Komisija za študijske zadeve
UL Medicinske fakultete

Univerza *v Ljubljani*
Medicinska fakulteta

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Course Regime

Course: PATHOLOGY

Study Programme:
Medicine

Year of the Course: 1 2 **3** 4 5 6

Semester:
Winter and summer

Course type:
Compulsory

Number of ECTS credits:
9 (6+3)

Lecturer(s):
Prof. Margareta Strojan Fležar, MD, PhD, Co-lecturer: Prof. Nina Zidar, MD, PhD

Participating Organisational Units (Departments and Institutes):
Department of Pathology, Faculty of Medicine, University of Ljubljana

Parts (Modules) of the Course
1: /
2: /
3: /
4: /

Date of Issue: September 26, 2018

A. General part (applies to compulsory and elective courses)

1. Course objectives

The pathology course provides comprehensive overview of human diseases, encompassing the etiopathogenesis, morphological and functional changes in cells, tissues and organs related to pathological processes. General professional and research methods are presented as well as the role of pathology in diagnostic assessment of the patient. The student is also trained to critically integrate clinical and pathological findings and thus the role of pathology in the process of diagnosis and treatment of the patient.

2. Comprehensive outline of the course organisation

Duration of the course: two semesters.

Lectures

Winter semester: 4 hours /week, Monday from 15.15 to 17.00 and Thursday from 13.15 to 15.00.
Summer semester: 2 hours / week, on Thursday from 8.15 to 10.00
All lectures are in the large lecture room of the Faculty of Medicine, Korytkova 2.

Practical lessons

Winter semester: on Tuesday from 13.00 to 19.00 and Wednesday from 16.00 - 19.00 in the small lecture room at the Department of Pathology (2nd floor, Korytkova 2).
Summer semester: on Tuesday from 14.00 to 18.30 and on Wednesday from 14.00 to 18.30 in the in the small lecture room at the Department of Pathology (2nd floor, Korytkova 2).
The groups of students for the practical lessons are constituted and presented to students at the beginning of the semester.
Attending the practical lessons is mandatory and is a prerequisite for taking the course exam.
If the absence from the practical lessons was justified, the substitute practical lessons could be attended during the week, which is scheduled for repetitive practical lessons.

Seminars

Seminars can be prepared by students according to an arrangement with the head of the department; Seminars are not mandatory.

3. Description of on-going assessment of knowledge and skills

Tests on practical lessons:
The first test includes topics of the first three practical lessons, the second test includes the topics of 4th, 5th and 6th practical lessons, the third test involves the topics of the 7th and 8th practical lessons. Passing the tests is not obligatory.
The test consists of 5 glass slides from practical lessons (duration of the test 5 minutes) and 10 test questions of the selective type (duration of the test 10 minutes).
Students who reach at least 70% of correct answers at tests are exempted from the practical exam. The exemption of the practical exam is valid for 10 months from the end of the school year (until March of the next year).
If the absence from attending the test was justified (medical certificate is required), the student has the right to a repetitive test.
Seminars
The seminar involves the preparation of a seminar according to an arrangement with the head and an oral defence. Students who defend a seminar with a very good (8 or 9) or excellent (10) grade can increase the grade from the tests by 10%.

4. Required conditions for the final examination (Course Exam)

The condition for the entrance to the course exam is attendance of all practical lessons.

5. Final assessment and examination of knowledge and skills (Course Exam)

The course examination consists of practical, written and oral part.

The practical part takes place on the first day of the examination period at 8.30 and is mandatory for the students who did not collect sufficient points in the tests (at least 70%). If the student has passed the practical part of the exam, she/he is obliged to carry out the written part of the examination, otherwise the validity of the positive practical part of the exam will not be recognized in the following examinations. The practical part of the exam is mandatory for the students in the committee examination.

The written exam follows on the second day and can be held simultaneously in several lecture rooms of the Faculty of Medicine, depending on the number of students enrolled. The written exam consists of 100 test questions of the selective type, lasting 100 minutes. It is assessed according to the following criteria:

- unsatisfactory (1-5) - 0.00% to 59.99%,
- satisfactory (6) - 60.00% to 67.99%,
- good (7) - 68.00% to 75.99%,
- very good (8) - from 76.00% to 83.99%,
- very good (9) - from 84.00% to 91.99%,
- excellent (10) - from 92.00 to 100%

A student who has not obtained at least satisfactory grade (60%) in two consecutive written examinations may take an oral examination without passing a written part in the third examination. The results of the written part of the examination and the schedule for taking the oral exam (with the entry of grades) are published on the bulletin board and the website of the Department of Pathology one day after passing the written examination.

Applications and withdraws for the course exam: through the VIS information system, application no later than 5 days before the exam and withdraw no later than noon one day before the exam.

The committee examination is conducted in accordance with »Regulations for assessment of knowledge and skills for the uniform master's study programmes of medicine and dental medicine«.

6. Other provisions

None.

7. Fundamental study material and Supplement reading

Recommended literature:

- Basic literature
  - Kumar V, Abbas AK, Aster JC. ROBBINS BASIC PATHOLOGY. 9th edition. Elsevier Saunders 2013
  - Cross SS. UNDERWOOD'S PATHOLOGY. A clinical approach. 6th edition. Elsevier 2013
- Additional literature
  - Rubin R, Strayer DS. RUBIN'S PATHOLOGY, Clinicopathological foundations of medicine. Sixth edition. Lippincott, Williamms & Wilkins 2012
  - Kumar V, Abbas AK, Fausto N, Aster JC. Robbins and Cotran PATHOLOGIC BASIS OF DISEASE. Eighth edition. Saunders 2010

8. Exam topics, clinical presentations and skills

Chapter	Exam topic
Cell injury and death, adaptations	1. Causes of cell injury
Cell injury and death, adaptations	2. Atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia
Cell injury and death, adaptations	3. Damage of cell organelles
Cell injury and death, adaptations	4. Response of subcellular structures to injury
Cell injury and death, adaptations	5. Complex injury
Cell injury and death, adaptations	6. Cell injuries
Cell injury and death, adaptations	7. Necrosis
Cell injury and death, adaptations	8. Apoptosis
Cell injury and death, adaptations	9. Intracellular accumulations
Cell injury and death, adaptations	10. Pathologic calcifications
Inflammation	11. Definition, general local and systemic signs, histopathologic classification
Inflammation	12. Acute inflammation
Inflammation	13. Chemical mediators and regulators of immune response
Inflammation	14. Chronic inflammation
Inflammation	15. Destructive/necrotizing inflammation
Inflammation	16. Exudative inflammation
Inflammation	17. Proliferative inflammation
Inflammation	18. Granulomatous inflammation
Tissue repair	19. Proliferative activity in relation to type of cells
Tissue repair	20. Stem cells
Tissue repair	21. Growth factors and extracellular matrix
Tissue repair	22. Healing with regeneration
Tissue repair	23. Healing with reparation
Hemodynamic disorders and consequences	24. Edema
Hemodynamic disorders and consequences	25. Active and passive hyperemia
Hemodynamic disorders and consequences	26. Hemorrhage
Hemodynamic disorders and consequences	27. Thrombosis
Hemodynamic disorders and consequences	28. Embolism
Hemodynamic disorders and consequences	29. Infarction
Imunopathology	30. Hypersensitivity reactions
Imunopathology	31. Autoimmunity
Imunopathology	32. Rejection of transplant
Imunopathology	33. Immune deficiency diseases
Imunopathology	34. AIDS
Imunopathology	35. Amyloidosis
Neoplasia	36. General characteristics
Neoplasia	37. Benign and malignant tumors

Neoplasia	38. Morphological features of tumors
Neoplasia	39. Local and systemic effects of tumors, death causes
Neoplasia	40. Metastases
Neoplasia	41. Tumor diagnosis in pathology
Neoplasia	42. Benign epithelial tumors
Neoplasia	43. Malignant epithelial tumors
Neoplasia	44. Soft tissue tumors
Neoplasia	45. Germ cell tumors, central and peripheral nervous system tumors
Neoplasia	46. Etiology of neoplasia
Neoplasia	47. Pathogenesis of neoplasia
Genetic diseases	48. Genetic diseases
Perinatal pathology	49. Cystic fibrosis
Perinatal pathology	50. Tumors of infancy and childhood
Injury by therapeutic drugs and toxins	51. Injury by therapeutic drugs
Injury by therapeutic drugs and toxins	52. Tobacco and alcohol
Injury by therapeutic drugs and toxins	53. Ionizing radiation
Pathology of infectious diseases	54. How microorganisms cause the disease
Blood vessel pathology	55. Arteriosclerosis and atherosclerosis
Blood vessel pathology	56. Vasculitis
Blood vessel pathology	57. Tumors
Heart pathology	58. Ischemic heart disease
Heart pathology	59. Myocardial infarction
Heart pathology	60. Chronic ischemic heart disease
Heart pathology	61. Hypertensive heart disease
Heart pathology	62. Cor pulmonale
Heart pathology	63. Rheumatic valvular disease (acute, chronic)
Heart pathology	64. Valvular disease
Heart pathology	65. Myocarditis
Heart pathology	66. Cardiomyopathies
Heart pathology	67. Cardiac tumors
Heart pathology	68. Pericardial disease
Hematopathology	69. Leukemias
Hematopathology	70. Malignant lymphoma
Hematopathology	71. Non-Hodgkin lymphoma (NHL)
Hematopathology	72. Hodgkin lymphoma
Respiratory pathology	73. Congenital lung anomalies
Respiratory pathology	74. Pediatric diseases of lung
Respiratory pathology	75. Pneumonias
Respiratory pathology	76. Granulomatous diseases
Respiratory pathology	77. Pneumoconiosis
Respiratory pathology	78. Interstitial lung diseases
Respiratory pathology	79. Obstructive/restrictive lung diseases
Respiratory pathology	80. Disorders of pulmonary circulation
Respiratory pathology	81. Lung tumors
Respiratory pathology	82. Pleural pathology
Respiratory pathology	83. Mediastinum
Gastrointestinal tract pathology	84. Congenital anomalies

Gastrointestinal tract pathology	85. Diverticuli
Gastrointestinal tract pathology	86. Esophagitis
Gastrointestinal tract pathology	87. Herniae
Gastrointestinal tract pathology	88. Esophageal tumors
Gastrointestinal tract pathology	89. Gastritis
Gastrointestinal tract pathology	90. Peptic ulcer disease
Gastrointestinal tract pathology	91. Polyps
Gastrointestinal tract pathology	92. Gastric carcinoma
Gastrointestinal tract pathology	93. Other malignant tumors of stomach
Gastrointestinal tract pathology	94. Vascular disorders
Gastrointestinal tract pathology	95. Obstruction of small bowel
Gastrointestinal tract pathology	96. Malabsorption
Gastrointestinal tract pathology	97. Small bowel tumors
Gastrointestinal tract pathology	98. Pathology of appendix
Gastrointestinal tract pathology	99. Colitis/enterocolitis
Gastrointestinal tract pathology	100. Colorectal tumors
Gastrointestinal tract pathology	101. Anal pathology
Gastrointestinal tract pathology	102. Bowel obstruction
Gastrointestinal tract pathology	103. Bleeding in gastrointestinal tract
Gastrointestinal tract pathology	104. Pathology of peritoneum
Liver and billiary tract pathology	105. Hepatitis
Liver and billiary tract pathology	106. Viral hepatitis
Liver and billiary tract pathology	107. Alcoholic liver disease
Liver and billiary tract pathology	108. Genetic liver diseases
Liver and billiary tract pathology	109. Reye syndrom
Liver and billiary tract pathology	110. Cirrhosis
Liver and billiary tract pathology	111. Hepatic tumors
Liver and billiary tract pathology	112. Disease of bile ducts
Liver and billiary tract pathology	113. Gallbladder and extrahepatic bile duct diseases
Patholgy of pancreas	114. Congenital anomalies
Patholgy of pancreas	115. Acute and chronic pancreatitis
Patholgy of pancreas	116. Tumor-like changes
Patholgy of pancreas	117. Tumors of exocrine and endocrine pancreas
Kidney pathology	118. Congenital anomalies and genetic diseases
Kidney pathology	119. Glomerulonephritis (GN) and glomerular diseases
Kidney pathology	120. Nephrotic syndrom (NS) and proteinuria
Kidney pathology	121. Nephritic syndrom and hematuria
Kidney pathology	122. Tubulointerstitial diseases
Kidney and collecting system pathology	123. Infectious diseases of urinary tract and pyelonephritis
Kidney pathology	124. Diseases of kidney blood vessels
Kidney and collecting system pathology	125. Urinary outflow obstruction
Kidney pathology	126. Pathology of kidney transplant
Kidney pathology	127. Renal cell carcinoma
Kidney pathology	128. Nephroblastoma
Kidney and collecting system pathology	129. Tumors of the urinary tract
Sečne poti in moško spolovilo	130. Congenital anomalies and inflammation of

	urinary bladder
Urinary tract and male genital system	131. Tumors of urinary bladder
Urinary tract and male genital system	132. Pathology of prostate
Urinary tract and male genital system	133. Carcinoma of the prostate
Urinary tract and male genital system	134. Congenital anomalies of male genitalia
Urinary tract and male genital system	135. Inflammation of male genitalia
Urinary tract and male genital system	136. Penile tumors
Urinary tract and male genital system	137. Testicular tumors
Breast pathology	138. Common changes in the breast
Breast pathology	139. Breast carcinoma
Gynecological pathology	140. Congenital anomalies of female genital system
Gynecological pathology	141. Inflammatory condition of female genital tract
Gynecological pathology	142. Endometriosis and adenomyosis
Gynecological pathology	143. Cervical carcinoma
Gynecological pathology	144. Endometrial carcinoma
Gynecological pathology	145. Benign and malignant tumors of female genital tract
Gynecological pathology	146. Benign and malignant ovarian tumors
Gynecological pathology	147. Diseases of pregnancy
Thyroid pathology	148. Goitre
Thyroid pathology	149. Hyperthyroidism and hypothyroidism
Thyroid pathology	150. Thyroiditis
Thyroid pathology	151. Thyroid tumors
Dermatopathology	152. Pigmentation disorders
Dermatopathology	153. Melanocytic proliferations
Dermatopathology	154. Benign epithelial changes and tumors
Dermatopathology	155. Premalignant epithelial changes and malignant epithelial tumors
Dermatopathology	156. Tumor-like changes and tumors of dermis
Dermatopathology	157. Bullous disorders
Dermatopathology	158. Diseases of epidermal appendices
Dermatopathology	159. Infections and infestations
Head and neck pathology	160. Nasopharyngeal carcinoma
Head and neck pathology	161. Inflammation of hypopharix and larynx
Head and neck pathology	162. Benign laryngeal lesions
Head and neck pathology	163. Squamous cell carcinoma of hypopharix and larynx
Oral pathology	164. Leukoplakia and erithroplakia in oral cavity
Oral pathology	165. Squamous cell carcinoma of oral cavity
Oral pathology	166. Oral inflammatory lesions
Oral pathology	167. Sialadenitis
Oral pathology	168. Salivary gland tumors

9. Other information

*Pravilnik o preverjanju in ocenjevanju znanja in veščin za enovita magistrska študijska programa Medicina in Dentalna medicina