

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: PHOTOGRAMMETRY

Code No.: FOR 104 -4

Program: FORESTRY

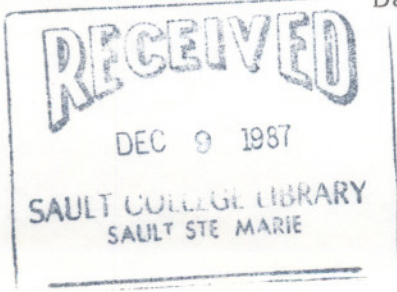
Semester: ONE

Date: AUGUST 1983

Author: BERNEY PRICE

New: \_\_\_\_\_ Revision: X

APPROVED: *[Signature]* Chairperson *08/17/83* Date



PHOTOGRAMMETRY

FOR 104-4

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Course Name

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PHILOSOPHY/GOALS:

The aim of the photogrammetry course is to provide the student with basic knowledge and skills in the principles and techniques of vertical airphoto photogrammetry, interpretation and photography, as applied to forestry applications.

METHOD OF ASSESSMENT (GRADING METHOD):

See attached.

TEXTBOOK(S):

1. Lillesand/Keifer, Remote Sensing and Image Interpretation, Wiley.
2. Zsilinsky, Photographic Interpretation of Tree Species in Ontario, Ontario Department of Lands and Forests.

Reference: Avery T.E. Interpretation of Aerial Photographs, Burgess.

METHOD OF ASSESSMENT

To successfully complete the course the student must have at least a passing grade in each test and an acceptable grade on each of the assignments.

Regular attendance is expected. One written warning will be to given those found absent in two spot checks. Further absences will result in an "R" grade.

An "I" grade indicates an unacceptable test or assignment. Later assignments will be given an automatic "I" grade. "I" grades will be reassigned or rewritten at designated times. Rewrites receiving an acceptable grade will be allotted 45% approximately of the test mark. Rewrites with unacceptable grades may result in an "R" grade. Students receiving "I" grades on four tests will receive an "R" grade. A 10% bonus is given to students attaining at least a passing grade on all tests and assignments on his first try.

Students found copying assignments or cheating on tests will rewrite the test. No marks will be given. A further occurrence and the student will receive an "R" grade. The copier and the copied will both be considered as copied.

Assignments -	40%	(excluding photography)
Tests -	60%	
	<u>100%</u>	

GRADING:

A passing grade is normally 60% but this may vary depending on test objectives.

Test marks are pro-rated and sum totalled to give final grade rating of A, B, C, or R.

- A - Outstanding achievement - 75% of total
- B - Consistently above average, 65%
- C - Acceptable achievement
- R - Repeat the course

PHOTOGRAMMETRY FOR 104-4

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
1	1	Introduction -information cards, classroom etiquette, course description and applications, evaluation, assignments, grading, texts, references, equipment and supplies.
2	4	Concepts and Foundation of Remote Sensing -energy sources and radiation principles, energy interactions with earth surface features, data acquisition and interpretation, the status of remote sensing, the emphasis for forest technicians.
3	3	The History of Photography and Aerial Photography -the history of photography camera obscura, image retention, negative and positive image process, definition of photogrammetry and airphoto interpretation, early history of aerial photography for forest mapping, forest inventory and other fields.
4	Assignment	A two part essay assignment to introduce the student to photogrammetry and to the library. 1. Significant events in the development and science of photography. 2. The development and applications of aerial photography. Evaluation - Acceptable or unacceptable. An acceptable assignment will use the specified format, references and at least two additional library references.

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
5	16	Elements of Photographic Systems -the eye, the simple camera, the 35 mm camera, focal length, aperture, aberrations, negative to positive sequence, photographic film, construction, film speed, graininess, processing black and white films, colour films, infrared film, filters, aerial cameras, geometry of a photograph, map and photo differences, types of aerial photographs, scale of aerial photographs, photographic resolution, taking aerial photographs, overlap, flight attitudes, annotations, season of photography, types of print paper, enlargements, mosaics, photo scale, obtaining and handling aerial photographs.
6	Assignment	An essay assignment on the "Eye of the Camera". Evaluation - An acceptable essay will have answers to the assigned questions. Diagrams will be neat and correctly labelled.
7	Test	Theory No. 1 -concepts, history and elements of photographic systems Evaluation - Pass 60%
8	4	Photography and Darkroom Techniques -camera handling, film processing, enlarging and printing, film and print analysis.

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
6	Test	Camera Handling - Oral Test -complete familiarity with handling the camera, film and problem solving. Evaluation: acceptable or unacceptable. In an acceptable oral the student will demonstrate complete confidence and skill in using a 35 mm, manual camera and choosing the proper film and camera settings to solve a camera use problem. -the test must be successfully completed before cameras can be signed out and/or the assignment carried out.
10	Assignment	Photography assignment to illustrate camera functions and mis-use. An exposed film is processed. Evaluation: Successfully exposed and processed film. Student must be able to qualify and explain the film image properties.
11	Assignment	Photography assignment to produce an enlargement from an image chosen by the instructor from the students processed film. Evaluation: Successful enlargement and print analysis.
12	4	Stereoscopy -depth perception, types of stereo perception methods and equipment, orientation of photos for stereoscopic study
13	2 Test	Stereo Perception Tests Individual non-graded tests to rate the students stereo-perceptions.

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
14	4	Airphoto Interpretation for Forestry Applications -airphoto interpretation of tree species, forest stand delimitation (typing) on aerial photos, key construction.
15	2	Assignment Research and design a personal airphoto identification key for specified commercial hardwood and for softwood species. Evaluation: Acceptable or unacceptable. An acceptable assignment will be of specified format and place low key priority on tone and site conditions.
16	1 Test	Specie Identification Test Evaluation: pass, 60% of common commercial species in Ontario identified in selected stands on selected on selected airphotos.
17	2	Assignment - Stand Delimitation Exercise Evaluation: pass, 60% based on logical classification, identification mapping, and neatness of airphotos typed.