FACULTY OF MEDICINE II

STUDY PROGRAM 0912.1 MEDICINE

DEPARTMENT OF RHEUMATOLOGY AND NEPHROLOGY

APPROVED
at the Meeting of the Commission for Quality Assurance and Evaluation of the Curriculum Faculty

Minutes No. _____1_____ of _16.09.21_

Chairman professor, doctor, PhD

Suman Serghei _____

APPROVED
at the Council Meeting of the Faculty Medicine 2

Minutes No. ____1____ of _21.09.21_

Dean of Faculty, professor, doctor, PhD

Mircea Betiu _____

APPROVED
approved at the Meeting of the Chair Rheumatology and Nephorology

Minutes No. 2 of 14 september 2021

Head of chair, professor, doctor, PhD

Liliana GROPPA _____

SYLLABUS

RHEUMATOLOGY

Integrated studies

Type of course: Compulsory discipline

Curriculum developed by the team of authors:

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I. INTRODUCTION

- **General presentation of the discipline: place and role of the discipline in the formation of the specific competences of the professional / specialty training program**

  Rheumatology is the appropriate ground for integration and implementation of additional knowledge (diagnostic criteria, novel diagnostic and treatment methods) in clinical practice. Throughout this discipline, along with the study of etiology, pathogenesis, clinical picture, evolution, treatment and prophylaxis of rheumatic disease, the future specialist gains practical skills of patient investigation and assessment of the obtained results.

- **Mission of the curriculum (aim) in professional training**

  Rheumatology aims at gaining knowledge and development of necessary skills for diagnosis, treatment and social reinsertion of patients with rheumatic diseases.

- **Language of the course:** english;

- **Beneficiaries:** students of the 4th year, Faculty of Medicine II

II. MANAGEMENT OF THE DISCIPLINE

Code of discipline	S.08.O.069		
Name of the discipline	**Rheumatology**		
In charge of the discipline	**Head of chair, professor, doctor, PhD Liliana GROPPA**		
Year	**IV**	Semesters	**VII/VIII**

Total hours			Nr. ore pe tipuri de activități				Type of assesment	No. ECTS credits
Total	Direct contact	Selftraining	Clinical training	Course	Practice, laboratory work	Seminar		
90	48	42	-	16	16	16	E	3

III. TRAINING AIMS WITHIN THE DISCIPLINE

At the end of the discipline study, the student will be able to:

- *at the level of knowledge and understanding:*

1. To know the basics of pathology, physiopathology, pharmacology, semiology;
2. To know and adequately use the specific terms for special issues of differential diagnosis in rheumatology;

3. To know the biological laws to a level, necessary for the study of the issue of human disease, as well as for the facilitation of correlation between pathological and clinical aspects.

■ *at the application level*:

1. Theoretical knowledge: knowledge of clinical and therapeutic aspects of diseases of musculoskeletal disease;
2. Practical skills:
- Clinical assessment of the patient with rheumatic disease (Appendix nr.1 Practical Skills)
- practical aspects of interpreting imaging studies of the musculoskeletal system, assessment of acute phase reactants, the study of immune markers, tender joint count, swollen joint count, DAS28 Index, study of synovial fluid, computed tomography and MRI of the musculoskeletal system, ultrasound examination of the musculoskeletal system, skeletal scintigraphy, bone densitometry.;

■ *at the integration level:*

1. To assess the importance of special issues of differential diagnosis in rheumatology in the context of medicine;
2. To creatively address the topics of clinical medicine;
3. To deduce relationships between rheumatology and other clinical specialties;
4. To master skills of implementing and integrating clinical knowledge;
5. To be able to assess and auto-assess objectively the current knowledge;
6. To be able to assimilate gained achievements in clinical disciplines.

IV. PROVISIONAL TERMS AND CONDITIONS

Rheumatology is the appropriate setting for integration and implementation of fundamental branches of medicine (anatomy, human physiology, microbiology, pathophysiology, etc.) in clinical medicine. Together with the study of etiology, pathogenesis, clinical picture, evolution treatment and prophylaxis of rheumatic disease, the future specialist gains practical skills in investigating the patient assessing the obtained results.

A separate role is given to rheumatology in establishing the basics of clinical rationalizing, which will ensure a correct diagnosis, adequate treatment and solving emergencies in rheumatic diseases.

V. THEMES AND ESTIMATE ALLOCATION OF HOURS

Lectures, practical hours/seminars and self-training

Nr. d/o	TEMA	Number of hours			
		Lectures	Practice work	Seminars	Self-training
1.	Introduction in rheumatology. Classification of rheumatic diseases	2	2	2	5,5
2.	Rheumatoid arthritis.	2	2	2	5,5
3.	Systemic lupus erythematosus.	2	2	2	5,5
4.	Seronegative spondyloarthritis. Reactive arthritis.	2	2	2	5,5
5.	Seronegative spondyloarthritis. Psoriatic arthritis.	2	2	2	5

Nr. d/o	TEMA	Number of hours			
		Lectures	Practice work	Seminars	Self-training
6.	Osteoarthritis.	2	2	2	5
7.	Gout.	2	2	2	5
8.	Osteoporosis.	2	2	2	5
	Total	**16**	**16**	**16**	**42**

VI.   CLINICAL SKILLS

- Taking the history of the patient with rheumatic diseases.

- Physical examination of the musculoskeletal system.

- Physical examination of the vertebral column.

- Interpretation of laboratory results (immunological tests).

- Interpretation of imaging tests (Xray, DXA, etc.)

VII.   REFERENCE OBJECTIVES OF CONTENT UNITS

Objectives	Content units
Theme (chapter) 1. INTRODUCTION IN RHEUMATOLOGY.	
• To define the classification of rheumatic diseases • To know the array of laboratory and instrumental investigations of the patient with rheumatic disease. • To demonstrate the examination of the patient with rheumatic disease.	1. Classification of rheumatic diseases. 2. Laboratory and instrumental methods of investigation. 3. Examination of the patient with rheumatic disease.
Theme (chapter) 2. RHEUMATOID ARTHRITIS.	
• To define rheumatoid arthritis • To know the diagnostic criteria for rheumatoid arthritis • To demonstrate the role of etiological factors in the development of rheumatoid arthritis • To possess the knowledge related to treatment in rheumatoid arthritis	1. Definition 2. Epidemiology 3. Etiopathogenesis 4. Diagnostic criteria 5. Clinical manifestations 6. Laboratory and instrumental investigations 7. Management strategy 8. Evolution 9. Treatment 10. Prognosis

Objectives	Content units

Theme (chapter) 3. SYSTEMIC LUPUS ERYTHEMATOSUS.

Objectives	Content units
• To define the classification of systemic lupus erythematosus. • To know the diagnostic criteria for systemic lupus erythematosus • To demonstrate the role of etiological factors in the development of systemic lupus erythematosus • To possess the knowledge related to treatment in systemic lupus erythematosus	1. Definition
	2. Epidemiology
	3. Etiopathogenesis
	4. Diagnostic criteria
	5. Clinical manifestations
	6. Laboratory and instrumental investigations
	7. Management strategy
	8. Evolution
	9. Treatment
	10. Prophylaxis

Theme (chapter) 4. SERONEGATIVE SPONDYLOARTHRITIS. REACTIVE ARTHRITIS.

Objectives	Content units
• To define seronegative spondyloarthritis and reactive arthritis. • To know the diagnostic criteria for seronegative spondyloarthritis and reactive arthritis. • To demonstrate the role of etiological factors in the development of reactive arthritis • To possess the knowledge related to treatment in reactive arthritis	1. Definition
	2. Epidemiology
	3. Etiopathogenesis
	4. Diagnostic criteria
	5. Clinical manifestations
	6. Laboratory and instrumental investigations
	7. Management strategy
	8. Evolution
	9. Treatment
	10. Prophylaxis

Theme (chapter) 5. SERONEGATIVE SPONDYLOARTHRITIS. PSORIATIC ARTHRITIS.

Objectives	Content units
• To define psoriatic arthritis • To know the diagnostic criteria for psoriatic arthritis • To demonstrate the role of etiological factors in the development of psoriatic arthritis • To possess the knowledge related to treatment in psoriatic arthritis	1. Definition
	2. Epidemiology
	3. Etiopathogenesis
	4. Diagnostic criteria
	5. Clinical manifestations
	6. Laboratory and instrumental investigations
	7. Management strategy
	8. Evolution
	9. Treatment
	10. Prognosis

Theme (chapter) 6. OSTEOARTHRITIS.

Objectives	Content units
• To define osteoarthritis • To know the diagnostic criteria for osteoarthritis	1. Definition
	2. Epidemiology

Objectives	Content units
• To demonstrate the role of etiological factors in the development of osteoarthritis • To possess the knowledge related to treatment in osteoarthritis	3. Etiopathogenesis
	4. Diagnostic criteria
	5. Clinical manifestations
	6. Laboratory and instrumental investigations
	7. Management strategy
	8. Evolution
	9. Treatment
	10. Prognosis

Theme (chapter) 7. GOUT.

Objectives	Content units
• To define gout • To know the diagnostic criteria for gout • To demonstrate the role of etiological factors in the development of gout • To possess the knowledge related to treatment in gout	1. Definition
	2. Epidemiology
	3. Etiopathogenesis
	4. Diagnostic criteria
	5. Clinical manifestations
	6. Laboratory and instrumental investigations
	7. Management strategy
	8. Evolution
	9. Treatment
	10. Prognosis

Theme (chapter) 8. OSTEOPOROSIS.

Objectives	Content units
• To define osteoporosis • To know the diagnostic criteria for osteoporosis • To demonstrate the role of etiological factors in the development of osteoporosis • To possess the knowledge related to treatment in osteoporosis	1. Definition
	2. Epidemiology
	3. Etiopathogenesis
	4. Diagnostic criteria
	5. Clinical manifestations
	6. Laboratory and instrumental investigations
	7. Management strategy
	8. Evolution
	9. Treatment
	10. Prognosis

VIII. PROFESSIONAL (SPECIFIC (PC)) AND TRANSVERSAL (TC) COMPETENCES AND STUDY OUTCOMES

- **Professional (specific) (PC) competences**
  - PC1. - Responsible execution of professional tasks with the application of the values and norms of professional ethics, as well as the provisions of the legislation in force

- PC2. - Adequate knowledge of the sciences about the structure of the body, physiological functions and behavior of the human body in various physiological and pathological conditions, as well as the relationships between health, physical and social environment
- PC3. - Resolving clinical situations by developing a plan for diagnosis, treatment and rehabilitation in various pathological situations and selecting appropriate therapeutic procedures for them, including providing emergency medical care
- PC4. - Promoting a healthy lifestyle, applying prevention and self-care measures
- PC5. - Interdisciplinary integration of the doctor's activity in a team with efficient use of all resources
- PC6. - Carrying out scientific research in the field of health and other branches of science

- **Transversal competences (TC)**
- TC1. - Autonomy and responsibility

- **Study outcomes**

  Student education in a spirit of strictness of the medical act and understanding the dominant role of fundamental sciences for the given level, as well as their professional development. Gain of practical skills related to the correct execution of certain functional investigations, based on understanding not only the procedures, but the explored phenomena as well, together with the implied technical specifics. Theoretical knowledge and practical skills necessary to assimilate information and diagnose rheumatic diseases.

Note. Study outcomes are deduced from the professional competencies and formative valences of the informational content of the discipline.

IX. STUDENT'S SELF-TRAINING

No.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Patient rounds	Examination of the patient and establishment of a presumptive diagnosis, further recommendations for complex investigation and treatment recommendations.	The ability to form conclusions, quality of medical reports.	During the course
2.	Presentations, posters and reports	Selecting the research topic, development of the plan and implementation term. Establishing the components for the Power Point presentation, poster or report – topic, objective, results, conclusions, practical importance, and references.	The degree on project insight, degree of scientific evidence, quality of conclusions, creativity elements, development of personal attitude, coherence of presented information and scientific accuracy, graphical representation and type of presentation.	End of course
3.	Applying various learning techniques		Volume of work, degree of insight into the essence of various subjects, level of scientific evidence, quality of conclusions, creativity elements, proof of issue understanding, development	During the course

		of personal attitude.	

X. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

- ### Teaching and learning methods used

Rheumatology is compulsory course and is thought according to classical university standards: courses, practical seminar. Course holders hold the theoretical course.

The discipline reserves the right to hold the practical seminars and courses in an interactive manner.

The algorithm of a practical lesson in special issues of differential diagnosis in rheumatology –4 academic hours (180 min):

a. Evening shift report by the student who was on shift the day before – 5 – 7 min
b. Answers (teacher) to topic related questions – 10 – 15 min.
c. Assessment of initial level of knowledge on the main topic (pretest) – 10 – 15 min.
d. Individual work with the patients for medical report – 25 – 30 min.
e. Topic discussion using didactic and illustrative materials –50 min.
f. Description of the topic using illustrative material on electronic platforms (X-rays, ECG, EchoCG, pathological and histopathological specimens) – 30 min
g. Ongoing discussion of the topic at the patient's bedside with specific clinical cases and problem-based situations, with results of laboratory and instrumental investigations – 40 min.
h. Assessment of gained knowledge/skills, conclusions – 10 min.

- ### Applied teaching strategies / technologies (specific to the discipline)

Try to understand the key-definitions, explained by the teacher, without relying on methods of assessment, learn not towards the goal of passing the tests and be admitted for the exam, but for gaining useful knowledge for other disciplines.

The course is destined to provide for the students' needs of formation and professional development in the field of rheumatology. Ask the teacher, that each provided information is backed up by examples, applications, theoretical and practical problems, thus ensuring an active way of learning.

Use various methods of engaging in active reading and resources, which challenge critical thinking towards the goal of solving situation based problems, which contribute to the students' systematization capacity.

„Try to be a teacher", explain to your colleagues the key points of the studied topic, give your own examples, explain difficult moments, listen to their opinions. The ability to explain the studied material to your colleagues will develop your ability to think and express yourself.

Presentation of the clinical cases – teaching method based on the analysis of a clinical scenario of a virtual or real patient, role based interaction "patient – student – teacher", which will allow connecting theoretical knowledge with practical skills, thus serving as a platform for clinical teaching.

- ### Methods of assessment (including the method of final mark calculation)

Current

a. Practical lessons – during each practical lesson, the student is assessed with a mark based on estimating the pretest level of knowledge, activity at the patient's bedside, reports on the studied topic and practical assimilation of the topic.

b. Didactic medical report of a patient is assessed based on its' presentation at the end of the course and discussion of the report together with the colleagues throughout the course.

Final

For the final examination on Rheumatology students with an average mark below 5, as well as students with unrecovered absences on practical lessons, will not be admitted.

The exam on the discipline Rheumatology is combined from the multiple-choice tests (variant "Test Editor" PI SMPU "Nicolae Testemiţanu"), the oral exam as well as the practical skills exam. The multiple-choice test is comprised of 50 questions per test on all the discussed topics on Rheumatology, of which 20 questions are with one correct answer, and the other 30 are with multiple correct answers. The student has overall 1 hour to answer the questions. The test is assessed with marks from 0 to 10. For the oral exam, the student has 30 min to prepare for the answer. The answer is assessed with a mark from 0 to 10. The subjects for the practical skills exam are approved during chair meetings and the students are notified one month prior to the exam.

The assessment of knowledge is rated with marks from 10 to 1, without decimals, as follows::

- Mark 10 or "excellent" (ECTS equivalent - A) will be rated for possessing 91-100% of material;
- Mark 9 or "very good" (ECTS equivalent - B) will be rated for possessing 81-90% of material;
- Mark 8 or "good" (ECTS equivalent - C) will be rated for possessing 71-80% of material;
- Marks 6 and 7 or "satisfactory" (ECTS equivalent - D) will be rated for possessing 61-65% and 66 – 70% of material respectively;
- Mark 5 or "poor" (ECTS equivalent - E) will be rated for possessing 51-60% of material;
- Marks 3 and 4 (ECTS equivalent - FX) will be rated for possessing 31-40% and 41 – 50% of material respectively;
- Marks 1 and 2 or "unsatisfactory (ECTS equivalent - F) will be rated for possessing 0-30% of material.

The final mark is composed from the following: the average mark during the course x 0.3 coefficient; practical skills X 0.2 coefficient; oral exam X 0.3 coefficient; multiple-choice tests X 0.2 coefficient.

Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
1,00-3,00	2	F
3,01-4,99	4	FX
5,00	5	
5,01-5,50	5,5	E
5,51-6,0	6	
6,01-6,50	6,5	
6,51-7,00	7	D
7,01-7,50	7,5	
7,51-8,00	8	C
8,01-8,50	8,5	
		B

8,51-8,00	9	
9,01-9,50	9,5	
9,51-10,0	10	A

Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations.

XI. RECOMMENDED LITERATURE:

A. Compulsory:

1. Kelley's textbook of rheumatology, 2013.
2. Harrison's rheumatology, 2013.
3. Handbook of rheumatology, Vlad, Adrian, 2016.
4. Harrison's Principle of Internal Medicine,18th Ed. (Access Medicine).

B. Additional:

1. Oxford handbook of rheumatology, Hakim, Alan J. 2006
2. Principles of internal medicine (cardiology, rheumatology, nephrology) Study guide for 5th course students, 2016