

TENTATIVE SCHEDULE

DATE	TOPIC
1 February	Introduction - Overview of course, materials, exams, etc. Students become familiar with microscopes and begin lab on the microscope and the use of Kohler illumination while working with representative prepared slides. Calibration of the microscope. Brief, but intense discussion of light, optics, and the physical principles important in image formation.
8	Phase contrast and interference contrast microscopy with live specimens available for viewing. This lab is to instruct in phase optics and handling of eukaryotic microorganisms. Students begin to become familiar with organelles that can be seen with phase contrast.
15	The 'photosynthetic' flagellates with emphasis on nutritional modes and specialization of the flagella
22	The 'zooflagellates' - Serial design with increasing complexity, and the opalinids - A separate phylum?
1 March	The amoebae with emphasis on pseudopodial form and function.
8	Field Trip to the Oceanside Sewage Disposal Plant and return to examine fresh "Mixed Liquor."
15	Exam 1 & prepare silver stains of <i>Tetrahymena</i> for evaluation of cell division, stomatogenesis, and cortical morphogenesis on the 25th & 8th.
22	The Apicomplexa & Cnidospora - Schizogony, gamogony, and sporogony; alternation of generations and introduction to sexuality in the protozoa.
29	The phylum Ciliophora. Explain organelles, micro-, & macronuclei, view various species in culture, learn taxonomy while viewing specimens. Also focus on the ecology, metabolism, & conjugation.
5 April	The ciliophora - An example of morphogenesis in the protozoa with emphasis on stomatogenesis.
19	The cycloparamecitome & regeneration in <i>Paramecium</i> and others.
26	Field trip to ocean or go out on the bay to learn of marine protozoa, ecology, taxonomy, red tides, chemistry and metabolism of.... Food chains
3 May	Taxes - Mechanotaxis, phototaxis, and chemotaxis - Run some chemotaxis assays with <i>Paramecium</i> .

10 Review of student video tapes and micrographs taken throughout the semester.

17 Exam 2 (2:45-5:00)

TEXT - Hausmann, K. & Antipa, G. A. *Biology of the Protista*. Draft 2.0a, 1998.
Jahn, T. L., Bovee, E. C. & Jahn, F. F. *How to Know the Protozoa*, 1979.
Kodak Pamphlet #2 on Microscopy and Photomicrography

REQUIRED MATERIALS - 1 Roll Color Film, 1 VCR Tape, 1 Notebook, Slides & Slips

Grading

The Final Grade in Biology 450 will be based on your total accumulated points:

First Exam	100 pts
Second Exam	100 pts
Web Micrographs & Videos	50 pts
<u>Lab Notebooks</u>	<u>50 pts</u>
Total Possible	300 pts

This course has two components, lecture and laboratory. The final grade in Biology 451 is to be based on performance in the lecture (50%) and the laboratory (50%).

1. Exams - There will be two (2) exams (March 16th and May 18th). Each exam will consist of two parts, one in which laboratory specimens, data, instruments, and experimental results will be displayed along with question(s) relevant to the display (the practical) and a second part with objective and short essay questions.
2. Micrographs & Videos - Each student will be expected to produce images and/or video micrographs or drawings of organisms to be shared with other members of the class on or before May 11th. These images should be suitable for inclusion in a SFSU Web page of the protozoa. Progress on preparation of these images should be dually recorded in your laboratory notebook and reported to Dr. Antipa on a regular basis.
3. Lab Notebooks - Each student will be expected to maintain a lab notebook. I will be observing your use of your lab notebook, and the notebook will be spot-checked on two, unannounced occasions. So, you will need to have all exercises prepared uniformly. The first check is for 15pts and the second 35pts.
4. Drops and Withdrawals - The drop period for Spring 2000 is 29 JANUARY through MONDAY, 26 February. Withdrawal requests require written documentation from an independent third party and a current, unofficial SFSU transcript. From February 27nd to April 27th the request for withdrawal must be serious and compelling, follow the guidelines set forth by the University and the Department of Biology, and be supported by the documentation required by the Department. From April 28th - May 18th withdrawals are not normally permitted. Should you have questions, please refer to the departmental withdrawal policy as stated in the memo to all students and faculty which is available in the departmental office in 536 Hensill Hall.