Course Title	**Pathology I**				
Course Code	**MED-304**				
Course Type	Required				
Level	Undergraduate				
Year / Semester	Year 3 / Semester 5 (Fall)				
Teacher's Name	**Course Lead:** Prof Dimitrios Kanakis **Contributor:** Dr. Danijela Antunovič				
ECTS	6	Lectures / week	4	Laboratories / week	1
Course Purpose and Objectives	The main objectives of the course are: • To explain the processes of acute and chronic inflammation as well as the reparative and regenerative processes of tissue. • To understand the various types of tumours and their classification, as well as the different forms of cellular adaptation • To describe and analyse in depth the main cardiovascular disorders. • To examine in detail the principal disorders of the respiratory system. • To cope comprehensively with the major disorders of the gastrointestinal tract, as well as with those related to liver, gallbladder and biliary tract and exocrine pancreas				
Learning Outcomes	The following list provides the learning objectives that will be covered in the lectures, and tutorials of each week: **Week 1** ***Lobs covered during lectures:*** 1. Describe the stepwise processes and list the cardinal signs of acute inflammation. 2. Describe the vascular and cellular processes in acute inflammation. 3. List the chemical mediators in acute inflammation and describe their function. 4. Define and describe the types of acute inflammation. 5. Describe chronic non-specific and granulomatous inflammation. 6. Describe and contrast the different types of wound healing. 7. Describe the process of tissue repair and list the factors impeding healing.				

8. Define neoplasia and neoplasm.
9. Describe the differences between benign and malignant tumours.
10. Describe benign and malignant neoplasms of different tissues.
11. Define Tumour Grade and Tumour Stage.
12. Describe TNM and other Staging Systems.
13. Describe and define the different types of cellular adaptation (atrophy, hypertrophy, hyperplasia and metaplasia).
14. Describe the differences between dysplasia and carcinoma *in situ* (CIS) and between the latter and invasive carcinoma.

Lobs covered during practical:

15. Observe and describe acute inflammation (appendix vermiformis).
16. Observe and describe granulomatous inflammation (miliary tuberculosis of the lung).
17. Observe and describe foreign body granuloma.
18. Observe and describe scar in human skin.

Week 2

Lobs covered during lectures:

19. Describe the most usual congenital heart disorders.
20. Describe the most common valvular heart diseases.
21. Define and describe the different forms of congestive heart failure.
22. Describe infective endocarditis.
23. Describe heart neoplasms.
24. Describe dysrhythmias.

Lobs covered during practical:

25. Observe and describe vascular changes in pulmonary hypertension.
26. Observe and describe pulmonary oedema.

Week 3

Lobs covered during lectures:

27. Describe dyslipidaemias.
28. Define and describe ischaemic heart disease.
29. Define and describe the different forms of angina pectoris.
30. Describe acute myocardial infarction.
31. Describe the different forms of cardiomyopathy.
32. Explain myocarditis.

33. Define and describe the inflammatory and non-inflammatory diseases of the pericardium.

Lobs covered during practical:

34. Observe and describe acute myocardial infarct.
35. Observe and describe old myocardial infarct.
36. Observe and describe myocarditis.

Week 4

Lobs covered during lectures:

37. Describe the different types of arteriosclerosis.
38. Outline thrombosis.
39. Discuss the different types of aneurysms.
40. Describe the various vasculitides.
41. Describe diseases of veins and lymphatics.
42. Define hypertension and describe its pathophysiology.
43. Discuss the types of hypertension.

Lobs covered during practical:

44. Observe and describe atherosclerosis.
45. Observe and explain organized venous thrombosis.
46. Observe and describe dissecting aneurysm.
47. Observe and describe temporal arteritis.

Week 5

Lobs covered during lectures:

48. Describe the infectious, immunologic and inflammatory disorders of the upper airways.
49. Describe the traumatic and mechanical disorders of the upper airways.
50. Describe the benign and malignant tumours of the upper respiratory tract.
51. Explain congenital structural disorders of lungs and diaphragm.
52. Describe pulmonary embolism and infarct.
53. Describe pulmonary hypertension.
54. List the causes of pulmonary oedema.

Lobs covered during practical:

55. Observe and describe tonsillitis.
56. Observe and describe diphtheria of trachea.

57. Observe and describe mixed tumour of parotid gland.
58. Observe and describe haemorrhagic infarct of lung.
59. Observe and describe pulmonary embolism (caused by fat droplets).

Week 6

Lobs covered during lectures:

60. Describe bronchial asthma.
61. Define and describe chronic bronchitis.
62. Describe the various types of emphysema.
63. Describe bronchiectasis.
64. List the causes of restrictive pulmonary disease.
65. Describe neonatal and adult respiratory distress syndrome.
66. Describe the various pneumoconioses.
67. List and describe the various restrictive lung diseases of unknown aetiology (Sarcoidosis, UIP, NIP, DIP).
68. Describe eosinophilic granuloma.
69. Define hypersensitivity pneumonitis and describe the following conditions: "Farmer's lung", "Silo filler's disease" and Byssinosis.
70. Describe the different forms of pneumonia.
71. Define lung abscess and describe this condition.
72. Describe tuberculosis.
73. List the various fungi and fungi-like bacteria that cause pulmonary infections.

Lobs covered during practical:

74. Observe and describe chronic pulmonary emphysema.
75. Observe and describe anthracosis of lung.
76. Observe and describe sarcoidosis.
77. Observe and describe lobar pneumonia.
78. Observe and describe chronic pneumonia.
79. Observe and describe bronchopneumonia.

Week 7

Lobs covered during lectures:

80. Describe benign and malignant tumours of lung.
81. Describe disorders of pleura, mediastinum, and chest wall.
82. Explain traumatic and mechanical disorders of lower airways and pleura.

83. List and describe the benign and malignant tumours of mediastinum and pleura.

Lobs covered during practical:

84. Observe and describe adenocarcinoma of lung.
85. Observe and describe epidermoid carcinoma of lung.
86. Observe and describe alveolar cell carcinoma of lung.
87. Observe and describe oat cell carcinoma of lung.

Formative Midterm Exam

Week 8

Lobs covered during lectures:

88. Describe the congenital, inflammatory disorders of mouth and jaw.
89. Describe the tumours and tumour-like conditions of mouth and jaw.
90. Explain the inflammatory disorders of salivary glands.
91. Describe the tumours and tumour-like conditions of salivary glands.
92. Describe the congenital and acquired disorders of oesophagus.
93. Describe the inflammatory and related disorders of oesophagus.
94. Describe GORD and Barrett oesophagus.
95. Outline the malignant neoplasms of oesophagus.

Week 9

Lobs covered during lectures:

96. Describe the congenital and acquired (inflammatory and non-inflammatory) disorders of stomach.
97. Describe the benign and malignant tumours of stomach.
98. Describe the congenital and acquired disorders of small intestine.
99. Describe the common vascular disorders of bowel.
100. Define malabsorption and explain its pathogenesis.
101. Describe the different malabsorption syndromes.

Lobs covered during practical:

102. Observe and describe carcinoma of oesophagus.
103. Observe and describe chronic peptic ulcer.
104. Observe and describe carcinoma of stomach.

Week 10

Lobs covered during lectures:

105. Describe Irritable Bowel Syndrome (IBS).
106. List the differences between Crohn's disease and ulcerative colitis.
107. Describe the benign and malignant tumours of small intestine.
108. Explain the congenital and acquired disorders of colon.
109. Describe the inflammatory disorders of colon.
110. Describe the neoplastic and non-neoplastic polyps of colon and the various multiple polyposis syndromes.
111. Describe the malignant tumours of colon and rectum.

Lobs covered during practical:

112. Observe and describe acute appendicitis.
113. Observe and describe ulcerative colitis of rectum.
114. Observe and describe villous adenoma of colon.
115. Observe and describe adenocarcinoma of colon.

Week 11

Lobs covered during lectures:

116. Describe the congenital and acquired (inflammatory and non-inflammatory) disorders of liver.
117. Describe the various types of cirrhosis.
118. Describe the metabolic diseases of liver.
119. Discuss the circulatory and vascular disorders of liver.
120. Describe the benign and malignant conditions of liver.

Lobs covered during practical:

121. Observe and describe liver cirrhosis.
122. Observe and describe liver with hepatitis.
123. Observe and describe haemosiderosis of liver.
124. Observe and describe cyanotic atrophy of liver (nutmeg liver).
125. Observe and describe primary carcinoma of liver.

Week 12

Lobs covered during lectures:

126. Describe the inflammatory and non-inflammatory diseases of the gallbladder and biliary tract.
127. Describe the benign and malignant tumours of the gallbladder and biliary tract.

	128. Discuss the congenital, inflammatory and non-inflammatory disorders of exocrine pancreas. 129. Describe pancreatic cancer. ***Lobs covered during practical:*** 130. Observe and describe inflammation of gallbladder. 131. Observe and describe malignant tumour of gallbladder.		
Prerequisites	None	Required	None.
Course Content	• **Biology of Tissue Response to Disease:** Acute inflammatory responses. • **Biology of Tissue Response to Disease:** Chronic inflammatory responses. • **Biology of Tissue Response to Disease:** Reparative processes. • **Principles of Tumours**. • **Cardiovascular System:** Congenital disorders [including diseases in adults], valvular heart disease, heart failure, infective endocarditis, heart neoplasms. • **Cardiovascular System:** Ischaemic heart disease, diseases of the myocardium and pericardium. • **Cardiovascular System:** Dyslipidaemias, disorders of great vessels, peripheral arterial vascular disease, diseases of veins and lymphatics, vasculitides and hypertension. • **Respiratory System:** Infectious, immunologic and inflammatory disorders of upper airways, traumatic and mechanical disorders of upper airways, benign and malignant tumours of upper respiratory tract, congenital disorders, metabolic, regulatory and structural disorders. • **Respiratory System:** Chronic obstructive and restrictive pulmonary diseases and pulmonary vascular disease. • **Respiratory System:** Infectious, inflammatory and immunologic disorders of lower airways, disorders of pleura, mediastinum, and chest wall, traumatic and mechanical disorders of lower airways and pleura, benign and malignant tumours of lower airways and pleura. • **Gastrointestinal Tract:** Diseases of mouth/jaw and salivary glands. • **Gastrointestinal Tract**: Diseases of oesophagus and stomach. • **Gastrointestinal Tract:** Diseases of small and large intestine. • **Liver, Gallbladder, Exocrine Pancreas**: Diseases of liver, gallbladder and biliary tract, as well as exocrine pancreas**.**		
Teaching Methodology	The course is delivered by lectures, tutorials and laboratory practicals.		

Bibliography

Required Textbooks/Reading:

Authors	Title	Edition	Publisher	Year	ISBN
Vinay Kumar, Abul K. Abbas, Jon C. Aster, Andrea T. Deyrup	Robbins Basic Pathology	11th Edition	Elsevier	2022	9780323790185

Recommended Textbooks/Reading:

Authors	Title	Edition	Publisher	Year	ISBN
Vilnay Kumar, Abul K. Abbas, Jon C. Aster	Robbins & Cotran Pathologic Basis of Disease	10th Edition	Elsevier	2020	9780323531139
Anthony W. Alfrey	Rapid Review Pathology	6th Edition	Elsevier	2023	9780323870573
David S. Strayer, Jeffrey E. Saffitz, Emanuel Rubin	Rubin's Pathology: Mechanisms of Human Disease	8th Edition	Wolters Kluwer	2020	9781975141028
Mary Elizabeth Peyton Gupta	BRS Pathology (Board Review Series)	6th Edition	Wolters Kluwer	2020	9781975136628
Kaplan	Preclinical Pathology Review 2023		Kaplan	2023	Only available in Kindle
Hussain A. Sattar	Fundamentals of Pathology: Medical Course and Step 1 Review	2022 Edition	Pathoma	2022	9780983224624
Edward C. Klatt, Vinay Kumar	Robbins and Cotran Review of Pathology	5th Edition	Elsevier	2021	9780323640220

Assessment	Formative Midterm Exam and Summative Final Exam. The Summative Final Exam will contribute towards 100% of the course grade. Assessment is by Single Best Answer MCQs (SBAs) and there may also be some Short Answer Questions (SAQs).					
Language	English					