FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Geo-informatics 2

Information :

Course Code :	SCM 322	**Level :**	Undergraduate	**Course Hours :**	2.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Professor	Ayman Fouad Mohammed Ragab	13
Professor	Ayman Fouad Mohammed Ragab	13
Teaching Assistant	Ahmed Taher Abdelhamed Mohamed Yousef	
Teaching Assistant	Ahmed Salah Rashad Ahmed Abdelhakk	4
Teaching Assistant	Sarah Salah Sayed Hussein Aly Elsheshtawy	

Area Of Study :

ÅDefinition and basic concept of photogrammetry.
ÅMain requirements for flight mission.
ÅTheory of photos orientation for 3D ground coordinates computation.
ÅIdentifying the main sources of errors that should be considered during surveying computations

Description :

Photogrammetry: Aeriel cameras, Vertical photograph, Tilted photograph, Rectification, Photo coordinates refinement, Flight planning, Stereoscopy and parallax, Theory of orientations, Analytical photogrammetry, Fundamentals of remote sensing, Theory of measurements and errors.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Define the characteristics and requirements of taken photos.
2 -	a2- Specify the factors that should be considered and eliminated in photos.
3 -	Study the different methods for photo processing.
4 -	Differentiate between the different types and sources of inherent errors in surveying measurements
5 -	- Treat the accommodated errors for determination of the best value for any measured quantity.
b.Intellectual Skills: :	
1 -	Ability to differentiate between different types of photos
2 -	Ability to design a flight mission to completely cover a required area
3 -	- Ability to compute 3D ground coordinates from photos.
c.Professional and Practical Skills: :	
1 -	- Ability to eliminate the errors in the taken photos, due to the basic characteristics of photography

2 -	Ability to distinguish different types and sources of errors.
3 -	Application of theory of errors for determining the best estimate value
d.General and Transferable Skills: :	
1 -	Requirements for flight mapping.
2 -	Role of photo processing for 3D ground coordinates computation
3 -	Capability of minimizing the effect of errors in any surveying measurements

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Definition and classification of photogrammetry	2	1	-
Methods of image coordinates computations	4	1	1
Main requirements for flight planning	8	2	2
Theory of photo orientation	6	2	2
Ground coordinates computations from photos	10	3	3
Different types and sources of errors	4	1	1
Most Probable value computations	10	3	2

Teaching And Learning Methodologies :

Lectures

Tutorials

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
1st mid term	20.00		
2nd mid term	20.00		
final exam	40.00		
quizes	20.00		

Course Notes :

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Recommended books :

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Periodicals :

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Web Sites :

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