COURSE UNIT DESCRIPTION

Course unit title	Code
Rheumatology; Endocrinology /2022-2023	

Lecturer(s)	Department(s)
Coordinating: assist. Dalia Miltinienė; **Others:** **Endocrinology: assoc. prof. Žydrūnė Visockienė,** assoc. prof. Vaidotas Urbanavičius, assist. Agnė Abraitienė, junior assist. Aistė Galkinė, assist. Romena Laukienė, junior assist. Kristina Švaikevičienė, junior assist. Laura Šiaulienė, lect. Gintarė Naskauskienė. **Rheumatology: prof. Irena Butrimienė**, assist. prof. Sigita Stropuvienė, assist. prof. Rita Rugienė, assist. Dalia Miltinienė, assist. Inesa Arštikytė.	Vilnius University Faculty of Medicine, Institute of Clinical Medicine, Clinic of internal medicine, family medicine and oncology and Clinic of Rheumatology, Orthopaedics Traumatology and Reconstructive Surgery. Santariskiu str 2, 08661 Vilnius

Cycle	Level of the course unit	Type of the course unit
Integrated (stages I)		Compulsory

Mode of delivery	Period of delivery	Language of instruction
Seminars and consultations in auditorium, practical training in departments of endocrinology and rheumatology	Semester 9	English

Prerequisites and corequisites	
Prerequisites: A student must have completed the following courses: Human anatomy and histology, Human physiology, Pathological physiology and anatomy, Pharmacology, Immunology, Propaedeutic of internal diseases, Laboratory diagnostics, Radiology, Basics of nursing, Paediatrics, Internal medicine, General surgery, Obstetrics and gynecology	**Corequisites (if any):** No

Number of ECTS credits allocated to the course unit	Total student's workload	Contact hours	Self-study hours
5	133	66	67

Purpose of the course unit Programme competences to be developed
The purpose of the medical programme is training of students that meet the requirements recognised by the European Union and World Health Organisation to have a holistic approach to patient and disease diagnostics, prophylaxis and long-term follow-up. To teach students the principles of pathogenesis, etiology, clinical manifestation, diagnosis, prevention and treatment of fundamental endocrine and rheumatic diseases. To provide theoretical and practical knowledge about the inflammatory and autoimmune process, their consequences for the body, comprehensive endocrinological and rheumatological examination of the patient and the principles of treatment. After completion of the course students must be able to examine the patient, must know the indications for specialist consultation, should demonstrate the knowledge of common disorders in endocrinology and rheumatology at a level appropriate to support diagnostics of the main syndromes and diseases and understand principles of prophylaxis and treatment.

Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
General competences: To be able act professionally and according to ethical norms; evaluate the limits of one's competency, be able to think critically and independently; be creative; spontaneous, be able to get along with patients, colleagues, and medical personnel; be able to apply the acquired knowledge in further studies; to study independently and teach others; to carry out research.	Workshops, seminars at the Departments of Endocrinology and Rheumatology	Assessment of theoretical knowledge and skills.

Specific competences:		
1. To build competence in clinical approach to a patient: 1.1. collection of disease history 1.2. physical examination 1.3. conclusion of clinical examination and diagnostic decision-making 1.4. explanation and advise to the patient 1.5. communication with the patient.	Seminars, problem-solving teaching, work with the patient, active learning approach (brain storm, discussion in the group), literature review, case presentations, individual work, and consultations.	• interview with the student • objective structured clinical examination (OSCE) • computer-assisted exam at the end of the course (multiple choice questions/clinical cases)
2. To know most common endocrine and rheumatic disorders: 2.1. to recognize and evaluate clinical signs and symptoms of diseases 2.2. to order and interpret specific diagnostic tests and procedures 2.3. to differentiate with other diseases and conditions 2.4. to formulate an initial therapeutic plan.	Seminars, problem–solving teaching, work with the patient, active learning approach (brain storm, discussion in group), literature review, case presentations, individual work, and consultations.	• interview with the student or written assessment • objective structured clinical examination (OSCE), • computer-assisted exam at the end of the course (multiple choice questions/clinical cases)
3. To develop therapeutic decision-making skills: 3.1. to define information resources for determining medical and surgical treatment options 3.2. to describe principles of necessary and adequate treatment 3.3. to discuss factors that frequently alter the effects of medications, including drug interactions and compliance problems.	Seminars, problem-solving teaching, work with the patient, active learning approach (brain storm, discussion in group), literature review, case presentations, individual work, and consultations.	Computer-assisted exam at the end of the course (multiple choice questions/clinical cases)
4. To understand the main rules of efficient communication: 4.1. interaction with the patient 4.2. interaction with the colleague 4.3. communication of bad news to the patient 4.4. case report filling 4.5. team activities	Seminars, problem -solving teaching, work with the patient, active learning approach (brain storm, discussion in group), literature review, case presentations, individual work, and consultations.	Computer-assisted exam at the end of the course (multiple choice questions/clinical cases)

Topics	**Contact work hours**							**Time and tasks of self-study**	
	Lectures	Consultations	Seminars	Practice	Laboratory work	Practical training	**Total contact hours**	**Self-study**	**Tasks**
Endocrinology: 1. Regulation of endocrine system. Pathologic mechanisms of endocrine diseases. Glucose metabolism. Diabetes mellitus diagnosis and classification. Type 1 diabetes mellitus (DM). Acute diabetes complications.			2	4			**6**	**6**	To learn endocrine system: regulation, feedback mechanisms and its importance in disease pathogenesis. To understand hormones, their function, hormone receptor families and hormone action through these receptors. To develop clinical approach for endocrine system clinical examination: history taking, inspection, palpation, and percussion. Assessment of instrumental and laboratory investigations of endocrine system. To study diabetes mellitus: classification,

									diagnostic approach, interpretation of glucose measurements, principles of glucose self-monitoring. To study the aetiology, pathogenesis, clinical symptoms and treatment of type 1 DM. To study acute diabetes complications.
2.Type 2 diabetes mellitus. Chronic diabetes complications			2	4			**6**	**7**	To learn type 2 DM aetiology, pathogenesis, clinical symptoms, prevention, treatment strategies, clinical use of main antidiabetic drugs. To understand chronic diabetes complications: pathogenesis, classification, diagnosis, treatment and prevention of diabetic neuropathy, retinopathy, nephropathy and macro angiopathies.
3. The role of of thyroid hormones in body metabolism. Nodular thyroid goitre and Grave's disease. Thyroiditis.			2	4			**6**	**6**	To understand the importance of iodine for thyroid function. Aetiology, clinical symptoms, diagnosis and treatment methods of hypothyroidism and hyperthyroidism. To learn the evaluation, diagnosis, treatment of patients with nodular thyroid goitre and Grave's disease. To learn different types of thyroiditis: chronic autoimmune, subacute, postpartum, acute, Riedel's: aetiology, pathogenesis, clinical symptoms, diagnosis, and treatment
4. Anterior pituitary hormones and disturbances in their secretion. Hypopituitarism. Hyperprolactinemia. Acromegaly.			1	4			**5**	**5**	To study growth hormone, prolactin, adrenocorticotropic hormone (ACTH), thyroid stimulating hormone (TSH), gonadotropins (LF and FSH) secretion disturbances and clinical manifestations, diagnostic and treatment methods. To learn clinical symptoms, diagnostic approach, treatment strategies for hypopituitarism, hyperprolactinemia and acromegaly.
5. Adrenal glands: secretion and function of adrenal cortex hormones. Disturbances in cortisol and aldosterone secretion.			1	4			**5**	**5**	To study disorders of adrenal gland: Addison disease, Conn syndrome, Cushing syndrome: aetiology, classification, clinical symptoms, diagnosis and treatment.
6. Adrenal glands: secretion and function of adrenal medulla hormones. Disturbances in parathyroid hormone secretion.			1	4			**5**	**5**	To learn aetiology, clinical symptoms, diagnosis and treatment of pheochromocytoma. To learn aetiology, clinical symptoms, diagnosis and management principles of

									hypoparathyroidism and hyperparathyroidism.
Total endocrinology			**9**	**24**			**33**	**34**	
Rheumatology: 1. Degenerative joint and spine disease. Fibromyalgia. Crystal-induced arthritis.			**2**	**4**			**6**	**6**	To learn the aetiopathogenesis, clinical symptoms, diagnosis, differential diagnosis, principles of treatment of degenerative joints and spinal diseases, fibromyalgia, crystal-induced arthritis. Differentiate between inflammatory and degenerative diseases of the spine and joints.
2. Rheumatoid arthritis. Undifferentiated arthritis.			**1**	**4**			**5**	**5**	To learn the aetiopathogenesis, clinical presentation, rare forms, diagnosis and differential diagnosis, methods of activity evaluation, principles of treatment of rheumatoid arthritis. To learn the principles of treatment with traditional synthetic and biological disease-modifying drugs. Gain an understanding of undifferentiated arthritis, tactics for monitoring and treating patients with this pathology.
3. Idiopathic inflammatory myopathies. Polymyalgia rheumatica. Systemic sclerosis. Sjogren's syndrome.			**3**	**3**			**6**	**6**	To learn the principles of etiopathogenesis, clinical presentation, diagnosis and differential diagnosis, treatment of inflammatory myopathies, rheumatic polymyalgia, systemic sclerosis, Sjogren's syndrome.
4. Systemic lupus erythematosus. Antiphospholipid syndrome.			**2**	**3**			**5**	**5**	To learn the principles of aetiopathogenesis, clinical presentation, diagnosis and differential diagnosis, treatment of systemic lupus erythematosus and antiphospholipid syndrome.
5. Systemic vasculitis			**3**	**3**			**6**	**6**	To learn the aetiopathogenesis, clinical manifestations, methods of assessing disease activity, life-threatening conditions of systemic vasculitis. Learn to create a plan for differential diagnosis, testing, and treatment.
6. Spondyloarthropathies. Infectious (septic) arthritis.			**1**	**4**			**5**	**5**	To learn the principles of aetiopathogenesis, clinical presentation, diagnosis and differential diagnosis, treatment of spondyloarthropathies and infection-related arthritis.
Total rheumatology			**12**	**21**			**33**	**33**	
Total			**21**	**45**			**66**	**67**	

Assessment strategy	**Weight (%)**	**Assessment period**	**Assessment criteria**
Assessment is based on 10 points grading system: 10 points – excellent knowledge and capabillities; 9 points – very good knowledge and capabillities; 8 points – good			

knowledge and capabillities; 7 points – average knowledge and capabillities; 6 points – satisfactory knowledge and capabillities; 5 points – poor knowledge and capabillities; 4 points – does not meet minimal requirements.			
Auditorial activities during endocrinology seminars	5 %	Through semester	Complex assessment consisting of: - the assessment on how actively a student participates in the discussions, how clearly and motivated reply to questions. - the assessment on how student prepares and delivers presentation (legible, comprehensive, and focused on the problem, presentation skills, contact with the auditorium, time management). - the assessment on how student is able to perform the following tasks: • clinical examination of endocrine patient, • use the differential diagnosis to help guide diagnostic test ordering and sequencing; • discuss important differential diagnostic considerations, including potential diagnostic emergencies-utilize information resources to help develop an appropriate and timely therapeutic plan.
Evaluation of theoretical and practical knowledge in endocrinology	5 %	Through semester	Evaluation of the acquired theoretical and practical knowledge during self-study and seminars. The methods applied: interactive discussion, written assessment, test with multiple choice questions, clinical situations and decision making.
Computer-assisted endocrinology exam	40 %	During the exam session	Computer assisted exam is composed of 80 multiple choice questions/clinical cases. The exam grade calculation is based on the percentage of correct answers which is converted to 10 points grading system. For example: if you have scored 94.7% correct answers during the exam, this is converted to 9.47 and included into final endocrinology grade calculation.
Computer-assited rheumatology exam	50%	During the exam session	Computer assisted exam is composed of 48 multiple choice questions (36 theoretical questions and 12 clinical situations). The exam grade calculation is based on the percentage of correct answers which is converted to 10 points grading system. For example: if you have scored 94.7% correct answers during the exam, this is converted to 9.47 and included into final endocrinology grade calculation. Additional points (up to 0.5 points) may be awarded for optional assignments during rheumatology seminars. The score is added to the result of the rheumatology exam, but the total score of the rheumatology part may not exceed 10 points.

Author	**Year of publication**	**Title**	**Issue of a periodical or volume of a publication**	**Publishing place and house or web link**
Compulsary reading				
Jameson J, & Fauci A.S., & Kasper D.L., & Hauser S.L., & Longo D.L., & Loscalzo J (Eds.)	2018	Harrison‘s Principles of Internal Medicine		US, McGraw-Hill, 20th Edition
Gardner D.G., & Shoback D (Eds.)	2017	Greenspan's Basic & Clinical Endocrinology		San Francisko, McGraw-Hill. 10 th Edition
J.WJ.Bijlsma	2015	EULAR Textbook on	1-th ed.	BMJ group

		Rheumatic Diseases		
Hochberg AJ.	2015	Rheumatology		Philadelphia, Mosby Elsevier
Gary S. Firestein	2013	Textbook of Rheumatology	9th ed.	Kelley
Hachulla E.	2013	Textbook on systemic sclerosis	1-th ed.	BMJ publishing Group Ltd.
Gary S. Firestein MD, Ralph C. Budd MD.	2008	McInnesTextbookofRheumatology	8th ed.	
Optional reading				
John Wass, Katharine Owen	2014	Oxford Handbook of Endocrinology and Diabetes		Oxford University Press, 3 rd Edition
Nussey S, Whitehead S.	2001	Endocrinology: An Integrated Approach		Oxford: BIOS Scientific Publishers http://www.ncbi.nlm.nih.gov/books/NBK728/
John B. Imboden, David B. Hellmann, John H. Stone	2013	Current Diagnosis & Treatment: Rheumatology	3rd ed.	US, The McGraw-Hill Companies, Inc
Electronic resources				
http://emedicine.medscape.com/endocrinology				
http://www.thyroidmanager.org/				
http://jrheum.org/				
http://www.oup.co.uk/brheum/				
http://ard.bmj.com/site/about/				
http://lup.sagepub.com				
http://www.rheumatology.org				
http://www.panlar.org/				
http://www.eular.org/				
http://www.medscape.com/rheumatology				
www.arthritis.org				