

# DNA ANALYSIS IN FORENSIC SCIENCES

<b>1</b>	Course Title:	DNA ANALYSIS IN FORENSIC SCIENCES	
<b>2</b>	Course Code:	ADB5108	
<b>3</b>	Type of Course:	Optional	
<b>4</b>	Level of Course:	Second Cycle	
<b>5</b>	Year of Study:	1	
<b>6</b>	Semester:	2	
<b>7</b>	ECTS Credits Allocated:	6.00	
<b>8</b>	Theoretical (hour/week):	3.00	
<b>9</b>	Practice (hour/week):	0.00	
<b>10</b>	Laboratory (hour/week):	0	
<b>11</b>	Prerequisites:	None	
<b>12</b>	Language:	Turkish	
<b>13</b>	Mode of Delivery:	Face to face	
<b>14</b>	Course Coordinator:	Prof. Dr. NİLÜFER ÇİNKILIÇ	
<b>15</b>	Course Lecturers:	Doç. Dr. Özgür VATAN	
<b>16</b>	Contact information of the Course Coordinator:	Prof. Dr. Nilüfer ÇİNKILIÇ aydemir@uludag.edu.tr	
<b>17</b>	Website:		
<b>18</b>	Objective of the Course:	The aim of this course is to teach general information about DNA detection, which has an important place in criminal methods, DNA copy sequences, methods such as copy DNA PCR and its use in criminal diagnosis.	
<b>19</b>	Contribution of the Course to Professional Development:	Adli bilimleryüksek lisans programındaki bir öğrencinin suçlu tespitinde DNA analizini nasıl değerlendireceğini ve bu konudaki yöntemleri iyi bilmesi gereklidir.	
<b>20</b>	Learning Outcomes:		
		<b>1</b>	To understand the importance of collecting DNA samples in the field of criminalistics
		<b>2</b>	To determine the specific sequences used for analysis in DNA
		<b>3</b>	To learn DNA analysis methods at the laboratory level
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<b>21</b>	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
<b>1</b>	Definition of DNA structure, molecular content, DNA extraction methods		
<b>2</b>	point mutations, base changes		
<b>3</b>	SNP polymorphism		

4	recombinant DNA techniques, restriction fragment polymorphism	
5	Probe preparations and fluorescent dye	
6	DNA bases and criminalistics	
7	introducing to DNA sequencing	
8	manually DNA sequencing	
9	Southern blot northern blot	
10	DNA sequencing tools	
11	human genome analysis, microarrays	
12	sequence examples	
13	VNTR examples and criminal applications	
14	Laboratory assisted DNA extraction PCR and qPCR methods and comparison study	

22	Textbooks, References and/or Other Materials:	<p>Forensic DNA Analysis - Integrated Forensic Solutions  <a href="https://www.thermofisher.com/tr/en/home/industrial/forensics/human-identification/forensic-dna-analysis/dna-analysis/challenging-samples">https://www.thermofisher.com/tr/en/home/industrial/forensics/human-identification/forensic-dna-analysis/dna-analysis/challenging-samples</a></p> <p>Introduction to Forensic DNA Evidence for Criminal Justice Professionals By Jane Moira Taupin          Copyright Year 2014          SBN 9781439899090          Published July 31, 2013 by CRC Pre</p>
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23	Assessment
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TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	2	20.00
Final Exam	1	80.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		20.00
Contribution of Final Exam to Success Grade		80.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course	Interactions with students using projects and homeworks literature searching and translating	

24	<b>ECTS / WORK LOAD TABLE</b>
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Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	0	0.00	0.00
Homeworks	2	40.00	80.00
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	60.00	60.00
Total Work Load			182.00
Total work load/ 30 hr			6.07
ECTS Credit of the Course			6.00

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	4	0	0	4	0	3	0	0	0	4	0	0	0	0	0	0
ÖK2	0	0	4	0	0	3	0	0	0	0	0	4	0	4	0	0
ÖK3	0	3	0	0	4	0	0	5	0	0	4	0	0	0	0	0
<b>LO: Learning Objectives    PQ: Program Qualifications</b>																
<b>Contribution Level:</b>	<b>1 very low</b>			<b>2 low</b>			<b>3 Medium</b>			<b>4 High</b>			<b>5 Very High</b>			