

| COURSE DESCRIPTION                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Course code and title                            | PHYS103,PHYSICS I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Course Semester                                  | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Course Content                                   | Physics and Measurement, Motion in one dimension, Vectors , Move in two dimensions, Acts of Motion, Circular Motion and Newton's Laws, Work and Kinetic Energy, Potential energy and conservation of energy, Linear momentum and collisions, Rotation of rigid bodies around a fixed axis, Rolling Motion and Angular Momentum, Static Equilibrium and Flexibility, Vibration Motion and Gravity Law                                                                                                                                                                                                                                                    |
| Recommended or Required Reading                  | Fen ve Mühendislik için Fizik I, Editör: Kemal ÇOLAKOĞLU. - Physics For Scientists and Engineers with Modern Physics, R.Serway, Saunders College Publishing, 1990.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Recommended or Required Reading                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Credits of Course (ECTS)                         | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Prerequisites                                    | Lectures must be attended by students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Type of Course                                   | Basic Science Education                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Language of Instruction                          | English                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Purpose and Object of the Course                 | Examination of basic mechanical phenomena in the nature and learning of basic concepts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Learning Outcomes Of The Course Unit             | <p>The student who takes this course learns the bases of the mechanics.</p> <p>Learn techniques for solving mechanical problems</p> <p>In the theoretical and applied Physics-I course, students take preliminary abilities gained by solving a large number of problems.</p> <p>Understand and apply Newton's laws</p> <p>Learn mass gravity</p> <p>Learn vibration motion</p> <p>Learn the concepts of work and energy.</p>                                                                                                                                                                                                                           |
| Planned Learning Activities and Teaching Methods | Face to face                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Course Per Week                                  | <p>1. Week: Physics and Measurement</p> <p>2. Week: Motion in One Dimension</p> <p>3. Week: Motion in Two Dimensions</p> <p>4. Week: Vectors</p> <p>5. Week: Move in two dimensions</p> <p>6. Week: Circular Motion and Newton's Laws</p> <p>7. Week: Work and Kinetic Energy</p> <p>8. Week: Midterm Exam, Potential energy and conservation of energy</p> <p>9. Week: Linear momentum and collisions, Rotation of rigid bodies around a fixed axis</p> <p>10. Week: Rolling Motion and Angular Momentum</p> <p>11. Week: Static Equilibrium and Flexibility</p> <p>12. Week: Vibration Motion</p> <p>13. Week: Gravity Law</p> <p>14. Week: Final</p> |
| Workload                                         | <p>Theoretical Study Hours of Course Per Week: 4hours</p> <p>Practising Hours of Course Per Week:0</p> <p>Reading:2 hours</p> <p>Searching in Internet and Library:2 hours</p> <p>Designing and Applying Materials:0</p> <p>Preparing Reports: 0</p> <p>Preparing Presentation:0</p> <p>Presentation:0</p> <p>Mid-Term and Studying for Mid-Term: 10 hours</p> <p>Final and Studying for Final: 10 hours</p>                                                                                                                                                                                                                                            |

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|---------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------|--|---------------|---|---|---------------------------------------------|---|
| Assessment Methods And Criteria |                                                        | Sayı                                                                                         | Toplam Katkısı (%)        |  |               |   |   | 1                                           |   |
|                                 | Mid-terms                                              | 1                                                                                            | 40                        |  |               |   |   |                                             |   |
|                                 | Assignment                                             | 0                                                                                            |                           |  |               |   |   |                                             |   |
|                                 | Exercise                                               | 0                                                                                            |                           |  |               |   |   |                                             |   |
|                                 | Projects                                               | 0                                                                                            |                           |  |               |   |   |                                             |   |
|                                 | Practice                                               | 0                                                                                            |                           |  |               |   |   |                                             |   |
|                                 | Quiz                                                   | 0                                                                                            |                           |  |               |   |   |                                             |   |
|                                 | Contribution of In-term Studies to Overall Grade (%)   |                                                                                              |                           |  |               |   |   |                                             |   |
|                                 | Contribution of Final Examination to Overall Grade (%) |                                                                                              | 60                        |  |               |   |   |                                             |   |
|                                 | Attendance                                             |                                                                                              | 0                         |  |               |   |   |                                             |   |
| Efficiency                      | Activities                                             |                                                                                              | Total number of weeks     |  | Time (Weekly) |   |   | Total efficiency at the end of the semester |   |
|                                 | Theoretical Study Hours of Course Per Week             |                                                                                              | 14                        |  | 4             |   |   | 56                                          |   |
|                                 | Practicing Hours of Course Per Week                    |                                                                                              | 0                         |  | 0             |   |   | 0                                           |   |
|                                 | Reading                                                |                                                                                              | 14                        |  | 2             |   |   | 28                                          |   |
|                                 | Searching in Internet and Library                      |                                                                                              | 14                        |  | 2             |   |   | 28                                          |   |
|                                 | Designing and Materials, Applying                      |                                                                                              | 0                         |  | 0             |   |   | 0                                           |   |
|                                 | Preparing Reports                                      |                                                                                              | 0                         |  | 0             |   |   | 0                                           |   |
|                                 | Preparing Presentation                                 |                                                                                              | 0                         |  | 0             |   |   | 0                                           |   |
|                                 | Presentation                                           |                                                                                              | 0                         |  | 0             |   |   | 0                                           |   |
|                                 | Mid-Term and Studying for Mid-Term                     |                                                                                              | 1                         |  | 10            |   |   | 10                                          |   |
|                                 | Final and Studying for Final                           |                                                                                              | 1                         |  | 10            |   |   | 10                                          |   |
|                                 | Other                                                  |                                                                                              | 5                         |  | 2             |   |   | 10                                          |   |
|                                 | TOTAL WORKLOAD                                         |                                                                                              |                           |  |               |   |   | 142                                         |   |
|                                 | TOTAL WORKLOAD/ 25                                     |                                                                                              |                           |  |               |   |   | 5.68                                        |   |
|                                 | ECTS of Course                                         |                                                                                              |                           |  |               |   |   | 6                                           |   |
|                                 | Course's Contribution To Program                       | No                                                                                           | PROGRAM LEARNING OUTCOMES |  |               | 1 | 2 | 3                                           | 4 |
| 1                               |                                                        | To be able to gain scientific innovation skill.                                              |                           |  |               |   |   | x                                           |   |
| 2                               |                                                        | To be able to make independent research and investigation.                                   |                           |  |               |   |   | x                                           |   |
| 3                               |                                                        | To be able to earn clever observation and analytical thinking skills.                        |                           |  |               |   |   | x                                           |   |
| 4                               |                                                        | To be able to make an biological systems analizing with physics laws.                        |                           |  |               |   |   | x                                           |   |
| 5                               |                                                        | To be able to connect with basic science Mathematic, Chemistry and Biology.                  |                           |  |               |   |   | x                                           |   |
| 6                               |                                                        | To be able to gain ability of teaching and learning.                                         |                           |  |               |   |   | x                                           |   |
| 7                               |                                                        | To be able to understand the importance of physics concepts, implementation and description. |                           |  |               |   |   | xx                                          |   |

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|---------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------|--|--|--|---|--|
|                                                         | 8  | To be able to provide an understanding of natural phenomena with development of technology.                     |  |  |  | X |  |
|                                                         | 9  | To be able to gain thinking, creating, upgradability of discussion and questioning skills.                      |  |  |  | X |  |
|                                                         | 10 | To be able to contribute to developments in the field of Nuclear Medicine ,Health Physics and Medical Physics.  |  |  |  | X |  |
|                                                         | 11 | To be ability to about computer-aided algorithm for solving problems and to become capable of writing programs. |  |  |  | X |  |
|                                                         | 12 | To be ability to about access to information, present information and develop assessment.                       |  |  |  | X |  |
|                                                         | 13 | To be develop itself as a parallel to developing technology.                                                    |  |  |  | X |  |
| <b>Name of Lecturer(s) and E-mail(s) of Lecturer(s)</b> |    | Prof. Dr. Haluk KORALAY<br>koralay@gazi.edu.tr                                                                  |  |  |  |   |  |