



DISCIPLINE FILE

1. Data about the programme

1.1.	“CAROL DAVILA” UNIVERSITY OF MEDICINE AND PHARMACY
1.2.	FACULTY OF MEDICINE
1.3.	DEPARTMENT 9th Clinical Department
1.4.	DISCIPLINE Sports Medicine
1.5.	DOMAIN OF STUDY: HEALTH – Sectorally regulated within the European Union
1.6.	STUDY CYCLE: LICENCE
1.7.	STUDY PROGRAME: MEDICINE – ENGLISH MODULE

2. 2. Data about discipline

2.1.	Name of the discipline in the educational plan: SPORT MEDICINE				
2.2.	Discipline code: DO I 13 S1M				
2.3.	Discipline type (FD/SD/CD): SD				
2.4.	Discipline regimen (MD/OPD/): OPD				
2.5.	The holder of the course activities Lecturer Dr. Adela Caramoci				
2.6.	The holder of the seminar activities : Assist. Lecturer Dr. Alina Maria Stancu-Smaranda				
2.7. Year of study	I	2.8. Semester	I	2.9. Type of evaluation (E/C)	E

3. Total estimated time (hours/semester of didactic activity an self preparation/study

I. Academic training (teaching, practical application, assessment)						
3.1. Nr hours/week	2	From which:	3.2. lecture	1	3.3. seminary/ laboratory	1
3.4. Total hours of educational plan	28	From which:	3.5. lecture	14	3.6. seminary/ laboratory	14
Evaluation (nr. of hours) : 4						
II. Self preparation/study						
Time allocation						hours
Study of course materials, textbooks, books, study of the recommended minimal bibliography						1
Additional research in the library, research through the internet						1
Performing specific activities for preparing projects, laboratories, elaborating reviews or other tasks						1
Specific preparation activities for projects, laboratory work, assignments, and reports						1
Tutoring						
Other activities						
3.7. Total individual study hours						4
3.9. Total hours per semester (3.4.+ 3.7.)				32		

3.10. Number of credits	2
--------------------------------	---

4. Preconditions (where applicable)

4.1. of curriculum	
4.2. of competences	

5. Conditions (where applicable)

5.1. to conduct the lecture	Classroom with video projector and internet access
5.2. to conduct the seminar / laboratory	Classroom with video projector and internet access

6. Learning outcomes

Knowledge	Skills	Responsibility and autonomy
C1. Describe the physiological and biochemical bases of aerobic and anaerobic effort and the body's adaptations to physical stress.	A1. Apply the sports medical evaluation protocol and issue fitness certificates.	RA1. Independently manage medical-sports evaluations, assuming clinical and ethical decisions.
C2. Explain cardiac mechanisms in "athlete's heart" and identify risk factors for sudden death in sports.	A2. Perform functional testing: VO ₂ max determination, anaerobic parameters, spiroergometry.	RA2. Plan and coordinate training and recovery interventions with a multidisciplinary team.
C3. Enumerate medical guidance principles for effort and classify training types.	A3. Interpret resting ECGs and other paraclinical investigations in athletes.	RA3. Show professional responsibility in preventing cardiovascular and metabolic risks in sports.
C4. Define post-exercise recovery methods, sports nutrition principles, and RED-S syndrome characteristics.	A4. Perform somatometry and use biomarkers to identify overtraining.	RA4. Collaborate actively in multidisciplinary teams for integrated athlete management.
C5. Classify types of ergogenic and recovery medication and recognize ethical and legal boundaries.	A5. Prescribe physical exercise and adapt recovery diets for athletes.	RA5. Uphold medical and sports ethics by applying anti-doping regulations correctly.
C6. Identify main sports injuries and	A6. Manage soft tissue injuries and develop recovery plans.	RA6. Ensure athlete safety and coordinate recovery processes.

explain prevention and recovery methods.		
C7. Enumerate doping substances and explain their negative health and ethical effects.	A7. Correctly use procedures for granting therapeutic use exemptions (TUE).	RA7. Promote ethical behavior and engage in doping prevention.

7. Course objectives (aligned with the learning outcomes)

7.1. General objective	Understand physiology and pathophysiology of physical effort in sports context. Develop medical evaluation and physical testing skills for athletes. Provide appropriate medical guidance to maximize performance and prevent injuries. Understand and apply principles of sports nutrition and recovery. Promote ethics and doping prevention in sports.
7.2. Specific objective	Perform complete medical evaluations and issue sports fitness certificates. Interpret ECGs, assess body composition, and manage injuries. Develop skills in prescribing personalized exercise programs. Identify and manage health risks related to doping. Interpret medical tests for guiding training and recovery. Evaluate performance parameters and calculate VO₂ max. Manage biological indicators and prescribe recovery diets. Assess athletes for performance potential and safety. Develop communication and counseling skills for athlete health and performance.

8. Contents

8.1. Lecture	Teaching methods	Observations
1. Medical Management of Physical Effort	Interactive lecture with multimedia tools, PowerPoint, educational videos	1h
2. Physiological and Biochemical Bases of Aerobic Effort		1h
3. Physiological and Biochemical Bases of Anaerobic Effort		1h
4. Athlete's Heart and Sudden Death in Sports		1h
5. Sports Medical Selection		1h
6. Overtraining		1h
7. Principles of Training		1h
8. Post-effort Recovery Methods		1h
9. Principles of Sports Nutrition		1h
10. RED-S: Relative Energy Deficiency in Sport		1h
11. Ergogenic Medication		1h
12. Recovery Medication		1h
13. Sports Traumatology		1h
14. Doping in Sports		1h
Recent Bibliography Ionescu A.M., Sports Medicine, Performance and Health, Medical Publishing House, Bucharest, 2013		

Brukner & Khan’s Clinical Sports Medicine: Foundations of Clinical Practice (2019), 5th ed., McGraw-Hill Education		
McArdle, Katch, & Katch (2023). Exercise Physiology: Nutrition, Energy, and Human Performance, 9th ed., Wolters Kluwer.		
8.2. Laboratory/ practical lesson	Teaching methods	Observations
1. Sports Medical Certificate	Interactive discussions, debates, clinical case analysis using multimedia and literature	1h
2. Testing Protocols for Anaerobic Performance Parameters		1h
3. Determination of Maximum Oxygen Consumption (VO ₂ max)		1h
4. Interpretation of Resting ECG in Athletes		1h
5. Somatometry and Somatoscopy		1h
6. Biomarkers of Overtraining		1h
7. Exercise Prescription for Health		1h
8. Recovery Diet and Physiotherapeutic Means		1h
9. Energy Balance		1h
10. Ergogenic and Competition Rations		1h
11. Ergogenic Supplements Schemes		1h
12. Biological Indicators of Recovery		1h
13. Management of Soft Tissue Injuries		1h
14. Therapeutic Use Exemption		1h
Recent Bibliography		
Ionescu A.M., Sports Medicine. Practical Works Guide, Ecas Trade SRL, Bucharest, 2001		
Brukner & Khan’s Clinical Sports Medicine (2019), 5th ed., McGraw-Hill Education		
McArdle, Katch, & Katch (2023), Exercise Physiology, 9th ed., Wolters Kluwer		

9. Evaluation

Activity type	9.1. Evaluation criteria	9.2. Evaluation methods	9.3. Percentage in the final grade
9.4. Lecture	Consistency of answers with lecture content	Written multiple-choice exam (30 questions, single answer)	50%
9.5. Seminary/ practical activity	Attendance and participation	Questions included in the written exam	50%
9.5.1. Individual project (if applicable)	-	-	-
9.6. Minimum performance standard Final grade ≥ 5 (out of 10) in the written exam.			

Date of completion :

Signature of the course holder

Signature of the laboratory holder

Lecturer Dr. Adela Caramoci

**Date of approval by the
Department Council:**

**Signature of the Department Director
Professor Dr. Cătălin Constantin Păunescu**