

Dentistry (English)			
Bachelor	TR-NQF-HE: Level 6	QF-EHEA: First Cycle	EQF-LLL: Level 6

Course Introduction and Application Information

Course Code:	UNI280		
Course Name:	Data Analysis with R		
Semester:	Spring		
Course Credits:	ECTS		
	5		
Language of instruction:	English		
Course Condition:			
Does the Course Require Work Experience?:	No		
Type of course:	University Elective		
Course Level:	Bachelor	TR-NQF-HE:6. Master`s Degree	QF- EHEA:First Cycle
	EQF-LLL:6. Master`s Degree		
Mode of Delivery:	E-Learning		
Course Coordinator:	Öğr. Gör. AYŞEGÜL ÇALIŞKAN İŞCAN		
Course Lecturer(s):	Dr. Ayşegül Çalışkan İşcan		
Course Assistants:			

Course Objective and Content

Course Objectives:	This course aims to teach the R programming language at a basic level.
Course Content:	This course includes basic elements of R programming languages.

Learning Outcomes

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The students who have succeeded in this course;

- 1) Have knowledge about R programming language
- 2) Learns R programming language at a basic level.
- 3) Can analyze any data by using R language.
- 4) Can understand and manipulate any R code.
- 5) Can make statistical analysis by using R language.

Course Flow Plan

Week	Subject	Related Preparation
1)	Course overview	
2)	R Arithmetic, Atomic Data Types	
3)	Variables, Vectors	
4)	Matrices	
5)	Lists, Data Frames	
6)	Factors, Reading and Writing Data	
7)	Exercises, Lesson Repetition	
8)	Mid-term Week	
9)	Control flow, functions	
10)	Exploring and Preparing Data	
11)	Working with text data	
12)	Preparing Numeric Data, Dealing with Dates	
13)	Merging data, Frequency tables	
14)	Plotting in Base R, plotting with ggplot2	

Sources

Course Notes / Textbooks:	1. Mark Gardener - Beginning R_ The Statistical Programming Language-Wrox 2. Tony Fischetti - Data Analysis with R_ Load, wrangle, and analyze your data using the world's most powerful statistical programming language-Packt Publishing (2015)
References:	1. Mark Gardener - Beginning R_ The Statistical Programming Language-Wrox 2. Tony Fischetti - Data Analysis with R_ Load, wrangle, and analyze your data using the world's most powerful statistical programming language-Packt Publishing (2015)

Course - Program Learning Outcome Relationship

Course Learning Outcomes	1	2	3	4	5
Program Outcomes					
1) Has basic and up-to-date knowledge in the field of dentistry, follows scientific publications, and applies evidence-based data to his/her professional practice.					
2) Knows well and effectively uses devices, tools, and materials specific to diagnosis and treatment in the field of dentistry.					
3) Evaluates the knowledge in the field of dentistry critically, integrates it with the knowledge of disciplines in the field of health, uses it by analyzing and synthesizing it.					
4) Produces projects related to the field of dentistry, can work with other health disciplines, takes part as a member of the research team and evaluates and reports the results obtained at a scientific level.					
5) Uses information that will contribute to the dentistry profession during practice, takes responsibility, and produces solutions in unforeseen situations.					
6) Shares, compares, and exchanges dental knowledge with professional colleagues in social and scientific environments in written, verbal, and visual forms.					
7) Within the framework of social, scientific, and ethical values including patient privacy, communicates with patients and their relatives, knows all the characteristics of the patient, and recommends the most appropriate treatment with a patient-centered approach.					
8) Follows technological developments, participates in national and international studies, and shares and presents own observations, experiences, and research to further advance dental practices.					
9) By adopting the principle of lifelong learning throughout the dentistry profession, follows current evidence-based dental knowledge and uses it during his professional practice.					
10) During dental practice, in cases such as abuse and addiction, performs the treatment by exhibiting the behaviors required by social ethics and legal rules, and collects and records the relevant data.					
11) Uses basic and current knowledge in the field of dentistry during professional practice for the benefit of society within the framework of national values and country realities.					
12) In natural disasters and emergency cases, takes the protective measures					

required by the dentistry profession; performs professional practices that benefit patients and society Course Learning Outcomes	1	2	3	4	5
13) Generates ideas regarding health policy in dentistry, prioritizes individual and public health, and carries out preventive and therapeutic medical practices within the framework of scientific, ethical, and quality processes.					
14) Differentiates the signs and symptoms commonly encountered in the dentistry profession, makes a treatment plan and refers when necessary, and manages diseases and clinical situations regarding their urgency and patient priority.					
15) Can assume the leadership responsibility of the team he/she works for, manage it following scientific criteria, and support the professional development of the team.					

Course - Learning Outcome Relationship

No Effect	1 Lowest	2 Average	3 Highest

	Program Outcomes	Level of Contribution
1)	Has basic and up-to-date knowledge in the field of dentistry, follows scientific publications, and applies evidence-based data to his/her professional practice.	
2)	Knows well and effectively uses devices, tools, and materials specific to diagnosis and treatment in the field of dentistry.	
3)	Evaluates the knowledge in the field of dentistry critically, integrates it with the knowledge of disciplines in the field of health, uses it by analyzing and synthesizing it.	
4)	Produces projects related to the field of dentistry, can work with other health disciplines, takes part as a member of the research team and evaluates and reports the results obtained at a scientific level.	
5)	Uses information that will contribute to the dentistry profession during practice, takes responsibility, and produces solutions in unforeseen situations.	
6)	Shares, compares, and exchanges dental knowledge with professional colleagues in social and scientific environments in written, verbal, and visual forms.	
7)	Within the framework of social, scientific, and ethical values including patient privacy, communicates with patients and their relatives, knows all the characteristics of the patient, and recommends the most appropriate treatment with a patient-centered approach.	
8)	Follows technological developments, participates in national and international studies, and	

	shares and presents own observations, experiences, and research to further advance dental practices.	
9)	By adopting the principle of lifelong learning throughout the dentistry profession, follows current evidence-based dental knowledge and uses it during his professional practice.	
10)	During dental practice, in cases such as abuse and addiction, performs the treatment by exhibiting the behaviors required by social ethics and legal rules, and collects and records the relevant data.	
11)	Uses basic and current knowledge in the field of dentistry during professional practice for the benefit of society within the framework of national values and country realities.	
12)	In natural disasters and emergency cases, takes the protective measures required by the dentistry profession; performs professional practices that benefit patients and society	
13)	Generates ideas regarding health policy in dentistry, prioritizes individual and public health, and carries out preventive and therapeutic medical practices within the framework of scientific, ethical, and quality processes.	
14)	Differentiates the signs and symptoms commonly encountered in the dentistry profession, makes a treatment plan and refers when necessary, and manages diseases and clinical situations regarding their urgency and patient priority.	
15)	Can assume the leadership responsibility of the team he/she works for, manage it following scientific criteria, and support the professional development of the team.	

Assessment & Grading

Semester Requirements	Number of Activities	Level of Contribution
Application	13	% 20
Midterms	1	% 30
Final	1	% 50
total		% 100
PERCENTAGE OF SEMESTER WORK		% 50
PERCENTAGE OF FINAL WORK		% 50
total		% 100

Workload and ECTS Credit Calculation

Activities	Number of	Preparation for	Spent for the	Completing the Activity	Workload
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	Activities	the Activity	Activity Itself	Requirements	
Course Hours	13	1	3	1	65
Homework Assignments	13	1	1		26
Midterms	1	14	1	1	16
Final	1	28	1	1	30
Total Workload					137