

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
GE202	GEODESY	3.00	0.00	0.00	3.00	3.00
Course Detail						
Course Language	: English					
Qualification Degree	: Bachelor					
Course Type	: Compulsory					
Preconditions	: Not					
Objectives of the Course	: The lecture aims to teach students the fundamental concepts of geodesy.					
Course Contents	: Introduction, reference systems and frame, gravity field of the earth, the geodetic earth model, methods of measurement, methods of positioning and gravity field modeling, geodetic and gravimetric networks.					
Recommended or Required Reading	: 1. Torge, W. (2012) Geodesy, 4th edition Walter de Gruyter , Berlin. 2. Abbak, RA. (2021) Fiziksel Jeodezi, Geniřletilmiş 4. baskı, Atlas Akademi, Ankara. 3. Bektaş, S. (2021) Jeodezi -I Küre Yüzeyinde Uygulamalar, Atlas Akademi, Ankara 4. Bektaş, S. (2021) Jeodezi -II Elipsoid Yüzeyinde Uygulamalar, Atlas Akademi, Ankara. 5. Kahveci, M., Tuřat, E., Dođanalp, S. (2021) Jeodezik Koordinat Sistemleri Teori-Uygulama, Nobel Akademik Yayıncılık, Ankara.					
Planned Learning Activities and Teaching Methods	: Courses and Exams					
Recommended Optional Programme Components	: Basic mathematics and physics knowledge					
Instructors	: Dr. Öğr. Üyesi Nevin Betül Avşar					
Instructor's Assistants	: NA					
Presentation Of Course	: Slides, visual materials					
En Son Güncelleme Tarihi:	: 2/24/2024 7:29:34 PM					

Course Outcomes

Upon the completion of this course a student :

- 1 Give basic geodetic definitions.
- 2 Recognize the importance of earth's gravity field for geodetic studies.
- 3 Define reference ellipsoid and geoid.
- 4 Explain measurement methods used in geodesy
- 5 Outline basic concepts for geodetic and gravimetric networks.

Preconditions

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Weekly Contents						
	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Introduction. The definition of geodesy. The objective of geodesy. The history of geodesy.					Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2
2.Week	*The shape of the Earth. The Spherical and Ellipsoidal Earth Model. Three and four dimensional geodesy.					Ö.Ç.1 Ö.Ç.3
3.Week	*The shape of the Earth. The Spherical and Ellipsoidal Earth Model. Three and four dimensional geodesy.					Ö.Ç.1 Ö.Ç.3
4.Week	*Reference Coordinate Systems.					Ö.Ç.1 Ö.Ç.5
5.Week	*International reference systems and reference frames.					Ö.Ç.1 Ö.Ç.4 Ö.Ç.5
6.Week	*The gravity field of the Earth and its components.					Ö.Ç.2
7.Week					*Midterm Exam	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5
8.Week	*Referans Surfaces: Geoid and Ellipsoid. Datum concept.					Ö.Ç.1 Ö.Ç.2 Ö.Ç.3
9.Week	*Referans Surfaces: Geoid and Ellipsoid. Datum concept.					Ö.Ç.1 Ö.Ç.2 Ö.Ç.3
10.Week	*Methods of Measurements: Terrestrial geodetic measurements. Terrestrial gravity measurements. Astronomic measurements.					Ö.Ç.4
11.Week	*Methods of Measurements: Satellite observations.					Ö.Ç.4 Ö.Ç.5
12.Week	*Methods of Measurements: Satellite observations.					Ö.Ç.4 Ö.Ç.5
13.Week	*Ellipsoidal Coordinates System. Ellipsoidal and Cartesian Coordinates Conversion.					Ö.Ç.5
14.Week	*Geodetic and Gravimetric Networks.					Ö.Ç.5 Ö.Ç.4
15.Week					*Final Exam	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5

Assesment Methods %
1 Mdterms : 30.000
2 Final : 50.000
3 Research presentation : 20.000

ECTS Workload			
Activities	Count	Time(Hour)	Sum of Workload
Vize / Midterms	1	2.00	2.00
Final / Final	1	2.00	2.00
Derse Katılım / Attending lectures	13	3.00	39.00
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
Ara Sınav Hazırlık / Preparation for midterm	1	5.00	5.00
Final Sınavı Hazırlık / Preparation for final	1	5.00	5.00

Activities	Count	Time(Hour)	Sum of Workload
Araştırma Sunumu / Research presentation	1	1.00	1.00
			Total : 96.00
			Sum of Workload / 30 (Hour) : 3
			ECTS : 3.00

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	4	0	4	0	0	0	0	0	0	0
L.O. 2	5	4	0	4	0	0	0	0	0	0	0
L.O. 3	5	4	0	4	0	0	0	0	0	0	0
L.O. 4	5	4	0	4	0	0	0	0	0	0	0
L.O. 5	5	4	0	4	0	0	0	0	0	0	0