PHYSICS 5 (ASTRONOMY)

1	Course Title:	PHYSICS 5 (ASTRONOMY)
2	Course Code:	FEN4413
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	7
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. NURCAN KAHRAMAN
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Doç. Dr. Nurcan Kahraman nurcankahraman@uludag.edu.tr Bursa Uludağ Üniversitesi, Eğitim Fak. Matematik ve Fen Bilimleri Eğitimi Bölümü,
17	Website:	
18	Objective of the Course:	This course aims to teach basic astronomy concepts to pre-service science teachers. In the course, following subjects will be discussed: astronomy and science, celestial bodies and space technologies.
19	Contribution of the Course to Professional Development:	This course related to students' content knowledge that is a sub title of "teacher proffessional knowledge". It will contribute to students' knowledge about astronomy.
20	Learning Outcomes:	
	1	Gives an example from the history of astronomy.
	2	Explains the relationship between physics and astronomy.
	3	Solves problems about the the law of gravitation.
	4	Explains the seasons.
	5	Makes a model of moon's phases.
	6	Explains the solar system.
	7	Compares the planets in terms of their properities.
	8	Defines meteor, comet, dwarf planet and explains their properties.
	9	Compares the star types in terms of their physical properties.
	10	
21	Course Content:	

Course Content:

Week	Theoretical	Practice

1	Discussing about the course content	
2	Science, Astronomy and History	
3	Tools used in astronomy	
4	The law of gravitation	
5	Solar system	
6	Earth-Sun-Moon	
7	Earth-Sun-Moon (continue)	
8	Stars	
9	Galaxies	
10	Universe models and the big bang	
11	Space technologies	
12	Astronomy and Astrology comparison	
13	Misconceptions in astronomy	
14	Evaluation of the Course	

22	Textbooks, References and/or Other Materials:	Kurnaz, M.A. (2019). Astronomy, Pegem Akademi Chaisson, E. & Mcmillan S. (2016). Astronomi: Bir bakışta evren.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBE**	**WEIGHT**
Theoretical	3	40.00
Practicals/Labs		0
Self study and preperation	4	10.00
Homeworks		3
Projects		0
Field Studies		0
Midterm exams	1	30.00
Others		0
Final Exams	1	14.00
Total	14	100.00

Success Grade

Course performance tasks. Besides, a final exam with open-ended questions will be conducted at the end of the semester

24 ECTS / WORK LOAD TABLE

Activites	Number	Duration (hour)	Total Work Load (hour)
Home work-project	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	2.00	28.00
Homeworks	3	6.00	18.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	14.00	14.00
Total Work Load			88.00
Total work load/ 30 hr			2.93
ECTS Credit of the Course			3.00

25	**CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1
ÖK2	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1
ÖK3	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1
ÖK4	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1

ÖK5	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1
ÖK6	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1
ÖK7	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1
ÖK8	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1
ÖK9	5	4	1	4	4	2	2	1	4	4	3	1	1	1	1	1

LO: Learning Objectives PQ: Program Qualifications

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