COURSE DESCRIPTION FORM	
Course Code and Name	FBE7001 Scientific Research Methods and Ethics
Course Semester	Fall
Course Catalog Description (Content)	Basic concepts related to scientific research methods, ethical principles, scientific research principles, methods and techniques, stages of scientific research proposal
Main Textbook	1. Büyüköztürk, Ş. ve diğerleri (2018) Bilimsel Araştırma Yöntemleri. Ankara Pegem Akademi Yayıncılık 2. Kırbaş, D. & Ekim Çevik, F. (2017). Bilimsel Araştırma Yöntemleri ve Araştırma Etiği. İstanbul: Nobel Tıp Kitapevi 3. Arıkan, R. (2000). Araştırma Teknikleri ve Rapor Yazma. Ankara: Gazi kitapevi Cebeci, S. (2015). Bilimsel Araştırma ve Yazma Teknikleri. İstanbul: Alfa Yayınları
Supplementary Textbooks	1. Yıldırım, H. & Şimşek, H. (2008). Sosyal Bilimlerde Nitel Araştırma Yöntemleri. Ankara: Seçkin. 2. Erkuş, A. (2017). Davranış Bilimleri İçin Bilimsel Araştırma Yöntemleri. Ankara: Seçkin. 3. Day, R.A. (1996). Bilimsel Makale Nasıl Yazılır, Nasıl Yayımlanır?. Ankara: Tübitak 4. Hafner, A.W. (1998). Descriptive Statistical Techniques for Librarians. Chicago.
Course Credit (ECTS)	6
Prerequisites of the Course (Attendance Requirements)	There are no prerequisite or co-requisite for this course.
Type of the Course	Obligatory
Instruction Language	English
Course Objectives	To recognize scientific research principles and methods and to use them effectively in the research process
Course Learning Outcomes	Students are expected to acquire: 1. Recognizes scientific research principles and methods 2. Determines the method and technique appropriate for the purpose of the study subject 3. Applies ethical principles in scientific research process 4. Designs a research proposal in the related field
Instruction Methods	This course is only conducted face to face
Weekly Schedule	1. The basic concepts of research (Science, scientific method). 2. Scientific research and information about scientific research processes (Research methodology, finding a topic, defining the issue, selecting an issue, purpose, importance and limitations) 3. Preparing a research proposal 4. Method (Research model and its kinds) 5. Population and sampling (Definition and kinds) 6. Collecting data (Definition, kinds and sources) 7. Data collection techniques (observation, questionnaire, interview, literature review) 8. Technical qualities of measurement tool/ processing data, analysis and interpretation

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<tr><td></td><td>9. Summary, conclusion, suggestions and writing a report
10. Basic information about the concept of ethics
11. The violation of ethics and unethical attitudes. Publication ethics and its basic rules. Unethical behaviors and violation of ethics during the process of publication, author’s rights issues, biased publication/The ethical evaluation of editorial ethical academic publications
12. Ethical rules of research/ Examining unethical publication samples
13. Writing a report in accordance with scientific writing rules
14. Final exam</td></tr>
<tr><td>Teaching and Learning Methods
(This section should be filled carefully, as the time required for the stated activities will determine the course credit)</td><td>Weekly theoretical course hours
Reading Activities
Internet researches, library studies
Preparing a report
Preparing a presentation
Presentation
Midterm and preparation for midterm
Final Exam and Preperation for Final Exam</td></tr>
<tr><td>Assessment Criteria</td><td>
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<tr><th></th><th>Number</th><th>Total contribution (%)</th></tr>
<tr><td>Midterm</td><td>1</td><td>30</td></tr>
<tr><td>Assignment</td><td>5</td><td>10</td></tr>
<tr><td>Practice (Presentation, report)</td><td>0</td><td>0</td></tr>
<tr><td>Projects</td><td>1</td><td>20</td></tr>
<tr><td>Practice</td><td>0</td><td>0</td></tr>
<tr><td>Quiz</td><td>0</td><td>0</td></tr>
<tr><td>The ratio of studies done to success during the semester</td><td></td><td>60</td></tr>
<tr><td>The ratio of finals to success</td><td></td><td>40</td></tr>
<tr><td>Attendance</td><td></td><td></td></tr>
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<tr><td>Workload</td><td>
<table>
<tr><th>Activity</th><th>Total Number of Weeks</th><th>Duration (weekly hour)</th><th>Total Period Work Load</th></tr>
<tr><td>Weekly Theoretical Course Hours</td><td>14</td><td>3</td><td>42</td></tr>
<tr><td>Weekly Tutorial Hours</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Reading Tasks</td><td>13</td><td>2</td><td>26</td></tr>
<tr><td>Studies</td><td>13</td><td>1</td><td>13</td></tr>
<tr><td>Material Design and Implementation</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Report Preparing</td><td>8</td><td>4</td><td>32</td></tr>
<tr><td>Preparing a Presentation</td><td>2</td><td>4</td><td>8</td></tr>
<tr><td>Presentations</td><td>2</td><td>1</td><td>2</td></tr>
<tr><td>Midterm Exam and Preperation for Midterm Exam</td><td>1</td><td>12</td><td>12</td></tr>
<tr><td>Final Exam and Preperation for Final Exam</td><td>1</td><td>18</td><td>18</td></tr>
<tr><td>Other (should be emphasized)</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Total Workload</td><td></td><td></td><td>153</td></tr>
<tr><td>Total Workload / 25</td><td></td><td></td><td>6.12</td></tr>
<tr><td>Course Credit (ECTS)</td><td></td><td></td><td>6.0</td></tr>
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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;			x		

		project management, and business life applications and be aware of the constraints of these engineering applications.					
	12	Considers social, scientific and ethical values in the stages of data collection, interpretation and announcement and in all professional activities.		x			
The Course Lecturer(s) and Contact Information	Computer Engineering Department Chair bmbb@gazi.edu.tr						