Aerial Photo Interpretation 3 Credits

(Outcomes-Focused Syllabus)

COURSE DESCRIPTION

This course will enable YOU to gather information about land through aerial photography in your work with wildlife management specialists. *(The course description doesn't list the topics, but talks about what you, the student, will be able to do if you are successful in completing this course.)*

COURSE THEMES

Aerial Photography, Interpretation *(These are the themes addressed in the course.)*

LEARNING OUTCOMES

When you have successfully completed this course, you should be able to obtain three-dimensional views from aerial photographs, relate the features on the photos to the same features on topographical maps and on the ground, as well as estimate areas of land and heights of features on the photos. *(All of these things are connected, not isolated, and reflect the course description.)*

ASSESSMENT TASKS

You will be asked to demonstrate the above outcomes through an assigned class project that will show evidence of your ability to: *(This is the work that the students will do that will be graded.)*

1. Navigate using aerial photographs
2. Select correct photos and set photos up for stereoscopic viewing.
3. Recognize relationships between aerial photos, maps, and the ground.
4. Identify through interpretation a variety of ground features and conditions visible on aerial photographs.
5. Determine area, distance, and height information from aerial photographs.

COURSE CONTENT

CONCEPTS AND ISSUES	**SKILLS** *(These are specific actions the students will carry out.)*
Concepts *(These are concepts the students should understand.)* Topography Three-dimensional views Stereoscopic viewing Ground features Interpretation **Issues** *(This is a list of potential problems students will face in the field. Here they are given the opportunity to use critical-thinking skills to resolve issues. This is the highest cognitive work.)* Selection of correct photos	• Plan collaboratively • Read maps clearly • Recognize relationships between maps, photos, and the ground • Identify ground features and visible conditions

LEARNING RESOURCES

(There are multiple sources of information, and with all of the technology available to students today, they are encouraged to reach beyond the assigned texts. The two recommended texts cover some of the relevant content areas.)

There are many texts that can provide you with information relevant to this course. You should gather information from different resources and share it with classmates. You should do research at the library, talk with others in the field, and visit other faculty members within this department to enhance your knowledge in this area. Here are two texts you should begin with:

1. *How to Use Aerial Photography in Natural Resource Applications,* 1988, Caylor, J.A.
2. *Log Scaling and Timber Cruising,* 1988, Bell-Dilworth.

ASSESSMENT AND GRADING

The quality of your work will be assessed against specific expectations, which will be clear to you before you submit your work for assessment by the instructor. *(Students know what is expected of them, there is no guessing. They should receive scoring guides or rubrics for each of the tasks so they know exactly what the instructor will be looking for.)* The following five tasks will be assessed for grading purposes *(Notice that class attendance is not used for grading purposes. Students are graded on their ability to do something with what they know.)*

15% Task #1: Navigate using aerial photographs
15% Task #2: Select and set photos
15% Task #3: Recognize relationships between aerial photos, maps, and the ground
15% Task #4: Identify ground features and conditions visible on aerial photographs
15% Task #5: Determine area, distance, and height information from aerial photographs

25% In addition to these tasks, you will be assessed on your knowledge base through a midterm examination

IN-CLASS LEARNING ACTIVITIES	**ASSESSMENT** *(This gives students a clear road map of when and how they will be graded and illustrates how the tasks build off each other.)*
Week One Build meaning around key concepts, review forest measurements, learn about fellow classmates and instructor.	
Week Two Discuss geometry of aerial photos and the principles of stereoscopy. Prepare and view stereo pairs.	
Week Three Photo scale concepts and application, work on scale practice problems.	
Week Four Measuring displacement Navigation with aerial photos, field lab **(Task #1)**	TASK 1

IN-CLASS LEARNING ACTIVITIES	ASSESSMENT
Week Five **MIDTERM EXAM** Scale continued, area determination Determining scale and area	**MIDTERM EXAM**
Week Six Measuring angles on aerial photos	
Week Seven Interpreting photo images Larch Mountain: team navigation, field lab **(Task #2)**	TASK 2
Week Eight Theme extraction, vegetation typing Larch Mt: vegetation typing, field lab **(Task #3)**	TASK 3
Week Nine Recognize land form and drainage patterns Larch Mt: vegetation typing, field lab Estimating heights, elevation Practice problems Vegetation typing report **(Task #4)**	TASK 4
Week Ten Estimating heights and elevation change Navigation challenge (**Task #5)**	TASK 5
Week Eleven Change detection	