# HISTORY OF NATURAL PHILOSOPHY

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| **1** | Course Title: | HISTORY OF NATURAL PHILOSOPHY | |
| **2** | Course Code: | FZK0508 | |
| **3** | Type of Course: | Optional | |
| **4** | Level of Course: | First Cycle | |
| **5** | Year of Study: | 3 | |
| **6** | Semester: | 5 | |
| **7** | ECTS Credits Allocated: | 5.00 | |
| **8** | Theoretical (hour/week): | 2.00 | |
| **9** | Practice (hour/week): | 0.00 | |
| **10** | Laboratory (hour/week): | 0 | |
| **11** | Prerequisites: | There is no course prerequisite | |
| **12** | Language: | Turkish | |
| **13** | Mode of Delivery: | Face to face | |
| **14** | Course Coordinator: | Prof. Dr. EMIN N. ÖZMUTLU | |
| **15** | Course Lecturers: | Yrd. Doç. Dr. Ercan PİLİÇER | |
| **16** | Contact information of the Course Coordinator: | Prof. Dr. Emin N. ÖZMUTLU<br>E-mail: ozmutlu@uludag.edu.tr<br>İş Tel:(0224)2941693<br>Adres: UÜ Fen Edebiyat Fakültesi, Fizik Bölümü, 16059 Görükle Kampusü, Bursa | |
| **17** | Website: | | |
| **18** | Objective of the Course: | According to Sir Isaac Newton physics is “Philosophiae Naturalis Principia Mathematica”. The aim of this course is to teach the philosophical concepts of physiscs ton non-physicians in natural philosophy sense. | |
| **19** | Contribution of the Course to Professional Development: | | |
| **20** | Learning Outcomes: | | |
| | | **1** | Learns the role of mathematics in interpretation of nature. |
| | | **2** | Learns that the astronomy is the orijin of the modern science. |
| | | **3** | Gains the ability of scientific thinking. |
| | | **4** | Learns how vast the volume of knowledge in nature. |
| | | **5** | Understand the scientific interpretation of natural phenomona. |
| | | **6** | Gains the ability of positive way of reasoning. |
| | | **7** | Gains the ability of scientific interpretation of every day events. |
| | | **8** | |
| | | **9** | |
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| **21** | Course Content: | | |

**Course Content:**

| Week | Theoretical | Practice |
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| **1** | Introduction,Astronomy and physics before Galileo. | |

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| **2** | Sun centred planets system. | |
| **3** | Galileo’s physics. | |
| **4** | Newton’s synthesis. | |
| **5** | Optics,Electromagnetism. | |
| **6** | Special relativity theory. | |
| **7** | General relativity theory. | |
| **8** | Thermodynamics. | |
| **9** | Midterm exam+repeating courses | |
| **10** | Quantum mechanics. | |
| **11** | Elemantary particles physics. | |
| **12** | The philosophy of classical physics | |
| **13** | Modern physics felsfesi | |
| **14** | General rewiev and discussions. | |

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| **22** | Textbooks, References and/or Other Materials: | 1.E.N. Özmutlu (2012),”Unpublished Lectures Notes”.<br><br>2.L. Motz, J.H. Weaver (1985), “The Story of Physics”, Plenum Pres, New York. |
| **23** | Assesment | |

| **TERM LEARNING ACTIVITIES** | **NUMBER** | **WEIGHT** |
|---|---|---|
| Midterm Exam | 1 | 40.00 |
| Quiz | 0 | 0.00 |
| Home work-project | 0 | 0.00 |
| Final Exam | 1 | 60.00 |
| Total | 2 | 100.00 |
| Contribution of Term (Year) Learning Activities to Success Grade | | 40.00 |
| Contribution of Final Exam to Success Grade | | 60.00 |
| Total | | 100.00 |
| Measurement and Evaluation Techniques Used in the Course | | |

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| **24** | **ECTS / WORK LOAD TABLE** |

| Activites | Number | Duration (hour) | Total Work Load (hour) |
|---|---|---|---|
| Theoretical | 14 | 2.00 | 28.00 |
| Practicals/Labs | 0 | 0.00 | 0.00 |
| Self study and preperation | 14 | 2.00 | 28.00 |
| Homeworks | 0 | 0.00 | 0.00 |
| Projects | 0 | 0.00 | 0.00 |
| Field Studies | 0 | 0.00 | 0.00 |
| Midterm exams | 1 | 3.00 | 3.00 |
| Others | 14 | 6.00 | 84.00 |
| Final Exams | 1 | 3.00 | 3.00 |
| Total Work Load | | | 146.00 |
| Total work load/ 30 hr | | | 4.87 |
| ECTS Credit of the Course | | | 5.00 |

| **25** | **CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS** | | | | | | | | | | | | | | | |
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| | **PQ1** | **PQ2** | **PQ3** | **PQ4** | **PQ5** | **PQ6** | **PQ7** | **PQ8** | **PQ9** | **PQ10** | **PQ11** | **PQ12** | **PQ13** | **PQ14** | **PQ15** | **PQ16** |
| **ÖK1** | 5 | 5 | 4 | 0 | 0 | 5 | 5 | 0 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 |
| **ÖK2** | 3 | 3 | 2 | 0 | 0 | 3 | 2 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK3** | 5 | 5 | 5 | 0 | 0 | 4 | 3 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK4** | 5 | 5 | 5 | 0 | 0 | 4 | 3 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK5** | 5 | 5 | 5 | 0 | 0 | 5 | 3 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK6** | 5 | 5 | 5 | 0 | 0 | 4 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK7** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**LO: Learning Objectives PQ: Program Qualifications**

| **Contribution Level:** | **1 very low** | **2 low** | **3 Medium** | **4 High** | **5 Very High** |
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