

Dr. Jennifer M. Zaspel
Advanced Topics 26-766-2
Syllabus
Halsey Science 51

Instructor: Dr. Jennifer M. Zaspel

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Office Hours: Monday, Wednesday 10:30-12:30 or by appointment.

Texts: 1. Biological Systematics: Principles and Applications *Schuh and Brower 2nd ed.*

2. Molecular Systematics *Hillis et al. 2nd ed.*

Grading: Participation 50 points, homework assignments 50 points, lab practical 100 points, final project 100 points.

A = 95-100%

A- = 90-94%

B = 85-89%

B- = 80-84%

C = 75-79%

C- = 70-74%

D = 65-69%

D- = 60-64%

F = <60%

Expectations:

1. The student should complete reading assignments prior to class and participate in class discussions.
2. The student should attend all lectures and ask questions.
3. The student will be expected to complete homework assignments and a project involving phylogenetic analysis of a taxon of their choosing.

Attendance Policy: The class meets only once per week, and because the class format is mainly discussion and hands on computer lessons, it is very difficult to make up missed classes by borrowing notes, etc. Therefore, students are strongly encouraged to attend all classes-attendance records will be kept. Personal computers are allowed in class for taking notes, but are not allowed during exams. Class discussions/lectures cannot be recorded in any manner without special permission.

Class Demeanor Expected by Instructor: Students should be considerate, polite, open-minded, objective and show interest in the work of others.

Academic Policy: If you decide to cheat or engage in other forms of academic dishonesty you will be subject to the Student Academic Disciplinary Procedures as outlined in the Student Disciplinary Code (<http://www.uwosh.edu/dean>).

Copyrighted Materials and Software Use: All students are required and expected to obey the laws and legal agreements governing copyrighted material and software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

Tentative Schedule:

Wk	Date	Subject	Readings
1	2/3	Introduction to systematics	Chs. 1 & 2 Schuh and Brower
2	2/10	Characters, homology, and trees	Chs. 3 & 4 Schuh and Brower
3	2/17	Sequencing and alignment	Lee et al. 2002
4	2/24	Tree searching strategies, OC cont'd	Ch. 5 Schuh and Brower, Ch. 11 in Hillis et al.
5	3/2	Parsimony and distance	Farris, J. 2008; Sober, E. 2004
6	3/9	Maximum Likelihood, models	Kolaczkowski and Thornton 2004
7	3/16	Bayesian Inference	Cummings et al. 2003*
	3/23	No Class Spring Break	NA
8	3/30	Measures of support	Brower et al. 1996; Liu and Pearl 2007; Kubatku et al. 2011
9	4/6	Population-level phylogenies, MDS	Weins, J.J. 2004; Holder et al. 2008; Madison and Knowles 2006.
10	4/13	Divergence dating	Drummond et al. 2006; Derkarabetian et al. 2010; MacCormak et al 2010.
11	4/20	Hypothesis testing, comparative studies	NCBI, Geneious, Jmodel
12	4/27	Software/analysis demos	MrBayes, Beast
13	5/4	Software/analysis demos	Mesquite, MacClade
14	5/11	Software/analysis demos	S-DIVA, RASP

*Project proposal is due prior to spring break.