<table>
<tr><th colspan="2">Course Description Form</th></tr>
<tr><td>Course Code and Name</td><td>5231329 Wirelles Network Security</td></tr>
<tr><td>Course Semester</td><td>Fall-Spring</td></tr>
<tr><td>Catalog Content</td><td>Overview of Wireless Networks, Wireless Network Security Requirements, Cryptographic Protocols, Security of Existing Wireless Networks, Security of Emerging Wireless Networks, Secure Addressing and Naming, rd, spins, LEAP +, ChanPS, HubauxBC, URSA KarlofWagner, Wormhole Attacks, Ariadne, tinySeRSync, CapkunRCS, MolnarWagner, CapkunHJ protocols</td></tr>
<tr><td>Textbook</td><td>"Security and Cooperation in Wireless Networks", Levente Buttyan and Jean-Pierre Hubaux, , Cambridge University Press, ISBN 9780521873710
“Network Security: Private Communication in a Public World (2nd Edition)”, by Charlie Kaufman,Radia Perlman, and Mike Speciner, Prentice Hall, ISBN-10: 0130460192
"Guide to Wireless Network Security", John Vacca, Springer</td></tr>
<tr><td>Supplementary Textbooks</td><td>-</td></tr>
<tr><td>Credit</td><td>8</td></tr>
<tr><td>Prerequisites of the Course
(Attendance Requirements)</td><td>There are no prerequisite or co-requisite for this course.</td></tr>
<tr><td>Type of the Course</td><td>Elective</td></tr>
<tr><td>Instruction Language</td><td>Turkish</td></tr>
<tr><td>Course Objectives</td><td>To be able to solve the problems that students may encounter with computer networks in the course.</td></tr>
<tr><td>Course Learning Outcomes</td><td>1. The students can produce both theoretical and practical solutions to problems that may be encountered in wireless network security issues.
2. The students can develop wireless network security applications.</td></tr>
<tr><td>Instruction Methods</td><td>The mode of delivery of this course is face to face</td></tr>
<tr><td>Weekly Schedule</td><td>1. Week Fundamentals of Wireless Networks
2. Week Wireless Network security needs
3. Week Cryptographic protocols
4. Week Security of existing Wireless Networks
5. Week Security of emerging Wireless Networks
6. Week Secure addressing and naming
7. Week Establishing Security Associations (rd, spins, LEAP+)
8.Week Establishing Security Associations (ChanPS, HubauxBC, URSA)
9. Week Establishing Security Associations (URSA)
10.Week Secure routing (KarlofWagner)
11.Week Secure routing (Wormhole attacks)
12.Week Secure routing (Ariadne)
13.Week Secure Services and Applications (tinySeRSync, CapkunRCS)
14. Week Secrecy and Privacy (MolnarWagner, CapkunHJ)</td></tr>
<tr><td>Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)</td><td>Weekly Theoretical Course Hours: 3
Reading Tasks: 2
Studies: 1
Report Preparing : 3
Preparing a Presentation: 8
Presentations: 2
Midterm Exam and Preperation for Midterm Exam: 10
Final Exam and Preperation for Final Exam: 18</td></tr>
<tr><td>Assessment Criteria</td><td>
<table>
<tr><th></th><th>Numbers</th><th>Total Weighting (%)</th></tr>
<tr><td>Midterm Exams</td><td>1</td><td>30</td></tr>
<tr><td>Assignment</td><td>7</td><td>30</td></tr>
<tr><td>Application</td><td></td><td></td></tr>
<tr><td>Projects</td><td></td><td></td></tr>
</table>
</td></tr>
</table>

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			
Reading Tasks	13	2	26
Studies	13	3	39
Material Design and Implementation			
Report Preparing	8	4	32
Preparing a Presentation	2	8	16
Presentations	2	2	4
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			199
Total Workload / 25			7.96
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: Lecturer Dr. Muhammet Ünal E-mail address: muhunal@gazi.edu.tr						