

VALDOSTA STATE UNIVERSITY
Biology 3550/5550--Introduction to Phycology
Spring 2012

INSTRUCTOR: Dr. J. A. NIENOW

OFFICE: 2089 Biology/Chemistry Building; 249-4844

Office hours: Wednesdays 2:00-3:30, Thursdays 9:00-10:30, Fridays 12:00-1:00,
or by appointment

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RECOMMENDED TEXT: Graham, LE, JM Graham, & LW Wilcox. 2009. *Algae*. 2nd Edition. Benjamin Cummings, New York

OTHER RESOURCES: *Freshwater Algae of North America* by JD Wehr and RG Sheath, a very useful book, is available in the reference section of Odum Library. A number of other taxonomic references have been placed on 3-day reserve in Odum Library. You might also want to check my web page (<http://www.valdosta.edu/~jnienow>) and BlazeView periodically.

PREREQUISITES: A passing grade in Biology 2230 and 2270, or Biology 1108, or the consent of the instructor. An interest in photosynthetic microorganisms (algae) is also helpful.

COURSE GOALS: The primary goal of this course is to introduce the students to the study of algae, with the emphasis on practical aspects related to the study of freshwater microalgae. Along the way it is hoped that the students will develop an appreciation of the evolutionary diversity of photosynthetic microorganisms and the role they play in the environment.

ATTENDANCE: Students are responsible for attending class and for the material presented in all classes. Make-ups of missed lab exercises will be on a case by case basis and will depend both on the nature of the excuse and the complexity of the lab. **EXAMS MISSED WITHOUT PRIOR PERMISSION OF THE INSTRUCTOR MAY BE MADE UP, BUT THE FINAL SCORE WILL BE REDUCED BY 25%.** Students who have missed 20% of regularly scheduled class meetings, especially labs, are subject to a failing grade for the course.

LECTURE GRADING (GEO 4, GEO 5, BEO2, BEO 3, BEO 4, BEO 5): There will be three unit exams, each worth 200 points. The exams will include a mixture of short answer and essay questions. The dates of these exams are included in the attached schedule of lectures. **DO NOT MISS THESE EXAMS WITHOUT PRIOR PERMISSION.** If you are caught cheating on an exam you will receive no points. Estimated total from exams 600 points.

IDENTIFICATION EXAMS (GEO 7, BEO 1, BEO 2): In addition to the lecture exams, there will be two identification exams, each worth 100 points. During this exam you will be asked to identify specimens from micrographs to a specified level, usually genus. The taxa potentially appearing on each exam will be provided well ahead of time. The rules on attendance and cheating hold for these exams as well. Estimated total for identification exams 200 points.

LABORATORY/HOMEWORK GRADING (GEO 3, GEO 4, GEO 5, BEO 1, BEO 3, BEO 5) : The laboratory grade will be based on the following types of graded assignments.

- 5 algal identifications (I suggest you focus on diatoms and desmids), each documented with a voucher specimen, photographs, descriptions, and a list of major literature (see separate handout). No species may be used by more than two students. Each identification, in the proper form, is worth 20 points. Up to 5 additional specimens can be submitted; these can earn extra points at a rate of 10 points for each identification in the proper form. The additional specimens are subject to the same two students per organism limit. Identifications can be submitted at any time before April 25, 2012. All identifications to be graded must be submitted by 3:30 pm April 25, 2012 Estimated total for identifications 100 points.
- Additional taxonomic exercises as assigned 100 points.

RESEARCH PROJECT (GEO 3, GEO 4, GEO 5, BEO 1): Each student must participate in an independent research project (either independently or as part of a group) related to the study of algae. The project will be conducted in four phases:

- Initial design and feasibility check Due February 1, 2012; 50 points
 - Each individual or group must submit a brief (100-200 words) statement outlining the basic idea, the material requirements of the project, and an estimate of the number of man-hours required. (The project should require between 12 and 20 man-hours per participant.)
- Formal proposal Due February 29, 2012; 100 points
 - The proposal must include background information, the basic objectives of the project, details on how those objectives will be met including a list of the major independent and dependent variables, the significance of the expected results, and a literature cited section in appropriate format. The body of the proposal should be 1000 and 1500 words long.
- Laboratory and/or field research Time will be available during lab between March 20 and April 15 to work on the project.
- Report on research April 25, 2012 between
 - Each group will prepare a 15-minute power

DROPPING A COURSE WITHOUT PENALTY: In order to officially drop a course without penalty, a student must obtain and fill out a drop/add form from the Registrar's Office, acquire appropriate signatures, and return the completed form to the Registrar's Office before the designated date (published in the academic calendar). If you don't officially withdraw, and instead just stop coming to class, you will receive an F for the course. It will then take three A's in science classes cancel out that F and bring your GPA back up to 3.0 so you can maintain your scholarship.

SPECIAL NOTE 1: Grades will be neither posted nor given out over the telephone.

SPECIAL NOTE 2: Students requesting classroom accommodations or modifications due to a documented disability must contact the Access Office for Students with Disabilities located in the Farber Hall. The phone numbers are 245-2498 (V/VP) and 219-1348 (TTY).

6. Students will demonstrate knowledge of diverse cultural heritages in the arts, the humanities, and the social sciences. They will develop understanding of the relationships among the visual and performing arts, literature and languages, and history and the social sciences. Students will be versed in approaches appropriate to the study of those disciplines; they will identify and respond to a variety of aesthetic experiences and engage in critical thinking about diverse issues. They will be able to identify the components of and respond to aesthetic experiences in the visual and per

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SCHEDULE OF LECTURES AND LABS
BIOLOGY 3550/5550 SPRING 2012

3/02	Introduction to the ochrophyte (chromophyte; stramenopile) algae	pp. 212-243
-	LAB Theory and practice of scanning electron microscopy	----
3/07	Diatoms	

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Dates to remember:

February 1: Project idea and feasibility check.

February 15: First lecture exam.

February 29