals & how a deficiency or excess could affect one’s health.

As assessed by successful completion of a multiple choice or matching examination.

3. Identify the structures & functions of parts of a cell.

As assessed by successful completion of a multiple choice or matching examination.

4. Identify how energy is produced & used at the biochemical, cellular, organismal & ecological levels.

As assessed by successful completion of a multiple choice or matching examination.

5. Given a biological report from the mass media, evaluate and critique the findings based on knowledge of the scientific method, the strength of the evidence, and independent research on the topic.

As assessed by successful completion of a multiple choice or matching examination.

Required & Recommended Books:

S.A. Fink; **Biology Lecture Outline**; BioBooks Pub.; 2014

S. Mader; **Biology; Inquiry Into Life**; McGraw-Hill Publishers; 2014 (14th ed) [ISBN 07-352552]

Lecture Examination Schedule (Tentative):

EXAMINATION 1.....	Jan 12 (Monday)
EXAMINATION 2.....	Jan 21 (Wednesday)
EXAMINATION 3.....	Jan 28 (Wednesday)
FINAL EXAMINATION..... (comprehensive)	Feb 5 (Thursday)

Computation of Course Grade:

2 (of 3) Examinations.....	60% of Course Grade
Final Examination.....	40% of Course Grade

Assuming you take all 3 lecture examinations, the lowest one will be dropped, and the average of the 2 highest will count 60% towards your Course Grade. . About 55% of the questions on the Final Exam will come from the previous 3 lecture exams.

All examinations will consist of objective-type questions (ie., True/False; Multiple Choice; and Matching questions) that will be answered on **SCAN-TRON (882) forms**. You will be expected to provide SCAN-TRON 882 forms (available at the bookstore) and a **soft lead no. 1 pencil with a good eraser** for each examination for computer scoring. The Final Examination is comprehensive for the entire semester. **There are no make-up examinations.**

Grading Policy:

89 - 100%	A
78 - 88%	B
62 - 77%	C
50 - 61%	D
below 50%	F

Practice Quizzes & Exams & Videos:

<http://www.professorfink.com>

http://highered.mcgraw-hill.com/sites/007340344x/student_view0/index.html

http://www.uwgb.edu/markerj/P_QZ/Humbio_QZ/QZ_PAGE.HTM

http://www.mhhe.com/biosci/genbio/maderbiology7/student_index.mhtml

Attendance Policy:

Roll will be taken. There is a strong correlation between poor attendance and poor grades. **You are responsible for information, exam announcements, date changes, etc. presented in class, whether or not you are present.**

Students who are given add slips must complete the process by the 3rd class meeting. No replacement add slips will be signed.

Withdrawal from Class:

You are responsible for your credit and enrollment status. Any student withdrawing from class must inform the admissions office of this decision. **Students failing to follow the correct procedure for withdrawals will receive a grade of "F" for the semester. No withdrawals are permitted after Friday, Jan. 30.**

(see Schedule, page 1.)

Cheating/Academic Dishonesty:

Each student is expected to do his/her own work on all assignments, reports, examinations, etc. **CHEATING ON AN EXAM WILL RESULT IN AN "F" FOR THE COURSE.**

Here is a list of some actions that are considered cheating:

NO TALKING DURING THE EXAM.

KEEP YOUR EYES ON YOUR OWN EXAM.

USING NOTES OF ANY KIND (ON CARDS, STRIPS OF PAPER, DESK TOP, ETC.) DURING AN EXAM IS NOT PERMITTED.

Showing a fellow student your exam, or passing information in any way is not permitted.

Place your answer sheet(s) directly in front of you.

If you have a question, quietly walk up to the instructor and whisper your question.

Translation dictionaries are not permitted.

Changing the answers on a returned Exam & claiming it was scored wrongly.

All of these demonstrate a lack of Honesty & Integrity which is Essential in all jobs, all relationships, & in all Areas of Life.)

Recommendations for Succeeding in Class:

- 1. Expect to Work. This is not supposed to be easy.**
- 2. Get to class on time, every time, and stay the whole time.**
 - Never miss class unless you're dead, & take good notes.
- 3. Find someone in the class to contact if you miss a meeting.**
- 4. Be organized! Use a daily calendar to set times for regular studying for each of your classes.**
- 5. Study & Review each night the class is given.**
 - Learning is easier if you schedule time daily to read, to think & review.
 - Every time you study. spend at least 10 minutes reviewing previous lessons. (These "refresher shots" are the secret for long-term memory.)
 - Focus your studying on the class Lecture Notes.
 - Read the relevant chapters in your textbook; hi-lite pertinent lines, & add these notes to your class notes (never read without writing).
 - Use the CD-ROM & Web-Sites.
 - Use associations to help you remember things.
 - Prepare note cards and carry them with you to review.
- 6. Increase your studying before a scheduled Exam!!**
- 7. Anything you turn-in (exams, lab reports) should look neat.**

TENTATIVE SCHEDULE OF TOPICS

(schedule subject to change)

Week	Day	Date	Lecture Topic	Mader Textbook 14th ed
1	M	JAN 5	Introduction Scientific Method Characteristics of Living Organisms Evolution by Natural Selection	chapter 1 chapter 1 Chapter 27 Pages 534-544; 546-551 p. 558
	T	JAN 6	Atoms & Molecules Radioactive Dating Thyroid Gland	chapter 2
	W	JAN 7	Atoms & Molecules Radioactive Dating Thyroid Gland Organic Compounds	chapter 2 chapter 2
	TH	JAN 8	Organic Compounds	chapter 2
2	M	JAN 12	<u>EXAMINATION 1</u> Organic Compounds	chapter 2
	T	JAN 13	Organic Compounds Hormones Structure of ATP Structure of DNA	chapter 2 pages 395-396 page 41 & page 102 pages 40 & 504-506
	W	JAN 14	Cell Structure Transport Across the Cell Membrane Autolysis (Apoptosis)	chapter 3 chapter 4 p. 82-83

TENTATIVE SCHEDULE OF TOPICS

(schedule subject to change)

Week	Day	Date	Lecture Topic	Mader Textbook
	TH	JAN 15	Cell Structure Transport Across the Cell Membrane Autolysis (Apoptosis) Endosymbiont Theory Biochemical (Metabolic) Reactions & Enzymes <u>[Last Day to Avoid a "W" on Permanent Record]</u>	chapter 3 chapter 4 pages 82-83 page 63 chapter 6
3	M	JAN 19	NO CLASS: Birthdate of Martin Luther King	
	T	JAN 20	Biochemical (Metabolic) Reactions & Enzymes Coenzymes Photosynthesis	chapter 6 pages 266-273 chapter 8
	W	JAN 21	<u>EXAMINATION 2</u> Photosynthesis Vision	chapter 8 pages 353-357
	TH	JAN 22	Photosynthesis Vision Cellular Respiration	chapter 8 pages 353-357 chapter 7

TENTATIVE SCHEDULE OF TOPICS
(schedule subject to change)

Week	Day	Date	Lecture Topic	Mader Textbook
4	M	JAN 26	Cellular Respiration Regulation of the Blood Sugar level	chapter 7 page 405
	T	JAN 27	Cellular Respiration Regulation of the Blood Sugar level Ecosystems Biomes Fossil Fuels <u>[LAST DAY TO DROP: FRIDAY Jan 30]</u>	chapter 7 page 405 chapter 34 chapter 35 page 715-716
	W	JAN 28	<u>EXAMINATION 3</u> The Reproductive System	 chapter 21 pages 405-406
	TH	JAN 29	Reproductive System Cell Division Chromosome Anomalies Genetics	chapter 21; p. 416-425 pages 82-96 chapter 24 pages 492-495 chapter 23 pages 478-482

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TENTATIVE SCHEDULE OF TOPICS

(schedule subject to change)

Week	Day	Date	Lecture Topic	Mader Textbook
5	M	FEB 2	Reproductive System Cell Division	chapter 21; p. 416-425 pages 82-96
			Chromosome Anomalies	chapter 24 pages 492-495
			Genetics	chapter 23 pages 478-482
	T	FEB 3	Viral Infections	Pages 590-695
			Cancer	Pages 515-518
			The Immune System	chapter 13
			Genetics	chapter 23 pages 478-482
			Molecular Genetics	chapter 25 & 26
	W	FEB 4	Viral Infections	Pages 590-695
			Cancer	Pages 515-518
			The Immune System	chapter 13
			Genetics	chapter 23 pages 478-482
			Molecular Genetics	chapter 25 & 26
	TH	FEB 5	<u>FINAL EXAM</u>	