FOR 421/521
Spatial Analysis of Forest Landscapes
Fall, 2008
3 credits
Two classes per week, 80 minutes

Instructors: Michael Wing and William Ripple
Graduate Teaching Assistant: TBA

Prerequisite:
FOR 421: Senior standing and successful completion of a previous GIS course (GEO 365, FE 357, GEO 465/GEO 565, or the equivalent).
FOR 521: Graduate standing and successful completion of a previous GIS course (GEO 365, FE 357, GEO 465/GEO 565, or the equivalent).

Course Content
This course involves examining and applying geographic information systems (GIS) and related spatial technologies such as remote sensing and global positioning systems (GPS) for the study of forest landscapes. Students are presented with lectures and exercises that cover a wide range of topics including techniques and applications of spatial analysis and the design of landscape studies. Class meetings include lectures, guest lectures, and hands-on spatial analysis exercises in a computer lab. Students are required to complete lab assignments as well as design, propose, conduct, present, and write-up a large term project.

Measurable Student Learning Outcomes
Upon completion of the **FOR 421** and **FOR 521**, students will be able to:

1. Design and conduct spatial analysis projects.
2. Manipulate spatial models for forestry and natural resource analyses.
3. Cite recent spatial analysis applications in forestry and natural resources.
4. Communicate scientifically with others in writing and orally regarding spatial analysis.

Additionally, **FOR 521** students will be able to:
1. Critique journal articles on topics of spatial analysis of forested landscapes.
2. Synthesize key issues involving spatial analysis and landscape studies.

Evaluation of Student Performance
Student performance in meeting learning outcomes in **FOR 421/521** will be evaluated through: Graded lab assignments, a term project proposal, and both a written report and oral presentation of the term project.

FOR 521 grades will be based additionally on assignments associated with reviewing, critiquing, and synthesizing scientific literature including:
1) Conducting a literature review for a specific topic involving spatial analysis of forested landscapes.
2) Presenting an overview and critique of selected journal article(s) to the class.

GRADING
FOR 421/521 (100 points total)
FOR 421-- labs 30, proposal 10, term project 50, and class participation 10 points.
FOR 521-- labs 30, proposal 5, term project 50, class participation 10, and literature review 5 points.
Class attendance is mandatory, an attendance sheet will be taken (one point will be deducted from class participation points for each unexcused absence).

Letter grade % of total points for **FOR 421/521**
A 92.5-100
A- 90.0-92.4
B+ 87.5-89.9
B 82.5-87.4
B- 80.0-82.4
C+ 77.5-79.9
C 72.5-77.4
C- 70.0-72.4
D 60.0-69.9
F < 60.0

Assignments are due by 2 PM on dates indicated on the Class Calendar. Assignments not turned in during the class period may be placed in the box on the instructor's office door (Peavy 275). Late assignments will be assessed a late penalty of 1 point per day for labs, project proposal, or the literature review; 2.5 points per day for final project papers.

Learning Resources
1. Lecture and lab notes will be made available on the course website.

2. Optional textbook: M.G. Wing and P. Bettinger. 2008. Geographic information systems: Applications in natural resource management. Oxford University Press, Oxford. 272 pp.

3. Guest speakers and their power point presentations.

4. Journal articles that will be reviewed and analyzed by the graduate students.

Classroom Policies
Please see the OSU Student Conduct website:
http://oregonstate.edu/admin/stucon/achon.htm

OSU Policy on Students with Disabilities:
"Accommodations are collaborative efforts between students, faculty and Services for Students with Disabilities (SSD). Students with accommodations approved through SSD are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through SSD should contact SSD immediately at 737-4098."

Spatial Analysis of Forest Landscapes
FOR 421/521
Class Calendar Fall 2008
Tuesday and Thursday, 2pm to 3:20pm

Date	Lecture	Lab	Due
Sep 30	Course Overview, Introductions ArcGIS Spatial Data Management Lit Review Assignment	Lab 1 ArcGIS I	
Oct 2	Class Project Design Selection of project partners ArcGIS Spatial Data Management	Lab 1 ArcGIS 1	
Oct 7	Marbled Murrelet Models Spatial Overlay Processes	Lab 1 ArcGIS 1	
Oct 9	Map Projections Lit Review Presentation Order Selection	Lab 2 ArcGIS 2	Lab 1
Oct 14	John Sessions: Landscape Spatial Analysis	Lab 2 ArcGIS 2	
Oct 16	Lit Review Presentations		
Oct 21	Lit Review Presentations		Lit Review
Oct 23	Russ Faux: LiDAR Applications		Lab 2
Oct 28	Lit Review Presentations Determine presentation order	Project work	Project Proposal
Oct 30	Topographic Spatial Data	Lab 3 ArcGIS 3	
Nov 4	Jim Strittholt	Lab 3 ArcGIS 3	
Nov 6	Robert Kennedy	Lab 3 ArcGIS 3	
Nov 11	Topographic Spatial Data	Lab 3 ArcGIS 3	Lab 3
Nov 13	Spatial Data Sources	Project Work	
Nov 18	Student Presentations		
Nov 20	Student Presentations		
Nov 25	Student Presentations		
Nov 27	Thanksgiving		
Dec 2	No Class		
Dec 4	Student Presentations, Course Evaluation		Final paper