

COURSE DESCRIPTION FORM

Course Code and Name	CENG463 GEOGRAPHIC INFORMATION SYSTEMS (TECH.ELECT.)
Course Semester	7
Catalog Content	Comprehension of spatial and non-spatial information systems, comprehension of usage areas of GIS, application development by teaching basic functions of GIS
Textbook	Global Positioning System Theory and Practice, Hofmann-Wellenhof, B., Lichtenegger, H., Collins, J., Springer 2001
Supplementary Textbooks	- The Global Positioning System and ArcGIS 3rd Edition, Michael Kennedy, CRC Press, 2009 - Global Positioning System: Theory & Applications, Bradford W. Parkinson (Editor), James J. Spilker (Editor), Amer Inst, 1996
Credit	6
Prerequisites of the Course (Attendance Requirements)	-
Type of the Course	Elective
Instruction Language	English
Course Objectives	The object of this course is to teach overlaps and differences of the geographic Information Systems (GIS) and cartography. Additionally, teaching the definitions, relations between GIS and cartography are among the target of this course.
Course Learning Outcomes	At the end of this course, the students will be able to 1. Identify the geographic Information Systems (GIS) and cartography: 2. Grasp the definitions, relations between GIS and cartography, GIS maps as a means of visualization
Instruction Methods	The mode of delivery of this course is face to face
Weekly Schedule	Week 1: Geographic Information Systems (GIS) and cartography Week 2: Definitions Week 3: The relationship between GIS and cartography Week 4: CBS and cartography Week 5: The importance of visualization as a means of GIS maps Week 6: The importance of visualization as a means of GIS maps Week 7: Spatial data Week 8: Spatial data Week 9: Examples of the application of GIS, cartographic methods Week 10: GIS map features Week 11:GIS map features Week 12: Cartographic approaches Week 13: GIS cartographic communication Week 14: Functions and types of maps are used in GIS applications
Teaching and Learning Methods (These are examples. Please fill which activities you use in the course)	Weekly Theoretical Course Hours: 3 Reading Tasks Studies Material Design and Implementation Preparing Reports Preparing Presentation Presentation Midterm and Studying for Midterm Final and Studying for Final

Assessment Criteria		Quantity	Total Contribution (%)						
	Midterm Exams	1	20						
	Assignment	5	20						
	Application	0	0						
	Projects	1	20						
	Practice	0	0						
	Quiz	0	0						
	Percent of In-term Studies (%)		60						
	Percentage of Final Exam to Total Score (%)		40						
	Attendance	-	-						
Workload	Activity	Total Number of Weeks	Duration (weekly hour)						Total Period Work Load
	Weekly Theoretical Course Hours	14	3						42
	Weekly Tutorial Hours	0	0						0
	Reading Tasks	8	4						32
	Studies	8	4						32
	Material Design and Implementation	12	1						12
	Report Preparing	1	3						3
	Preparing a Presentation	1	3						3
	Presentations	1	1						1
	Midterm Exam and Preparation for Midterm Exam	1	10						10
	Final Exam and Preparation for Final Exam	1	15						15
	Other (should be emphasized)	0	0						0
	Total Workload								150
	Total Workload / 25								6
Course Credit (ECTS)								6	
Contribution Level Between Course Learning Outcomes and Program Outcomes	Program Outcomes	1	2	3	4	5			
	Sufficient knowledge on mathematics, science and computer engineering; ability to apply theoretical and practical knowledge in these areas to model and solve engineering problems								X
	Ability to identify, define, formulate and solve complex engineering problems; ability to choose and apply appropriate analysis and modelling methods for these purposes				X				
	Ability to design a complex system, process, device, software, algorithm, or product under realistic constraints and circumstances to meet certain requirements; ability to apply modern design techniques for this purpose					X			

	Ability to choose, develop and use modern techniques and tools necessary for engineering applications; ability to effectively use computing technologies				X	
	Ability to design and implement systems or experiments to solve engineering problems, collect and interpret data to evaluate and analyze the results of solutions					X
	Ability to work effectively in intradisciplinary and interdisciplinary teams or individually				X	
	Ability to efficiently prepare, evaluate and interpret reports					X
	Ability to make presentations and conduct effective verbal and written communication in Turkish and English				X	
	Awareness of the necessity of lifelong learning; ability to access information, follow scientific and technological developments; ability to perpetually renew oneself			X		
	Awareness of professional and ethical responsibility, ability to act in accordance with ethical principles					X
	Ability to apply knowledge on project management, risk management and change management				X	
	Awareness of entrepreneurship and innovation, ability to design and build sustainable systems				X	
	Ability to devise local and global solutions to contemporary issues considering the effects of engineering applications on health, environment and security		X			
	Awareness of the legal consequences of engineering solutions		X			
	Ability to apply knowledge on software development process and documentation rules				X	
	Knowledge on standards used in engineering applications					X
	Awareness of occupational health and security, information security and privacy			X		
The Course's Lecturer(s) and Contact Information	Computer Engineering Department Chair bmbb@gazi.edu.tr					