Department of Geomatics Engineering / Department of Geomatics Engineering / Department of Geomatics Engineering

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
GE310	PHOTOGRAMMETRIC MODELLING	3.00	5.00	0.00	0.00	4.00

Course Detail

Course Language	:	English
Qualification Degree	:	Bachelor
Course Type	:	Compulsory
Preconditions	:	Not
Objectives of the Course	:	The objective of this course is to give basic information about aerial photogrammetry methodologies of photogrammetric mapping, orthophoto and Digital Elevation Model (DEM). Students will have basic knowledge about methodologies of each process of the photogrammetric mapping, orthophoto and DEM production project after taking this courses.
Course Contents	:	The project processes of the photogrammetric mapping production with aerial photogrammetry, ground control point planning, targeting and measurement, flight planning and taking aerial photographs, orientation of aerial photographs, aerial triangulation, stereo plotting, horizontal and vertical accuracy, projects for photogrammetric mapping, orthophoto and digital elevation models and 3D Modeling
Recommended or Required Reading	:	1. Kraus, K., Photogrametry Volume 1, Fundamentals and Standard Processes, 389 P., Germany, 1993 2. Kraus, K., Photogrametry Volume 2, Advanced Methods and Applications, Germany, 459 P. 3. Mikhail, E., M., Bethel, S., J., McGlone, J., C., 2001, Modern Photogrammetry, John Wiley-Sons, USA, 473 P, 1997. 4. Wolf, P., R., Dewitt, B., A.,Elements of Photogrammetry with applications in GIS, 3rd Edition, The McGraw-Hill companies, USA, 2000. 5. Close Range Photogrammetry and Machine Vision, K.B. Atkinson, ISBN:187032446X, Whittles Publishing, 1996. 6. Luhmann T., Close range photogrammetry: Principles, methods and applications, Publisher: Whittles, Scotland, Pages: 1-510 ISBN: 1870325508, 2006.
Planned Learning Activities and Teaching Methods	:	Lecture, discussion, exam.
Recommended Optional Programme Components	:	Attandance is important
Instructors	:	Dr. Öğr. Üyesi Serkan Karakış
Instructor's Assistants	:	None
Presentation Of Course	:	face to face
En Son Güncelleme Tarihi:	:	

Course Outcomes

Upon the completion of this course a student :

1 Defines the photogrammetric map production process.

2 Learn the parameters of flight planning for aerial image recording.

3 Students learn how to generate topographic maps and 3D modeling with UAV data.

4 Students learn how to calibrate the camera and how to create 3D modeling with close-range photogrammetry

5 Using advanced photogrammetric technologies (LIDAR) to create maps

Preconditions

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Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Temel tanım ve kavramlar					
2.Week	*Hava fotoğraflarının çekimine ilişkin uçuş planlaması ve uçuş yönetimi					
3.Week	*Fotogrametrik nirengi dengelemesi ve hata teorisi					
4.Week	*Lidar teknolojisi ve harita üretimi					
5.Week	*Lidar teknolojisi ve harita üretimi					
6.Week	*Fotogrametrik yöntemle harita yapımı projeleri					
7.Week	*ara sınav					
8.Week	*Fotogrametrik yöntemle harita yapımı projeleri					
9.Week	*Fotogrametrik yöntemle harita yapımı projeleri					
10.Week	*Fotogrametrik yöntemle harita yapımı projeleri					
11.Week	*Mini proje 1					
12.Week	*Sunumlar					
13.Week	*Mini proje 2					
14.Week	*Sunumlar					

Assesment Methods %

1 Final : 40.000

2 Project : 30.000

3 Midterms : 30.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize / Midterms	1	1.00	1.00
Final / Final	1	2.00	2.00
Derse Katılım / Attending lectures	14	3.00	42.00
Ara Sınav Hazırlık / Preparation for midterm	1	5.00	5.00
Final Sınavı Hazırlık / Preparation for final	1	10.00	10.00
Proje / Project	2	14.00	28.00
Ders Öncesi Biresysel Çalışma / Individual study before lecture	14	1.00	14.00
Ders Sonrası Biresysel Çalışma / Individual study after lecture	14	2.00	28.00
		Total :	130.00
		Sum of Workload / 30 (Hour) :	4
		ECTS :	4.00

Program And OutcomeRelation

	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11
L.O. 1	5	5	0	0	0	5	0	0	0	0	0
L.O. 2	5	5	5	0	0	0	0	0	0	0	0
L.O. 3	4	5	5	0	0	0	0	0	0	0	0
L.O. 4	5	5	0	0	0	5	0	0	0	0	0
L.O. 5	5	5	0	0	0	5	0	0	0	0	0