PHYSICAL MATHEMATICS I										
1	Course Title:	PHYSICAL MATHEMATICS I								
2	Course Code:	FZK2003	3							
3	Type of Course:	Compuls	sory							
4	Level of Course:	First Cyc	sle							
5	Year of Study:	2								
6	Semester:	3								
7	ECTS Credits Allocated:	7.00								
8	Theoretical (hour/week):	5.00								
9	Practice (hour/week):	0.00								
10	Laboratory (hour/week):	0								
11	Prerequisites:	none								
12	Language:	Turkish								
13	Mode of Delivery:	Face to f	face							
14	Course Coordinator:	Dr. Ögr.	Üyesi CENGİZ AKAY							
15	Course Lecturers:	Dr. Öğre	tim Üyesi Cengiz AKAY							
16	Contact information of the Course Coordinator:	cenay@uludag.edu.tr Bursa Uludağ Üniversitesi, Fizik Bölümü								
17	Website:									
18	Objective of the Course:	To process the basic concepts and principles of physics with mathematical approaches and to give them to the student in a clear and logical way.								
19	Contribution of the Course to Professional Development:	Mathematics is a language and physics uses this language at the highest level. In this course, which is a fusion of physics and mathematics, the student learns to express the basic principles of physics with the language of mathematics.								
20	Learning Outcomes:									
		1	Learns the vector language in which the mechanical branch, which is considered the basis of physics, expresses itself in the most general terms.							
		2	Gains knowledge of vector spaces.							
		3	Learns what purpose and how coordinate systems are used.							
		4	Understands the importance of curvilinear spaces.							
		5	Apart from daily usage, learn to calculate vector under integral sign.							
		6	Understands the place and importance of complex numbers in physics.							
		7	Learn to integrate with complex numbers.							
		8	Solves some very difficult integral operations with the residue method.							
		9 Learns to express the laws of physics in abstract vector spaces.								
		10	Realizes the physics and mathematics brotherhood.							
21	Course Content:									
		Co	ourse Content:							
Week	Theoretical		Practice							

1	Vectors scalar c	, Coord uantitio Vecto	dinate es, sor or com	syste ne of	ms, Ve the pro	ctor a pertie	nd s of rectors										
2	Vector	Analysi	is	perior		unit v	001011										
3	Vector /	Analysi	is (con	tinued	d)												
4	Curvilin	ear co	ordinat	tes	,												
5	Curvilin	ear co	ordinat	tes (c	ontinue	ed)											
6	Vectors	under	Integr	al Sig	n												
7	Genera	l Revie	w														
8	Comple	x num	bers														
9	Comple	x Anal	ysis					Т									
10	Comple	x Integ	gral														
11	Residue	e theor	em														
12	Residue	e theor	em (co	ontinu	ed)												
13	Abstrac	t Vecto	or Spa	ces				Т									
14	Genera	General Review and Problem Solutions															
Activit	Ctivites									Davison Martin Hargreaves • James Flint, Fifth edition publis 2017, Pearson. Number Duration (hour) Total V							
											-		Load (hour				
Theore	tical							Ĵ						ysical s	ical someoges, Mary		
Practic	als/Labs								0			0.00			0.00		
TERM	EARNIN	G ACT	IVITIES	;		N	UMB	E IW	ÉIGHT			4.00	4.00			56.00	
Homew	eworks								0			0.00			0.00		
Project						!							0.00			0.00	
Field S	tudies	iect				10		10	0.00					30.00			
Othern										0				0.00			
Uthers ≣ otal ⊏	s									100.00				40.00			
Total M	Vork Loa	d)	212.00			
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FCTS															7.00		
Total			Juise					1(00.00						1.00		
Measu Course	rement a e	ind Eva	aluatio	n Tec	hnique	s Use	d in th	ne S	hort qu	estions	sasked	in the l	esson.				
24	ECTS	/ WO	RK L	OAD	TAB	LE											
25			CON	TRIE	BUTIO	N O	F LE	ARI QUA	NING	OUTC ATIO	COME: NS	S TO I	PROC	GRAM	ME		
	PQ	1 PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ	B PQ9	PQ1	PQ11	PQ12	PQ1	PQ14	PQ15	PQ16	
ÖK1	3	2	2	0	2	2	4	2	3	3	2	2	0	0	0	0	
ÖK2	3	3	2	0	2	3	3	3	2	3	0	2	0	0	0	0	
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ÖK3	5	5	4	3	2	5	3	0	3	3	0	2	0	0	0	0
ÖK4	5	5	5	3	2	5	3	0	3	4	0	2	0	0	0	0
ÖK5	5	5	5	3	2	4	3	0	3	4	0	2	0	0	0	0
ÖK6	5	5	5	4	2	4	0	2	2	0	0	3	0	0	0	0
ÖK7	5	5	5	2	3	3	3	0	2	3	0	3	0	0	0	0
ÖK8	4	4	4	3	2	2	3	0	2	3	0	0	0	0	0	0
ÖK9	4	4	4	3	2	3	3	2	2	4	0	0	0	0	0	0
ÖK10	4	4	4	3	2	4	3	0	0	3	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			