Sveučilište u Rijeci
University of Rijeka

Sveučilište u Rijeci • Fakultet dentalne medicine
University of Rijeka • Faculty of Dental Medicine
Krešimirova 40/42 • 51000 Rijeka • CROATIA
Phone : + 385 51 559 200; 559 202, 559 203

Course: CRANIODENTOFACIAL BIOMETRY
Course Coordinator: Assistant Professor Višnja Katić
Course Collaborators: Mia Uhač, PhD
Department: Department of Orthodontics
Study program: University Integrated Undergraduate and Graduate Study of Dental Medicine (in English)
Study year: 1
Academic year: 2024./25.

SYLLABUS

Course description (a brief description of the course, general instructions, where and in what form the lessons are organized, necessary equipment, instructions for attendance and preparation for classes, student obligations, etc.):

The course Craniodentofacial biometry is an elective course in the first year of the Integrated Undergraduate and Graduate University Study of Dental Medicine and consists of 8 hours of lectures and 7 hours of seminars, totaling 15 hours (1 ECTS). The course is delivered via e-courses on the Merlin platform and in the premises of the Faculty of Dental Medicine.

The aim of the course is to get acquainted with the application of biometric techniques in identification, security and protection system, and diagnostics.

The content of the course is as follows:
Introduction to biometrics - the scope of physical biometrics and behavioral biometrics. Craniofacial typology. Facial biometrics and aesthetics. Biometric characteristics of a smile. Anthropometry and the canons of beauty. Golden ratio. Radiographic cephalometry. Application of biometric techniques in the analysis of dentition and face, and research. Biometrics in security and protection system.

Teaching:
Teaching is held in the form of lectures and seminars. In the seminar, the lecturer assesses the students' readiness to present the topic and moderates the discussion. There is a final examination at the end. By completing all teaching activities 1 ECTS point is acquired.

Assigned reading:

- Buciu I, Gacsadi A. Biometrics systems and technologies: Int J Comp Commun Contr. 2016;11:315-30.
- Albrizio A. Biometry and anthropometry: from Galton to constitutional medicine. J Anthropol Sci. 2007;85:101-23.

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Optional/additional reading:

- Miyashita K. Contemporary cephalometric radiography. Berlin: quintessence; 1996.
- Fradeani M. Esthetic analysis: a systematic approach to prosthetic treatment. Berlin: Quitessence; 2004.
- Farkas LG. Antropometry of the head and face. 2nd. New York: Raven Press; 1994.
- Jacobson RL. Radiographic cephalometry: From basics to 3D imaging. 2nd ed. Berlin: Quintessence; 2006.

COURSE TEACHING PLAN:

The list of lectures (with topics and descriptions):

P1. Scope of biometrics
Learning outcomes:
To be able to define the term biometrics and describe the scope of physical biometrics and behavioral biometrics.
P2. Craniofacial typology
Learning outcomes:
To define anthropometric points of the head and face and identify facial typologies and head typologies.
P3. Facial biometrics and aesthetics
Learning outcomes:
To describe the influence of facial features on the perception of attractiveness.
To identify biometric characteristics that affect smile aesthetics.
To describe the basic canons of beauty.
P4. Radiographic cephalometry
Learning outcomes:
To describe basic radiographic cephalometric landmarks, lines and measurements.
P5. Golden ratio and dentofacial biometrics
Learning outcomes:
To describe the concept of the golden ratio and its application in denfotational aesthetics.
P6. Biometric methods in research - facial analysis
Learning outcomes:
Distinguish between 2D and 3D biometric methods used in facial analysis.
P7. Biometric methods in research - dentition analysis
Learning outcomes:
Describe 2D and 3D methods of dentition analysis.
P8. Biometric methods in treatment planning
Learning outcomes:
Describe the use of biometric technology in treatment planning and splint fabrication for surgical treatment of deformities of face and jaw.

The list of seminars with descriptions:

S1-5. Aspects of biometrics
Students independently prepare and publicly present a seminar on a given topic: Biometrics technologies, Biometrics systems, Facial biometric authentication technologies, Anthropometric measuring tools and methodology for the measurement of anthropometric parameters, Neoclassical canons of facial beauty, DNA biometrics.

The list of practicals with descriptions:

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Students' obligations:

Students are required to attend regularly and participate actively in all forms of education. Seminar and final exam are required.

Assessment (exams, description of written / oral / practical exam, the scoring criteria):

ECTS credit grading system:
Student assessment is carried out according to the current Regulations on Studies of the University of Rijeka.
Student work will be evaluated and graded during classes and at the final exam. Out of a total of 100 grade points, a student can achieve 50 points during classes and another 50 points on the exam.
Student assessment is performed using ECTS (A-F) and number system (5-1). Grading in the ECTS system is performed by absolute distribution.

Students who gain from 0 to 24.9% of grades that could be obtained during classes through forms of continuous monitoring and evaluation of students are graded F (unsuccessful), can not gain ECTS credits and must re-enroll the course.
The student gains grades by actively participating in classes and performing the set tasks.

During the classes, the seminar paper is evaluated (maximum up to 50 points):
The grade of the presented seminar paper carries 50 grade points (passing grades in the range of 25-50), and is converted into grade points as follows:

grade	scalar points
2	25
2-3	29
3	33
3-4	37
4	42
4-5	46
5	50

Final exam (total 50 points)

Who can take the final exam:
Students who achieved 25% and more grade points during classes through forms of continuous monitoring and evaluation of students.

Who cannot take the final exam:
Students who achieved from 0 to 24,9% of grades during classes are graded F (unsuccessful), can not gain ECTS credits and must re-enroll the course.

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The final exam is written (it can be in a form of multiple answers questions or answers in free form), carries 50 grade points (passing grades ranging from 25-50). The the case of multiple answers questions resolution ratio is multiplied by a weight of 0.5. The limiter is 50%. When hawing test in free form grade is convertes in scalar poins in this manner:

grade	scalar points
2	25
2-3	29
3	33
3-4	37
4	42
4-5	46
5	50

To pass the final exam and for the final grade (including the addition of previously achieved grade points during classes), the student must have a positive grade in the final exam and achieve a minimum of 25 grade points (50%).

Assessment in the ECTS system is performed by absolute distribution, ie on the basis of the final achievement:
A– 90-100% points

B – 75-89,9 %

C – 60-74,9 %

D -- 50-59,9%

F – 0-49,9%

Grades in the ECTS system are transformed into a numerical system as follows:
A = excellent (5)

B = very good (4)

C = good (3)

D = sufficient (2)

F = insufficient (1)

Other important information regarding to the course:

Teaching content and all information related to the course as well as exam dates can be found on the e-course on the Merlin platform.

COURSE SCHEDULE (for the academic year 2024/2025)

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Date	Lectures (time and place)	Seminars (time and place)	Practicals (time and place)	Instructor
18.12.2024. 18.12.2024. 18.12.2024.	**Scope of biometrics** P1 (9:00-9:45) Kresimirova 42			Assistant Professor Višnja Katić
	Craniofacial typology P2 (9:45- 10:30) Kresimirova 42			Assistant Professor Višnja Katić
	Facial biometrics and aesthetics P3 (10:45-11:30) Kresimirova 42			Assistant Professor Višnja Katić
18.12.2024. 18.12.2024. 19.12.2024.	**Radiographic cephalometry** P4 (11:30-12:15) Kresimirova 42			Assistant Professor Višnja Katić
	Golden ratio and dentofacial biometrics P5 (12:45- 13:30) Kresimirova 42			Assistant Professor Višnja Katić
	Biometric methods in research - facial analysis P6 (9:00-9:45) Kresimirova 42			Assistant Professor Višnja Katić
19.12.2024. 19.12.2024. 19.12.2024.	**Biometric methods in research - dentition analysis** P7 (9:45-10:30) Kresimirova 42			Assistant Professor Višnja Katić
	Biometric methods in treatment planning P8 (10:45-11:30) Kresimirova 42			Assistant Professor Višnja Katić
	S1 (11:30-12:15) Kresimirova 42			Mia Uhač, Ph D
19.12.2024. 20.12.2024.	S2 (12:45-13:30) Kresimirova 42			Mia Uhač, Ph D
		S3 (9:00-9:45) Kresimirova 42		Mia Uhač, Ph D
20.12.2024. 20.12.2024.		S4 (9:45-10:30) Kresimirova 42		Mia Uhač, Ph D
		S5 (10.45-11.30) Kresimirova 42		Mia Uhač, Ph D
20.12.2024. 20.12.2024.		S6 (11:30-12:15) Kresimirova 42		Mia Uhač, Ph D

		S7 (12:45-13:30) Kresimirova 42		Mia Uhač, Ph D
10.1.2025.	Exam			

List of lectures, seminars and practicals:

	LECTURES (Topics)	Teaching hours	Location/Lecture room
L1	**Scope of biometrics**	1	Kresimirova 42
L2	**Craniofacial typology**	1	Kresimirova 42
L3	**Facial biometrics and aesthetics**	1	Kresimirova 42
L4	**Radiographic cephalometry**	1	Kresimirova 42
L5	**Golden ratio and dentofacial biometrics**	1	Kresimirova 42
L6	**Biometric methods in research - facial analysis**	1	Kresimirova 42
L7	**Biometric methods in research - dentition analysis**	1	Kresimirova 42
L8	**Biometric methods in treatment planning**	1	Kresimirova 42
	TOTAL TEACHING HOURS	**8**	

	SEMINARS (Topics)	Teaching hours	Location/Lecture room
S1-7	Aspects of biometrics	7	Kresimirova 42

	TOTAL TEACHING HOURS	**7**	

	PRACTICALS (Topics)	**Teaching hours**	**Location/Lecture room**
	TOTAL TEACHING HOURS		

	FINAL EXAM DATES
1.	10.1.2025.
2.	31.1.2025.
3.	21.2.2025.

	Lectures	**Seminars**	**Practicals**	**Total**
Total number	8	7		15
On-line	8	7		15
Percentage	100%	100%		100%