



DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING
COURSE SYLLABUS

COURSE	Name	Introduction to Photogrammetry
	Code	RM184414
	Credits	3 (three)
	Semester	IV (four)

COURSE DESCRIPTION

Introduction to photogrammetry course will study and apply the concepts and procedures of photogrammetry. One of well known techniques to generate large scale maps, photogrammetry will be used to produce thematic and base maps. This course will study the concepts of optics, mechanics, and analytics in a data acquisition process. The quantitative analysis will use the manual interpretation method with seven interpretation keys. It is expected that students will have a study experience and critical thinking of photogrammetry especially to undertake the large scale mapping.

EXPECTED LEARNING OUTCOME

B	Able to design survey and mapping activities using the latest technology in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, and cadastral.
C	Able to identify, formulate, analyze and solve problems in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, and cadastral.
F	Able to compile scientific reports and provide solutions based on leadership, creativity and communication skills as well as being responsible for the work done.

COURSE LEARNING OUTCOME

1	Able to explain the concept of light, optical physics, camera, and other tools that support the concept of photogrammetry
2	Able to explain the theoretical and empirical concepts of photogrammetry
3	Able to apply the interpretation technique in photogrammetry
4	Able to apply the concept of analytic photogrammetry in solutions for the orientation processing
5	Able to design mapping activities in photogrammetry which agrees with term of reference (TOR), for example, creating the flight line and counting number of photos

COURSE MATERIALS

1	Definision and concept of photogrammetry
2	Basic concept of optics for photogrammetry
3	Metric and non-metric aerial cameras
4	Interpretation of photogrammetry
5	Determination of difference in height with parallax bar
6	Theory of exterior and interior orientation
7	Theory of aerial triangulation and bundle adjustment
8	Basic theory of parallel/cross-eyed viewing in single and stereo images
9	Mosaic images and plotting
10	Design of the flight line and number of images

PREREQUISITE

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REFERENCES

A.	Main References
1	Wolf, P.R. & Dewitt, B.A. 2004. Elements of Photogrammetry with Appl. in GIS, McGraw-Hill.
2	Kraus K., 1993. Photogrammetry, Vol 1 and 2. 4th rev. ed, Ferd. Dümmlers Verlag
3	Hariyanto, T. 2004. Pengantar Fotogrametri, Buku Ajar, Teknik Geomatika ITS
4	Cahyono, A.B. dan Hapsari, H.H. 2006. Petunjuk Praktikum Fotogrametri Dasar, Teknik Geodesi – FTSP, ITS
B.	Additional References
1	E-learning - Dep. Teknik Geomatika, 2020. MK. Fotogrametri. Http://share.its.ac.id
2	G.Konecny, 2005. Photogrammetri, 2nd edition, Sprin Verlag