

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

Course Introduction and Application Information

Course Code:	DENT113		
Course Name:	Biostatistics		
Semester:	Fall		
Course Credits:	<div>ECTS</div> <div>2</div>		
Language of instruction:	English		
Course Condition:			
Does the Course Require Work Experience?:	No		
Type of course:	Compulsory Courses		
Course Level:	<div> <div>Bachelor</div> <div>TR-NQF-HE:6. Master`s Degree</div> <div>QF-EHEA:First Cycle</div> <div>EQF-LLL:6. Master`s Degree</div> </div>		
Mode of Delivery:	Face to face		
Course Coordinator:	Dr. Öğr. Üy. BURÇİN ATASEVEN DOĞRU		
Course Lecturer(s):	Dr Burçin Ataseven Doğru		
Course Assistants:			

Course Objective and Content

Course Objectives:	<p>Biostatistics as a discipline provides a wide variety of methods to assist in data analysis and decision making. Descriptive statistics focus on the collection, summarization and characterization of set of data, and inferential statistics estimate a characteristic of a set of data. In general, the employees working in dentistry need to be knowledgeable about biostatistics in order to understand how properly present and describe information, draw conclusion about large populations based only on information obtained from sample</p>
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Course Content:	Introduction to biostatistics, Descriptive statistics, Probability and Probability Distributions, Sampling and Main data analysis methods
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Learning Outcomes

The students who have succeeded in this course;

- 1) Gain application skills of solving business problems
- 2) Research, practice and determine how to use the field analysis on theoretical and practical knowledge and skills gained in the field of dentistry
- 3) Use of statistical tools in making forward-looking estimates
- 4) Able to obtain a good statistical knowledge of technical analysis
- 5) Being a systems analyst

Course Flow Plan

Week	Subject	Related Preparation
1)	What is Biostatistics? What do Statisticians, what do data and variable mean?	
2)	How to collect and organize data	
3)	How to describe data - Measures of Central Tendency	
4)	How to describe data - Measures of Dispersion	
5)	Probability and its Postulates, Basic Probability Calculations	
6)	Midterm Exam	
7)	Discrete Probability Distributions	
8)	Continuous Probability Distributions	
9)	Sampling and Sampling Methods	
10)	Theoretic Sampling Distribution	
11)	Determination of Sample Size	
12)	Hypothesis Testing, The Definition of Statistical Significance	
13)	Estimation of Population Mean and Hypothesis Testing Related to Population Mean, Confidence Intervals, Z Test, Student's t Test	
14)	Estimation of Population Proportion and Hypothesis Testing Related to Population Proportion, Confidence Intervals, Z Test	

Sources

Course Notes / Textbooks:	Bernard Rosner, Fundamentals of Biostatistics, Eight Edition, Cengage, 2016
References:	Paul Newbold, Statistics for Business & Economics, Fourth Edition, 1994.

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	2	2	2	2
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.	3	3	3	3	3
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.	3	3	3	3	3
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.	2	2	2	2	2
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 Course Learning Outcomes collects and records the relevant data.	1	2	3	4	5
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.					

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
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.	3
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.	3
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.	2
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
Midterms	1	% 40
Final	1	% 60
total		% 100
PERCENTAGE OF SEMESTER WORK		% 40
PERCENTAGE OF FINAL WORK		% 60

total	% 100
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Workload and ECTS Credit Calculation

Activities	Number of Activities	Preparation for the Activity	Spent for the Activity Itself	Completing the Activity Requirements	Workload
Course Hours	26	1	1		52
Midterms	1	6	1		7
Final	1	6	1		7
Total Workload					66