COMPUTATIONAL MOLECULAR BIOLOGY											
1	Course Title:	COMPUTATIONAL MOLECULAR BIOLOGY									
2	Course Code:	BYL410 <sup>4</sup>	1								
3	Type of Course:	Optional									
4	Level of Course:	First Cyc	First Cycle								
5	Year of Study:	4									
6	Semester:	7									
7	ECTS Credits Allocated:	4.00									
8	Theoretical (hour/week):	1.00	1.00								
9	Practice (hour/week):	2.00	2.00								
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 FİGEN ERSOY								
15	Course Lecturers:										
16	Contact information of the Course Coordinator:	e-posta: figen@uludag.edu.tr 0 224 29 41779 Fen-Edebiyat Fakültesi, Biyoloji Bölümü, Görükle Kampüsü, 16059 Bursa									
17	Website:										
18	Objective of the Course:	The aim of the course is to make the students learn some of the databases and analysis programs. The goals are to teach some of tha databases in Molecular Biology and how to search data using these databases.									
19	Contribution of the Course to Professional Development:										
20	Learning Outcomes:										
		1	Analyse and solve problems using an integrated multidisciplinary approach.								
		2	Integrate and evaluate critically information from various sources.								
		3	Plan, conduct and write a programme of original research.								
		4	Use modern information and communications technologies.								
		5	Critically evaluate scientific publications.								
		6	Communicate effectively through oral presentations								
		7	Devise molecular methodologies for problems								
		8	Transfer techniques and solutions from one discipline to another.								
		9									
		10									

21	Course Content:																	
	Course Content:																	
Week	Theoretical								Pr	actice								
1	Introduction																	
2	DNA, RNA, Protein																	
3	Primer design, Tm calculation, GC content																	
4	How to Search Databases (FASTA, BLAST), NCBI, sequence formats																	
5	Alig	nmer	nt of th	ie seq	uence	es (clus	stalW)	,										
6	prot	ein tr	anslat	or, pro	otein s	search	in NC	BI										
7	Restriction enzymes, restriction map NEB cutter																	
8	Trar	nscrip	otion, t	ransla	tion													
9	Protein Localization, leader sequence, Transmembrane domain finder (TMHMM), signal peptide finder																	
10	Entr	ez, p	ubme	d														
11	Prot	Protein motifs, protein 3D, protein digestion																
12	BIOC	Biochemical pathways, Vecscreen																
13	RN/		ing ivi			n Geno	ome											
Activites								Numb	er		Dura	Duration (hour)			Total Work Load (hour)			
Theore	heoretical								·	14			1.00			14.00		
Practica	Practicals/Labs								- 114(1	14			2.00			28.00		
<b>Skidftetn</b>	Stelltestund Example preperation 1								4α	40000				0.00			0.00	
Homew	Homeworks								(	0				0.00			0.00	
Roject	logiestsork-project 0								0.0	0.00				0.00			0.00	
Field S	ield Studies								(	0				0.00			0.00	
¶7/öqtatern	idderm exams 2								10	100.00			40.00			40.00		
Others	Others								(	0					(	0.00		
FINGFE	Phanesa Grade								-	1				40.00			40.00	
Total W	Fotal Work Load															122.00		
Total w	Fotal work load/ 30 hr								10	100.00 4.07						4.07		
ECTS	ECTS Credit of the Course													4	4.00			
Course		те /	WO			TAD												
		13/	WU															
25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																	
		PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16	
ÖK1		0	4	4	0	4	4	4	0	4	5	5	4	0	0	0	0	
ÖK2		0	5	4	0	4	3	5	0	4	5	5	5	0	0	0	0	
ÖK3		0	3	5	0	4	3	5	0	4	4	4	5	0	0	0	0	

ÖK4	0	5	3	0	0	4	4	0	4	4	4	4	0	0	0	0
ÖK5	0	4	5	0	4	0	0	0	5	5	4	4	0	0	0	0
ÖK6	0	4	3	0	4	0	3	0	5	3	3	4	0	0	0	0
ÖK7	0	4	4	0	3	4	0	0	0	5	5	4	0	0	0	0
ÖK8	0	3	4	0	4	0	5	0	3	4	4	4	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib 1 very low ution Level:				2 low			3 Medium			4 High			5 Very High			