Course Description Form	
Course Code and Name	5211329 Semantic Web
Course Semester	Fall-Spring
Catalog Content	Conceptual structure of semantic web technology, XML based syntax and meta data in web ontology language (OWL), information and resource semantics, ontology, logical semantics and OWL, ontological engineering approaches in semantic applications, semantic applications with Java API.
Textbook	Antoniou, G. & Van Harmelen, F. (2008). A semantic Web primer. Cambridge, Mass. : MIT Press
Supplementary Textbooks	-
Credit	8
Prerequisites of the Course (Attendance Requirements)	There is no prerequisite or co-requisite for this course.
Type of the Course	Elective
Instruction Language	Turkish
Course Objectives	To understand the features of Semantic Web technology, to understand XML language structure and document model, to explain the concepts of graph based RDF model, XML syntax based RDF model and RDF Schema, to parse XML document and use Java API to process XML data,) to define the properties and property constraints of OWL classes, to create and analyze ontologies using an ontology editor.
Course Learning Outcomes	1- The students can produce both theoretical and practical solutions to the problems encountered in Semantic Networks. 2- The students can develop semantic web applications.
Instruction Methods	Face to face
Weekly Schedule	1.Week Introduction 2.Week Structured Web Documents in XML 3.Week RDF and RDF Schema 4.Week RDF Formal Semantics 5.Week Web Ontology Language: OWL 6.Week Ontologies in OWL and OWL Formal Semantics 7.Week Logic and Inference: Rules 8.Week Logic and Inference: Rules 9.Week Query Languages 10.Week Ontology Engineering 11.Week Applications: BioInformatics 12.Week Applications: E-Commerce 13.Week Project Presentations 14.Week Project Presentations
Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours Weekly tutorial hours Reading Activities Internet browsing, library work Designing and implementing materials Report preparing Preparing a Presentation Presentations Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam
Assessment Criteria	

	Numbers	**Total Weighting (%)**
Midterm Exams	1	30
Assignment		
Application		
Projects	1	30
Practice		
Quiz		

	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
Reading Tasks	14	3	42
Studies	14	3	42
Material Design and Implementation	1	20	20
Report Preparing	1	10	10
Preparing a Presentation	1	3	3
Presentations	1	1	1
Midterm Exam and Preperation for Midterm Exam	1	15	15
Final Exam and Preperation for Final Exam	1	25	25
Other (should be emphasized)			
Total Workload			200
Total Workload / 25			8.0
Course Credit (ECTS)			8.0

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Reaches the expansion of knowledge by conducting scientific research in the field of engineering and evaluation, interpretation and application of information.					X
2	Has extensive and in depth knowledge including the latest techniques, methods applied and their limitations in engineering.					X
3	Completes and applies knowledge by using scientific methods by using limited or missing data and integrates information from different disciplines.				X	
4	Be aware of new and developing practices of the profession, examines and learns when needed.					X
5	Defines and formulates problems related to the field, develops methods to solve them and applies innovative methods in solutions.				X	
6	Develops new and / or original ideas and methods, designs complex systems or processes and develops innovative / alternative solutions in their designs.				X	

	7	Designs and applies theoretical, experimental and modeling based researches, examines and solves the complex problems encountered in this process.						X
	8	Works effectively in disciplinary and multidisciplinary teams, leads such teams and develops solution approaches in complex situations, works independently and takes responsibility.			X			
	9	Communicates oral and written using a foreign language at least at the level of European Language Portfolio B2.		X				
	10	Conveys the process and results of the studies in written and oral form in a systematic and clear manner in national and international environments within or outside the field.						X
	11	Knows the social, environmental, health, security, legal aspects of engineering applications; project management, and business life applications and be aware of the constraints of these engineering applications.	X					
	12	Considers social, scientific and ethical values in the stages of data collection, interpretation and announcement and in all professional activities.		X				
The Course's Lecturer(s) and Contact Informations	Name Surname: Assoc. Prof. Dr. Hacer KARACAN E-mail address: hkaracan@gazi.edu.tr							