FUND OF ASSESSMENT TOOLS

for the Course "Topographic anatomy and Operative surgery"

Level of Higher Education:

Specialist Degree Program

Field of Study (Program Code):
560001 – General Medicine (Kyrgyz Republic) (for international students)

Qualification: Medical Doctor (MD)

2026

The Fund of Assessment Tools is intended for monitoring the knowledge of students in the field of study (specialty) "General Medicine" for international students in the discipline (practice) *"Topographic Anatomy and Operative surgery»* (2nd year).

The Fund of Assessment Tools was reviewed and approved at the meeting of the Department of

Anatomy, Histology and Physiology

Protocol No. __1___ dated "__26__" __August__ 2026

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1. LIST OF COMPETENCIES WITH INDICATION OF THE STAGES OF THEIR FORMATION IN THE PROCESS OF MASTERING THE DISCIPLINE

Competencies being formed	Planned learning outcomes for the discipline characterizing the stages of competency formation	Types of assessment tools / section code in this document
PC-6: Capable of conducting the assessment and certification of temporary disability, participating in medical and social evaluations, and officially pronouncing biological death.	**PC-6.1 Know:** - Guidelines and regulations for assessing and certifying temporary disability, participating in medical and social evaluations, and pronouncing biological death. - Primary methods for evaluating temporary disability in patients with various medical conditions. - Principles of expert assessment for temporary disability in terminal conditions and prior to biological death.	**Block A, D** – tasks of reproductive level - test; -essay; - clinical cases.
	PC-6.2 Be able to: - Analyze and process medical documentation related to temporary disability assessment, medical and social evaluations, and the pronouncement of biological death. - Conduct an expert assessment of temporary disability in patients with various medical conditions. - Differentiate between states of temporary disability and terminal	**Block B, D –** tasks of reconstructive level - clinical cases; - control work.

Competencies being formed	Planned learning outcomes for the discipline characterizing the stages of competency formation	Types of assessment tools / section code in this document
	conditions, up to the point of pronouncing biological death.	
	Professional competences: - Methods for the expert assessment of temporary disability in patients with various medical conditions. - Practical skills in conducting temporary disability evaluations, including the protocols leading up to the pronouncement of biological death.	**Block C, D** – practice-oriented and/or research level tasks

2. COURSE ASSESSMENT AND GRADING MATRIX

" Topographic Anatomy and Operative surgery "

Year/ Semester: 2/ 3
Credits (ZE): 2
Final Assessment: Pass / Fail

Module / Section according to the WPD	Assessment Type	Assessment Method	Min. Passing Score	Max. Passing score	Schedule (Week)
Module 1					
"Topographic Anatomy and Operative surgery. Topographic Anatomy and Operative surgery of the upper and lower limbs"	Continuous Assessment	Oral questioning, lectures note, practical assignment.	3	5	7
	Midterm Assessment	**MCQ**	17	30	
Module 2					
"Topographic Anatomy and Operative surgery of the head and neck"	Continuous Assessment	Oral questioning, lectures note, practical assignment.	3	5	16
	Midterm Assessment	**MCQ**	17	30	
Total for the semester			40	70	
Final Assessment (Pass/Fail)			20	30	
Semester-long course grade			60	100	

2. COURSE ASSESSMENT AND GRADING MATRIX

" Topographic Anatomy and Operative surgery "

Year/ Semester: 2/ 4
Credits (ZE): 3
Final Assessment: Exam

Module / Section according to the WPD	Assessment Type	Assessment Method	Min. Passing Score	Max. Passing score	Schedule (Week)
Module 3					
"Topographic Anatomy and Operative surgery of the thorax"	Continuous Assessment	Oral questioning, lectures note, practical assignment.	3	5	24
	Midterm Assessment	**MCQ**	10	18	
Module 4					
Раздел 4. «Топографическая анатомия и оперативная хирургия области живота»	Continuous Assessment	Oral questioning, lectures note, practical assignment.	3	5	29
	Midterm Assessment	**MCQ**	10	18	
Module 5					
Раздел 5. «Топографическая анатомия и оперативная хирургия поясничной области, забрюшинного пространства и позвоночника, малого таза и промежности»	Continuous Assessment	Oral questioning, lectures note, practical assignment.	3	5	35
	Midterm Assessment	**MCQ**	11	19	
Total for the semester			40	70	
Final Assessment (Pass/Fail)			20	30	
Semester-long course grade			60	100	

3. STANDARDIZED ASSESSMENT TASKS AND MATERIALS FOR EVALUATING PLANNED COURSE LEARNING OUTCOMES (ASSESSMENT TOOLS)

Block A

A.1. Module: Surgical Instruments, Sutures, Knots, Topographic Anatomy, and Operative Surgery of the Limbs

1.1 A 35-year-old patient develops acute compartment syndrome of the forearm following a crush injury. A volar fasciotomy is planned to relieve the pressure. To adequately decompress both the superficial and deep flexor compartments of the forearm, which specific anatomical structure must be surgically incised?

Options:
A) Superficial fascia of the forearm
B) Deep fascia of the forearm
C) Flexor retinaculum
D) Interosseous membrane
E) Palmar aponeurosis

1.2 A patient sustains a fracture of the middle third of the humerus. On examination, he is unable to extend his wrist or fingers. Which nerve is most likely injured?

Options:
A) Median nerve
B) Ulnar nerve
C) Radial nerve
D) Axillary nerve
E) Musculocutaneous nerve

1.3 A nurse needs to draw blood from a patient's arm. Which superficial vein in the anterior elbow (cubital fossa) is most commonly and safely used for this procedure?

Options:
A) Cephalic vein
B) Basilic vein
C) Median cubital vein
D) Brachial vein
E) Axillary vein

1.4 A patient sustains a direct blow to the lateral aspect of the proximal lower leg (neck of the fibula). They subsequently develop an inability to dorsiflex the foot ("foot drop") and numbness over the dorsum of the foot. Which nerve is most likely injured?

Options:

A) Tibial nerve
B) Common fibular nerve
C) Sural nerve
D) Saphenous nerve
E) Deep fibular nerve only

1.5 In an emergency situation where, intravenous access cannot be obtained percutaneously, a surgeon decides to perform a venous cutdown on the lower limb. Where is the great saphenous vein most reliably and consistently found for this procedure?

Options:
A) Posterior to the lateral malleolus
B) Anterior to the medial malleolus
C) In the center of the popliteal fossa
D) Lateral to the Achilles tendon
E) Deep to the inguinal ligament

Module 2: Topographic Anatomy and Operative Surgery of the head and neck

2.1 A 45-year-old patient undergoes a superficial parotidectomy for a benign tumor. On the first postoperative day, the patient is unable to close their right eye tightly and the corner of their mouth droops when they attempt to smile. Which nerve was most likely injured during the dissection?

Options:
A) Trigeminal nerve (CN V), mandibular division
B) Facial nerve (CN VII)
C) Glossopharyngeal nerve (CN IX)
D) Vagus nerve (CN X)
E) Great auricular nerve

2.2 During a total thyroidectomy, the surgeon must carefully ligate the inferior thyroid artery. Which nerve is at the highest risk of iatrogenic injury at this specific location, and what would be the clinical consequence of its unilateral damage?

Options:
A) External branch of the superior laryngeal nerve; loss of high-pitched voice
B) Recurrent laryngeal nerve; hoarseness and a breathy voice
C) Vagus nerve; loss of gag reflex
D) Hypoglossal nerve; deviation of the tongue to the injured side
E) Phrenic nerve; elevated hemidiaphragm

2.3 A medical student is learning to palpate the carotid pulse. In which anatomical triangle and at what specific landmark is this pulse most reliably and safely felt?

Options:
A) Posterior triangle, midway along the posterior border of the sternocleidomastoid muscle
B) Carotid triangle, anterior to the sternocleidomastoid muscle at the level of the superior border of the thyroid cartilage
C) Submental triangle, just inferior to the chin
D) Muscular triangle, lateral to the trachea at the level of the cricoid cartilage
E) Supraclavicular triangle, just above the clavicle

2.4 A 30-year-old male presents with a high fever, dysphagia, and a firm, "woody" bilateral swelling of the submandibular region following an infected lower left second molar. His tongue is elevated and protruded, and he has mild inspiratory stridor. This condition (Ludwig's angina) primarily involves infection of which specific combination of fascial spaces?

Options:
A) Retropharyngeal space and "danger space"
B) Parotid space and masticator space
C) Bilateral submandibular, sublingual, and submental spaces
D) Prevertebral space and carotid sheath
E) Superficial and deep temporal spaces

2.5 A 22-year-old male sustains a blunt force trauma to the side of his head, specifically over the pterion. He initially feels fine but deteriorates two hours later, developing a severe headache, vomiting, and a blown (dilated) pupil on the ipsilateral side. A CT scan reveals a biconvex (lens-shaped) hyperdensity. Which vessel was torn, and through which foramen does it normally enter the cranial cavity?
Options:
A) Middle meningeal artery; foramen spinosum
B) Middle meningeal artery; foramen ovale
C) Anterior meningeal artery; foramen rotundum
D) Internal carotid artery; carotid canal
E) Bridging cerebral veins; no specific foramen

Module 3: Topographic Anatomy and Operative Surgery of the Thorax

3.1 A 25-year-old male is brought to the emergency department after a stab wound to the right chest. He is in severe respiratory distress, hypotensive, and has absent breath sounds on the right side with tracheal deviation to the left. A diagnosis of tension pneumothorax is made. According to classic foundational teaching, where is the most appropriate initial site for needle decompression?

Options:
A) 4th intercostal space at the mid-axillary line
B) 2nd intercostal space at the mid-clavicular line

C) 5th intercostal space at the anterior axillary line
D) 8th intercostal space at the mid-scapular line
E) Subxiphoid region

3.2 During a thoracic surgery rotation, a student is asked to identify the structures at the root (hilum) of the left lung. What is the typical anatomical arrangement of the main structures from anterior to posterior?

Options:
A) Main bronchus, pulmonary artery, superior pulmonary vein
B) Pulmonary artery, main bronchus, superior pulmonary vein
C) Superior pulmonary vein, pulmonary artery, main bronchus
D) Superior pulmonary vein, main bronchus, pulmonary artery
E) Pulmonary artery, superior pulmonary vein, main bronchus

3.3 A medical student is practicing cardiac auscultation. To best hear the sounds of the mitral valve, the stethoscope should be placed at which anatomical landmark?

Options:
A) 2nd intercostal space at the right sternal border
B) 2nd intercostal space at the left sternal border
C) 4th intercostal space at the left sternal border
D) 5th intercostal space at the left mid-clavicular line
E) Xiphoid process

3.4 During an esophagectomy for lower third esophageal cancer, the surgeon must carefully dissect the posterior mediastinum to avoid injuring a major lymphatic vessel. This vessel ascends on the right side of the vertebral column and typically crosses over to the left side before emptying into the left venous angle. At which vertebral level does this crossover most commonly occur?

Options:
A) T2
B) T4–T5
C) T8
D) T10
E) T12

3.5 A cardiac surgeon is performing a complex procedure involving the posterior wall of the left atrium and passes a finger through the oblique pericardial sinus. Which vital structure lies immediately posterior to this sinus, separated only by the fibrous pericardium, and is at high risk of iatrogenic injury (e.g., atrio-esophageal fistula) during extensive posterior left atrial dissection or ablation?

Options:
A) Descending (thoracic) aorta
B) Thoracic duct
C) Esophagus
D) Azygos vein
E) Left main bronchus

Module 4: Topographic Anatomy and Operative Surgery of the Abdomen

4.1 A 22-year-old male presents with right lower quadrant pain, nausea, and a low-grade fever. The surgeon plans an open appendectomy using a classic gridiron incision. Where is McBurney's point, the surface projection of the base of the appendix, located?

Options:
A) At the midpoint of a line drawn from the umbilicus to the right anterior superior iliac spine (ASIS)
B) At the junction of the lateral one-third and medial two-thirds of a line drawn from the right ASIS to the umbilicus
C) At the junction of the medial one-third and lateral two-thirds of a line drawn from the right ASIS to the umbilicus
D) Directly lateral to the umbilicus at the level of the iliac crest
E) Midway between the xiphoid process and the umbilicus

1.2 During a laparoscopic cholecystectomy, the surgeon must achieve the "critical view of safety" to prevent iatrogenic injury to the biliary tree. Which of the following structures forms the **medial** boundary of Calot's triangle (cystohepatic triangle)?

Options:
A) Cystic duct
B) Common bile duct
C) Common hepatic duct
D) Inferior surface of the liver
E) Cystic artery

1.3 A 60-year-old male is diagnosed with a direct inguinal hernia. This type of hernia protrudes through a specific area of weakness in the anterior abdominal wall known as Hesselbach's triangle. What forms the **lateral** boundary of this triangle?

Options:
A) Inguinal ligament (Poupart's ligament)
B) Lateral border of the rectus abdominis muscle
C) Inferior epigastric vessels
D) Conjoint tendon
E) Deep inguinal ring

1.4 During surgery for a bleeding duodenal ulcer, a surgeon inserts a finger into the epiploic foramen (of Winslow) and compresses the hepatoduodenal ligament anteriorly to control hemorrhage (the Pringle maneuver). Which major vascular structure forms the **posterior** boundary of this foramen and lies directly behind the surgeon's finger?

Options:
A) Abdominal aorta
B) Inferior vena cava (IVC)
C) Portal vein
D) Left renal vein
E) Superior mesenteric artery

1.5 A 35-year-old patient requires an emergency splenectomy following blunt abdominal trauma. While clamping and ligating the splenic vessels at the splenic hilum, the surgeon must be extremely careful to avoid iatrogenic injury to an adjacent retroperitoneal organ that frequently extends into the splenorenal (lienorenal) ligament. Which structure is this?

Options:
A) Left kidney
B) Tail of the pancreas
C) Left adrenal (suprarenal) gland
D) Descending colon
E) Left ureter

A.2. Questions for Midterm Assessment
Module 1: " Topographic Anatomy and Operative Surgery. Topographic Anatomy and Operative Surgery of the Limbs"

1. What is the term for the excision of the peripheral (distal) part of an organ?
2. What is the term for the complete removal of an organ?
3. What is the term for the cutting of tissue?
4. What is the term for the removal of a part of an organ?
5. What is the term for puncturing or piercing a surface?
6. What is the term for the surgical fixation of an organ to another structure?
7. What is the term for stitching an organ or tissue?
8. What is the term for the incision of an organ's wall?
9. What is the term for a surgical connection between two organs or vessels?
10. What is the term for the insertion of an artificial organ or tissue?
11. Identify the instruments used for manipulation
12. Identify the cutting and dissecting instruments
13. Identify the grasping or holding instruments
14. Identify the viewing instruments
15. Which instrument is used for holding surgical needles?

16. What is a bowel clamp used for?
17. What is diathermy used for?
18. What is a speculum used for?
19. Which instrument is used for exploring a fistula tract?
20. Which instrument improves the view of the surgical field?
21. Which instrument is used to retract or open up tissue?
22. Which instrument has a reusable handle with replaceable blades?
23. Which instrument is used to cut tissue and provide coagulation?
24. Which instrument is necessary for placing sutures in tissue?
25. Which instrument is used to clear the surgical field by removing fluids?
26. What principles must be followed when making a surgical incision?
27. Which part of the needle is grasped by the needle holder?
28. Which part of the needle pierces the tissue?
29. Which type of needle is used for friable tissue?
30. Which type of needle is used for skin?
31. Which type of needle is used for tendon repair?
32. Which type of needle reduces the risk of bloodborne virus transmission?
33. Which type of needle is used in areas where fluid leakage must be prevented?
34. Which sutures do not require removal by a doctor?
35. Where is the cutting edge located on a reverse-cutting needle?
36. Which sutures must be removed by a doctor?
37. Describe the characteristics of monofilament suture material.
38. Describe the characteristics of braided (multifilament) suture material.
39. When should sutures be removed from the scalp?
40. When should sutures be removed from the face?
41. When should sutures be removed from the soles of the feet?
42. From which parts of the body are sutures typically removed after 10–14 days?
43. Which suture technique consists of a single strand of suture material placed individually?
44. In which suture technique is the knot buried inside the tissue?
45. In which suture technique are stitches placed in a line parallel to the wound edge?
46. Which suture is placed around an area and tightened like a drawstring on a bag?
47. Which knot involves wrapping the suture twice on the first throw?
48. Which knot is made up of two single throws in the same direction?
49. Which knot is made up of two single throws in opposite directions?
50. List the arteries that form the scapular anastomosis.
51. At which level is the brachial artery ligated?
52. With which artery does the interosseous recurrent artery anastomose?
53. Against which structure is the first part of the axillary artery compressed?
54. From which artery does the dorsal scapular artery arise?
55. Against which structure is the radial artery compressed?
56. Against which structure is the ulnar artery compressed?
57. Describe the surface projection line of the axillary artery.
58. Describe the surface projection line of the brachial artery.

59. Describe the surface projection line of the ulnar artery.
60. Describe the surgical approach to the radial artery in the upper third of the forearm.
61. Describe the surgical approach to the ulnar artery in the lower third of the forearm.
62. At what distance from the vessel edge are vascular sutures placed?
63. Which vessels are compressed during the Allen test?
64. What is the purpose of the Allen test?
65. Which structure separates the median cubital vein from the brachial artery?
66. Which vein provides collateral communication for the cephalic vein in the deltopectoral groove in case of axillary vein obstruction?
67. Which veins are commonly chosen for central venous catheterization in the upper limb/shoulder region?
68. Describe the surgical approach to the brachial plexus.
69. Describe the surgical approach to the radial nerve in the upper third of the arm.
70. Describe the surgical approach to the axillary nerve.
71. Describe the surgical approach to the radial nerve in the lower third of the arm.
72. Describe the surgical approach to the median nerve in the lower third of the forearm.
73. Describe the surgical approach to the ulnar nerve in the lower third of the arm.
74. Along which anatomical structure is a brachial plexus nerve block performed?
75. Through which structure is a nerve suture (neurorrhaphy) applied?
76. For how many days must the limb be immobilized after nerve suturing?
77. When is a delayed primary nerve suture performed?
78. When is a secondary nerve suture performed?
79. What is the operation called when a nerve is freed from scar tissue?
80. From which finger does infection typically spread to Parona's space?
81. Where does swelling typically appear in the hand due to deep space infection?
82. What complication results from compression of the finger pulp space?
83. Describe the incision for phlegmon of the anterior compartment of the arm.
84. Describe the incision for phlegmon of the axilla.
85. Describe the incision for phlegmon of the deltoid region.
86. What is the risk/complication of making an incision along the posterior border of the deltoid muscle?
87. Identify the boundaries and danger zones of the thenar space.
88. After how many hours does compartment syndrome of the forearm lead to irreversible muscle damage?
89. Which structure must be incised in forearm compartment syndrome?
90. Which suture material is used for tendon repair?
91. What is the operation called when a tendon is sutured?
92. At which anatomical landmark is the anterior approach for shoulder joint puncture performed?
93. At which anatomical landmark is the lateral approach for shoulder joint puncture performed?

94. Through which muscles is an anterior arthrotomy of the shoulder joint performed?
95. Through which muscles is a posterior arthrotomy of the shoulder joint performed?
96. At which landmark is the posterior approach for elbow joint puncture performed?
97. At which landmark is the posterolateral approach for elbow joint puncture performed?
98. Describe the anterior approach for drainage of a purulent elbow joint.
99. Describe the posterolateral approach for drainage of a purulent elbow joint.
100. Describe the approach for wrist joint puncture.
101. Which nerve must be preserved during amputation of the arm in the upper third?
102. The tendon of which muscle is preserved for myodesis in upper-third arm amputation?
103. At which joint is disarticulation of the thumb performed?
104. Ligation of the axillary artery proximal to which branch will compromise blood supply to the arm?
105. Which structures pierce the clavipectoral fascia?
106. List the branches of the first part of the axillary artery.
107. List the branches of the third part of axillary artery.
108. List the structures located in the subcutaneous tissue of the anterior forearm.
a. At which anatomical landmark is the femoral artery palpated?
109. Obstruction of which artery results in the loss of the popliteal artery pulse?
110. Against which bone is the femoral artery compressed to achieve temporary hemostasis?
111. At which anatomical landmark is the dorsalis pedis artery palpated?
112. At which anatomical landmark is the posterior tibial artery palpated?
113. At which anatomical level is the femoral artery ligated?
114. Describe the surface projection line of the femoral artery.
115. Describe the surface projection line of the posterior tibial artery.
116. Describe the surface projection line of the anterior tibial artery.
117. Describe the surgical approach to the popliteal artery.
118. Which vessels are at risk of injury during the surgical approach to the popliteal artery?
119. At which anatomical landmark is the great saphenous vein incised at the ankle (for cutdown)?
120. Which nerves must be blocked during a groin venous cutdown?
121. Describe the skin incision for a groin venous cutdown.
122. What complication is associated with venous congestion in the superficial veins?
123. At which anatomical landmark is a femoral nerve block performed?
124. At which anatomical landmark is a sciatic nerve block performed?
125. In which part of the lower limb is paresthesia observed after a femoral nerve block?
126. In which part of the lower limb is paresthesia observed after a sciatic nerve block?

127. In which part of the lower limb is anesthesia observed after a superficial fibular (peroneal) nerve block?
128. Through which anatomical pathways can an infection spread from the pelvic cavity to the medial aspect of the thigh?
129. Through which anatomical pathways can an infection spread from the popliteal fossa to the upper thigh?
130. The pulse of which artery is lost in anterior compartment syndrome of the leg?
131. Which nerve is compromised (or paralyzed) in anterior compartment syndrome of the leg?
132. Which structure must be incised in anterior compartment syndrome of the leg (fasciotomy)?
133. Describe the incision for posterior compartment syndrome of the leg.
134. Describe the incision for anterior compartment syndrome of the leg.
135. Describe the lateral approach for hip joint puncture.
136. Describe the anterior approach for hip joint puncture.
137. At which anatomical landmark is the knee joint punctured?
138. Describe the anterior approach for knee joint arthrotomy.
139. Describe the posterior approach for knee joint arthrotomy.
140. Which nerve is at risk of injury during a posterior approach to knee joint arthrotomy?
141. At which anatomical landmark is the ankle joint punctured?
142. Describe the anteromedial approach for ankle joint arthrotomy.
143. Describe the anterolateral approach for ankle joint arthrotomy.
144. Describe the posteromedial approach for ankle joint arthrotomy.
145. At which anatomical level is a below-knee (transtibial) amputation performed?
146. How is the fibula transected in a below-knee amputation?
147. Which neurovascular bundles are ligated in a below-knee amputation?
148. What type of skin incision is made in an above-knee (transfemoral) amputation?
149. Which neurovascular bundle is ligated by dividing the medial aspect of the sartorius muscle in an above-knee amputation?
150. Through which bones is Sharp's amputation of the foot performed?
151. Identify the "key" ligament in Chopart's disarticulation.
152. Identify the "key" ligament in Lisfranc's disarticulation.
153. Which suture material is used for fascial closure?
154. Which nerve supplies the upper lateral quadrant of the gluteal region (safe injection zone)?
155. Which nerve supplies the lower medial quadrant of the gluteal region?
156. Which structures pass through the saphenous opening (fossa ovalis)?
157. Which cutaneous nerves supply the medial aspect of the thigh?
158. Which nerves form the patellar plexus?
159. Identify the superficial (inferior) opening of the femoral canal.
160. Which ligaments are sutured during the repair of a femoral hernia?
161. List the main structures contained in the posterior compartment of the thigh.
162. Describe the boundaries (openings) and contents of the adductor (Hunter's / cruropopliteal) canal.

163. Describe the formation of the sural nerve.
164. List the structures located in the anterior aspect of the ankle.
165. List the structures located in the medial aspect of the ankle.
166. List the structures located in the lateral aspect of the ankle.
167. Where are the superficial inguinal lymph nodes located?
168. Where are the deep inguinal lymph nodes located?
169. To which structures is the plantar aponeurosis attached?
170. What structures form the boundaries of the medial, intermediate, and lateral plantar fascial spaces?
171. From which regions do the superficial inguinal lymph nodes receive lymphatic drainage?
172. Which arteries form the cruciate anastomosis?
173. Which arteries form the trochanteric anastomosis?
174. List the ligaments of the hip joint.
175. List the ligaments of the ankle joint.
176. What surgical incision is used for hip joint resection?
177. Between which muscles is the joint capsule penetrated during hip joint resection?
178. At which anatomical level is a Garengeot disarticulation of the foot performed?
179. At which level are the digital arteries ligated during a Garengeot disarticulation of the foot?
180. Which nerve must be identified and preserved during a great saphenous vein cutdown at the ankle?
181. Which nerve is closely associated with the small saphenous vein?
182. Along which anatomical structure is the incision made for plantar fasciotomy?
183. Between which bones is the bifurcate ligament located?
184. Between which bones is the medial cuneometatarsal ligament located?
185. Identify the muscles of the second layer of the gluteal region.
186. What structures form the boundaries of the greater sciatic foramen?
187. List the structures that exit the greater sciatic foramen below the piriformis muscle.
188. List the structures that pass through the lesser sciatic foramen.
189. Which muscle does the iliotibial tract sheath, and into which structure does it insert?
190. What structures are contained within the muscular lacuna of the retro-inguinal space?
191. What structures are contained within the vascular lacuna of the retro-inguinal space?
192. Identify the deep (superior) opening of the femoral canal (femoral ring).
193. Identify the lateral border of the femoral canal.
194. Identify the anterior border of the femoral canal.
195. Identify the muscles of the anterior compartment of the thigh.
196. Identify the muscles of the medial compartment of the thigh.
197. Identify the muscles of the posterior compartment of the thigh.
198. Describe the boundaries of the femoral triangle.

199. Describe the boundaries of the adductor (Hunter's) canal.
200. Describe the boundaries of the popliteal fossa.
201. List the muscles of the anterior compartment of the leg.
202. List the muscles of the posterior compartment of the leg.
203. Between which muscles does the anterior tibial artery pass?
204. Which nerve accompanies the anterior tibial artery?
205. Which vein accompanies the sural nerve?
206. Which vein accompanies the saphenous nerve?
207. Between which muscles does the superficial fibular (peroneal) nerve pass?
208. Describe the attachments (origin and insertion) of the superior and inferior extensor retinacula.
209. Describe the attachments of the flexor retinaculum.
210. Identify the muscles within the medial plantar fascial space.
211. Identify the muscles within the intermediate plantar fascial space.
212. List the main structures contained in the sole of the foot.
213. List the main structures contained on the dorsum of the foot.
214. List the muscles located on the dorsum of the foot.
215. Identify the ligaments of the knee joint.
216. Identify the ligaments of the talocalcaneonavicular joint.
217. Identify the ligaments of the calcaneocuboid joint.
218. Which ligaments constitute the bifurcate ligament?
219. Identify the ligaments of the tarsometatarsal joints.

Module 2: "Topographic Anatomy and Operative Surgery of the Head and Neck"

1. List the branches of the maxillary nerve.
2. Which nerves form the ansa cervicalis?
3. The posterior auricular artery is a branch of which artery?
4. The internal thoracic artery is a branch of which artery?
5. The deep cervical artery is a branch of which artery?
6. Which vein originates from the pterygoid venous plexus?
7. From which fascial layer is the sheath of the brachial plexus derived?
8. Which structures are enclosed within the carotid sheath?
9. What structures bound the submental triangle bilaterally?
10. Which structures lie superficial to the hyoglossus muscle in the submandibular triangle?
11. List the contents of the suboccipital region.
12. From which fascial layer is the sheath of the subclavian vessels derived?
13. A cephalohematoma results from bleeding from which vessels?
14. Identify the layers of the temporal region.
15. What structures are enclosed by the deep fascia of the face?
16. The infraorbital artery is a branch of which artery?
17. Why does bleeding from the superficial vessels of the scalp tend to be profuse?
18. Bleeding in which layer of the scalp leads to widespread swelling?
19. List the contents of the infratemporal space.

20. List the contents of the interpterygoid space.
21. List the contents of the pterygopalatine fossa.
22. Which layer of the cervical fascia forms the sheath for the submandibular gland?
23. Which layer of the cervical fascia encloses the platysma muscle?
24. The thyroid ima artery typically arises from which vessel?
25. In which cervical triangle is the ansa cervicalis located?
26. Which layer of the scalp is considered the "danger area" for infection spread?
27. Through which foramina can infection spread via emissary veins to the cranial cavity?
28. Which pharmacological agents or methods are typically used to achieve hemostasis in scalp lacerations?
29. List the methods used for the closure of scalp lacerations.
30. Which method of scalp laceration closure is generally preferred?
31. Which closure method is preferred for a scalp wound under 10 cm?
32. Which closure method is preferred for a profusely bleeding scalp wound?
33. What is the term for the surgical removal of a part of the skull with the intention of replacing it?
34. What is the term for the surgical removal of a skull bone flap without replacement?
35. What is the procedure called when the bone flap is replaced during skull surgery?
36. What instrument is used to create burr holes in the skull during a craniotomy?
37. Which instruments or devices are used to fixate a bone flap?
38. Describe the surgical incision for a purulent process in the infratemporal fossa.
39. Describe the surgical incision for a purulent process in the temporal region.
40. Describe the surgical incision for a purulent process in the submandibular region.
41. Describe the surgical incision for a purulent process in the floor of the oral cavity.
42. Describe the surgical incision for a purulent process around the major vessels of the neck.
43. Which suture material is used for subcutaneous closure of facial wounds?
44. Which suture material is used for skin closure on the face?
45. In which region of the face is a vertical mattress suture typically used?
46. In which region of the face is a continuous suture typically used?
47. Which suturing technique is preferred if a facial wound is perpendicular to Langer's lines?
48. Against which bony structure is the common carotid artery compressed to achieve temporary hemostasis?
49. Against which bony structure is the subclavian artery compressed to achieve temporary hemostasis?
50. Which vessels must be avoided during a cricothyroidotomy?
51. Which muscle is divided during a cricothyroidotomy?
52. Through which tracheal rings is a tracheostomy preferably performed?
53. Which nerve must be carefully preserved during a thyroidectomy?

54. To which structure is the recurrent laryngeal nerve intimately related (posing a surgical risk)?
55. Damage to which nerve results in weakness of phonation?
56. Damage to which nerve results in complete loss of phonation in a patient?
57. Damage to or surgical removal of which structure can lead to lethal tetany?
58. How can scalp bleeding be effectively arrested?
59. Why can a scalp infection spread to the eyelids and the root of the nose?
60. What is the function of arachnoid villi (granulations)?
61. With which part of the skull is the mastoid antrum connected?
62. The medial wall of the mastoid antrum contains prominences for which structures?
63. The posterior wall of the mastoid antrum is separated by a thin bony plate from which structure?
64. Through which foramen does the mandibular nerve exit the skull?
65. Describe the course of the greater petrosal nerve.
66. Which structures are directly related to the cavernous sinus?
67. List the structures that pass through the foramen magnum.
68. List the structures that pass through the jugular foramen.
69. List the structures that pass through the internal acoustic meatus.
70. Which dural venous sinuses drain into the sigmoid sinus?
71. Describe the topography (course) of the parotid duct.
72. List the structures contained within the parotid region.
73. Which nerve innervates the anterior belly of the digastric muscle?
74. Between which structures is the parapharyngeal space located?
75. Identify the structures that form the stylodiaphragm.
76. Which structures are located posterior to the stylodiaphragm?
77. Which nerves contribute to the formation of the pharyngeal plexus?
78. Describe the topography of the deep petrosal nerve.
79. Which nerve innervates the dilator pupillae muscle?
80. Which nerves arise from the superior cervical ganglion?
81. The carotid sinus is innervated by which nerve?
82. Where is the carotid body located, and what is its function?
83. Describe the surface projections of the cutaneous branches of the cervical plexus.
84. Describe the topography of the spinal accessory nerve.
85. Into which vein does the external jugular vein terminate?
86. Describe the topography of the occipital artery in the suboccipital region.
87. Describe the topography of the vertebral artery in the suboccipital region.
88. What structures are contained within the suprasternal space (of Burns)?
89. The parathyroid glands are closely related to the branches of which artery?
90. Which muscles adduct the vocal cords?
91. Which muscles abduct the vocal cords?
92. Which muscles relax the vocal cords?
93. Which muscle opens the inlet of the larynx?

94. At what anatomical level does the right recurrent laryngeal nerve arise from the vagus nerve?
95. At what anatomical level does the left recurrent laryngeal nerve arise from the vagus nerve?
96. Which structures are innervated by the recurrent laryngeal nerve?
97. Which structures are innervated by the external laryngeal nerve?
98. Which nerve passes in the tracheoesophageal groove?
99. The membranous wall of the trachea is posteriorly related to which structure?
100. Where are the annular ligaments of the trachea located?
101. List the arteries that supply the trachea.
102. To which structures is the pharynx attached on each side?
103. The external circular layer of the pharyngeal muscles consists of which muscles?
104. The internal longitudinal layer of the pharyngeal muscles consists of which muscles?
105. List the fascial layers associated with the pharynx.
106. Which tonsils constitute Waldeyer's lymphatic ring?
107. The cervical part of the esophagus is posteriorly related to which structures?
108. Which vessel passes through the transverse foramina of vertebrae C1–C6?
109. Which vessels pass posterior to the internal jugular vein and the sternocleidomastoid muscle?
110. Which vessels pass deep to the levator scapulae muscle?
111. Identify the terminal branches of the transverse cervical artery.
112. From which spinal nerves do the phrenic nerves originate, and what do they innervate?
113. How is the stellate ganglion formed, and where is it located?
114. On which structure does the middle cervical ganglion lie?
115. How should the inferior thyroid artery be ligated during a thyroidectomy to avoid nerve injury?
116. Where can a parathyroid gland be autotransplanted if damaged during surgery or radiation therapy?
117. What are the clinical signs of a positive Claude Bernard-Horner syndrome following a vagosympathetic block?
118. Describe the surgical approach to the cervical part of the esophagus.
119. What must the surgeon do before suturing the muscular and adventitial layers of the esophagus?
120. How is the patient fed following esophageal surgery?

Block B

B.1.

Clinical Scenario:

A 35-year-old male presents to the emergency department 1.5 hours after sustaining a sharp laceration to the anterior aspect of the middle third of the forearm. The wound is 6 cm long, gaping, with irregular edges and moderate capillary bleeding. There are no signs of infection, and vital signs are stable.

Questions:

1. What type of primary wound management is indicated for this patient, and what are its main steps?
2. Which suture technique and material are most appropriate for closing this wound to minimize tension and ensure a good cosmetic outcome?
3. Which anatomical structures (tendons, nerves, vessels) must be explicitly assessed for integrity before skin closure in this region?

Clinical Scenario:

A 68-year-old male fell on his outstretched, abducted arm. Radiography revealed a displaced fracture of the surgical neck of the humerus. Neurological examination shows an inability to actively abduct the shoulder and decreased skin sensation over the lateral aspect of the deltoid muscle ("epaulet sign").

Questions:

1. Which nerve is most likely injured in this trauma?
2. Describe the topography of this nerve within the axilla and its anatomical relationship to the surgical neck of the humerus.
3. Which blood vessels run in close proximity and could be damaged by the bone fragment or during careless closed reduction?

Clinical Scenario:

A 30-year-old male presents with throbbing pain, marked swelling, and hyperemia of the thenar eminence of the right hand. Three days ago, he sustained an untreated puncture wound to the distal phalanx of the first digit (thumb). Palpation reveals fluctuation in the thenar region, and pain sharply increases upon passive abduction of the thumb.

Questions:

1. Formulate a clinical diagnosis, specifying the affected anatomical space.
2. Describe the boundaries of this fascial space and the potential pathways for the spread of the purulent process (including into the forearm).
3. Where should the incision be made to drain this space while avoiding damage to motor nerve branches and tendons?

Clinical Scenario:

A 78-year-old female presents to the emergency department after a mechanical fall at home. She complains of severe right hip pain and is unable to bear weight. On examination, her right lower limb is shortened and externally rotated. Radiographs confirm a displaced intracapsular fracture of the femoral neck.

Questions:

1. Which specific arterial structure is most critical for the blood supply to the femoral head and is at the highest risk of disruption in this type of fracture?
2. Describe the topographic course of this artery in relation to the femoral neck and the hip joint capsule.
3. What is the most severe long-term orthopedic complication if this blood supply is irreversibly compromised?

Clinical Scenario:

A 25-year-old male is involved in a high-speed motorcycle accident, resulting in a posterior dislocation of the right knee. Upon reduction in the emergency department, the right foot is pale and cold, with an absent dorsalis pedis pulse. Additionally, the patient is unable to dorsiflex his foot or extend his toes.

Questions:

1. Which major artery and which specific nerve have most likely been injured?
2. Describe the anatomical boundaries of the popliteal fossa.
3. Why is this specific artery particularly vulnerable to traction injury during a knee dislocation?

Clinical Scenario:

A 30-year-old male sustained a closed, displaced fracture of the mid-shaft of the right tibia and fibula. He was treated with closed reduction and a long-leg cast. Six hours later, he complains of severe, burning pain in his leg that is not relieved by intravenous opioids. Passive stretching of the toes elicits excruciating pain. The foot is pale, and capillary refill is delayed.

Questions:

1. What is the diagnosis, and what is the underlying pathophysiological mechanism?
2. Name the four osteofascial compartments of the leg.
3. Describe the surgical approach (incisions) for an emergency four-compartment fasciotomy of the leg.

Block C

Clinical Scenario:

A 45-year-old female undergoes a superficial parotidectomy for a benign pleomorphic adenoma of the right parotid gland. On the first postoperative day, she is unable to close her right eye tightly and notices that her mouth droops to the left side when she attempts to smile. Corneal reflex on the right is intact.

Questions:

1. Which cranial nerve and specific branches have most likely been injured during the surgery?
2. Describe the topographic course of this nerve as it traverses the parotid gland, including the name of the plexus it forms.
3. What are the anatomical landmarks used by the surgeon to identify the main trunk of this nerve early in a parotidectomy to prevent such injuries?

Clinical Scenario:

A 30-year-old male presents to the ER with a 2-day history of severe pain and swelling under his chin, following an untreated infected lower left second molar. He has a high

fever, difficulty swallowing (dysphagia), and is leaning forward with his mouth open. Examination reveals a firm, "woody" bilateral swelling of the submandibular region, and his tongue is elevated and protruded. He has mild inspiratory stridor.

Questions:

1. What is the clinical diagnosis, and which specific fascial spaces of the neck are primarily involved?
2. Why is this condition considering a surgical emergency, and what is the primary anatomical reason for the airway compromise?
3. Describe the surgical approach (incision) for draining this condition.

Clinical Scenario:

A 22-year-old male is punched in the jaw during an altercation. Radiographs reveal a displaced fracture of the left mandibular angle. On clinical examination, he has numbness and paresthesia over the skin of his left lower lip and chin.

Questions:

1. Which specific nerve has been injured or compressed by the fractured bone fragments?
2. Trace the topographic course of this nerve from its entry into the mandible to its exit onto the face.
3. Which muscle attachments to the proximal (posterior) fragment of a mandibular angle fracture typically cause it to be displaced upward and medially, complicating reduction?

Clinical Scenario:

A 24-year-old male is brought to the emergency department after a high-speed motor vehicle collision. He is in severe respiratory distress, tachycardic, and hypotensive. Physical examination reveals absent breath sounds on the right side, hyperresonance to percussion, and tracheal deviation to the left.

Questions:

1. What is the immediate life-threatening diagnosis, and what is the underlying pathophysiological mechanism causing the hypotension?
2. For immediate life-saving decompression, where exactly (intercostal space and anatomical line) should a large-bore needle be inserted, and what are the anatomical layers pierced?
3. For definitive management with a tube thoracostomy (chest tube), describe the anatomical boundaries of the "safe triangle" and the correct intercostal space and line for insertion.

Clinical Scenario:

A 30-year-old male presents with a stab wound to the left lower sternal border. He is pale, diaphoretic, and hypotensive (BP 80/50 mmHg). Examination reveals distended neck veins and muffled heart sounds (Beck's triad).

Questions:

1. What is the clinical diagnosis?
2. The surgeon decides to perform an emergency subxiphoid pericardiocentesis. Describe the precise anatomical trajectory of the needle and the layers it must pierce to reach the pericardial cavity.

3. Why is the subxiphoid approach preferred over an intercostal approach in this specific emergency scenario?

Clinical Scenario:

A 65-year-old male with a 40-pack-year smoking history is diagnosed with a malignant tumor localized to the apical segment of the right upper lobe. A video-assisted thoracoscopic surgery (VATS) segmentectomy is planned.

Questions:

1. Name all the bronchopulmonary segments of the right upper lobe.
2. Describe the unique topographical relationship of the right main bronchus to the right pulmonary artery at the lung hilum (the "eparterial" relationship), and contrast it with the left lung hilum.
3. During dissection of the hilum, what is the typical anterior-to-posterior order of the major structures (pulmonary artery, bronchus, pulmonary veins)?

Clinical Scenario:

A 25-year-old male presents with a 24-hour history of abdominal pain that started periumbilically and has now localized to the right lower quadrant. He has a low-grade fever. On examination, there is minimal tenderness on anterior palpation of the right iliac fossa, but deep palpation elicits significant pain. The psoas sign is strongly positive (pain on passive extension of the right hip).

Questions:

1. Based on the clinical signs, what is the most likely anatomical position of the inflamed appendix?
2. Which artery supplies the appendix, and from which major vessel does it typically originate?
3. If an open appendectomy is performed via a gridiron (McBurney) incision, list the anatomical layers of the anterior abdominal wall that must be traversed to reach the peritoneal cavity.

Clinical Scenario:

A 65-year-old male presents to the emergency department with a painful, irreducible mass in his right groin, accompanied by nausea and vomiting. The mass is located superior and medial to the pubic tubercle. On examination, the mass does not reduce with gentle pressure, and the overlying skin is erythematous.

Questions:

1. What is the most likely diagnosis, and is it more likely to be a direct or indirect inguinal hernia based on its typical pathway?
2. Describe the anatomical relationship of this type of hernia to the inferior epigastric vessels.
3. List the contents of the spermatic cord that are at risk of compression and ischemia within the inguinal canal in this scenario.

Clinical Scenario:

A 50-year-old female undergoes a laparoscopic cholecystectomy for acute calculous cholecystitis. On the second postoperative day, she develops jaundice, right upper quadrant pain, and a bile leak is confirmed on imaging. Review of the operative notes indicates difficult dissection due to severe inflammation and anatomical variation.

Questions:

1. Which critical anatomical triangle must be clearly identified and dissected during a cholecystectomy to prevent such injuries?
2. Describe the three boundaries of this triangle.
3. What is the most common anatomical variation of the cystic artery that puts the common bile duct or right hepatic artery at risk of accidental ligation or transection?

Clinical Scenario:

A 45-year-old male presents with recurrent left flank pain and recurrent urinary tract infections. Imaging reveals a large staghorn calculus occupying the renal pelvis and calyces of the left kidney. An open pyelolithotomy via a retroperitoneal approach is planned.

Questions:

1. Which surgical approach (incision) provides optimal access to the renal hilum while minimizing the risk of entering the pleural cavity?
2. During mobilization of the kidney, the surgeon must identify the structures at the renal hilum. What is the typical anterior-to-posterior anatomical order of these structures?
3. Which adjacent anatomical structure lies immediately anterior to the left renal hilum and is at risk of iatrogenic injury during anterior dissection?

Clinical Scenario:

A 26-year-old female presents to the emergency department with sudden, severe lower abdominal pain and dizziness. She has a history of 8 weeks of amenorrhea. On examination, she is hypotensive (BP 85/50 mmHg), tachycardic, and has marked cervical motion tenderness.

Questions:

1. What is the most likely diagnosis, and into which specific peritoneal space does the blood primarily accumulate?
2. If ultrasound is unavailable, what bedside anatomical procedure can be performed through the posterior vaginal fornix to confirm the presence of hemoperitoneum, and what is this space called?
3. During surgical intervention (e.g., salpingectomy), the surgeon must ligate the bleeding vessel. Which major artery is this, and what critical adjacent structure must be identified and preserved to prevent urinary complications?

Clinical Scenario:

A 50-year-old male presents with a 4-day history of severe, throbbing, unilateral perianal pain that worsens with sitting and defecation. He has a fever of 38.5°C. Examination reveals a tender, fluctuant, erythematous mass located laterally to the anal verge, without involvement of the midline.

Questions:

1. What is the clinical diagnosis, and which specific fascial space is infected?
2. Describe the four anatomical boundaries of this space.
3. When performing surgical incision and drainage, why must the incision be made as close to the anal verge as possible, and which neurovascular bundle must be avoided?

Block D

List of Questions and Tasks for Intermediate Assessment (Graded Pass):

Sample questions to assess the level of mastery:

KNOWLEDGE REQUIREMENTS:

1. What is the term for the excision of the peripheral (distal) part of an organ?
2. What is the term for the complete removal of an organ?
3. What is the term for the cutting of tissue?
4. What is the term for the removal of a part of an organ?
5. What is the term for puncturing or piercing a surface?
6. What is the term for the surgical fixation of an organ to another structure?
7. What is the term for stitching an organ or tissue?
8. What is the term for the incision of an organ's wall?
9. What is the term for a surgical connection between two organs or vessels?
10. What is the term for the insertion of an artificial organ or tissue?
11. Identify the instruments used for manipulation
12. Identify the cutting and dissecting instruments
13. Identify the grasping or holding instruments
14. Identify the viewing instruments
15. Which instrument is used for holding surgical needles?
16. What is a bowel clamp used for?
17. What is diathermy used for?
18. What is a speculum used for?
19. Which instrument is used for exploring a fistula tract?
20. Which instrument improves the view of the surgical field?
21. Which instrument is used to retract or open up tissue?
22. Which instrument has a reusable handle with replaceable blades?
23. Which instrument is used to cut tissue and provide coagulation?
24. Which instrument is necessary for placing sutures in tissue?
25. Which instrument is used to clear the surgical field by removing fluids?
26. What principles must be followed when making a surgical incision?
27. Which part of the needle is grasped by the needle holder?
28. Which part of the needle pierces the tissue?
29. Which type of needle is used for friable tissue?
30. Which type of needle is used for skin?
31. Which type of needle is used for tendon repair?
32. Which type of needle reduces the risk of bloodborne virus transmission?
33. Which type of needle is used in areas where fluid leakage must be prevented?
34. Which sutures do not require removal by a doctor?
35. Where is the cutting edge located on a reverse-cutting needle?
36. Which sutures must be removed by a doctor?
37. Describe the characteristics of monofilament suture material.
38. Describe the characteristics of braided (multifilament) suture material.
39. When should sutures be removed from the scalp?
40. When should sutures be removed from the face?

41. When should sutures be removed from the soles of the feet?
42. From which parts of the body are sutures typically removed after 10–14 days?
43. Which suture technique consists of a single strand of suture material placed individually?
44. In which suture technique is the knot buried inside the tissue?
45. In which suture technique are stitches placed in a line parallel to the wound edge?
46. Which suture is placed around an area and tightened like a drawstring on a bag?
47. Which knot involves wrapping the suture twice on the first throw?
48. Which knot is made up of two single throws in the same direction?
49. Which knot is made up of two single throws in opposite directions?
50. List the arteries that form the scapular anastomosis.
51. At which level is the brachial artery ligated?
52. With which artery does the interosseous recurrent artery anastomose?
53. Against which structure is the first part of the axillary artery compressed?
54. From which artery does the dorsal scapular artery arise?
55. Against which structure is the radial artery compressed?
56. Against which structure is the ulnar artery compressed?
57. Describe the surface projection line of the axillary artery.
58. Describe the surface projection line of the brachial artery.
59. Describe the surface projection line of the ulnar artery.
60. Describe the surgical approach to the radial artery in the upper third of the forearm.
61. Describe the surgical approach to the ulnar artery in the lower third of the forearm.
62. At what distance from the vessel edge are vascular sutures placed?
63. Which vessels are compressed during the Allen test?
64. What is the purpose of the Allen test?
65. Which structure separates the median cubital vein from the brachial artery?
66. Which vein provides collateral communication for the cephalic vein in the deltopectoral groove in case of axillary vein obstruction?
67. Which veins are commonly chosen for central venous catheterization in the upper limb/shoulder region?
68. Describe the surgical approach to the brachial plexus.
69. Describe the surgical approach to the radial nerve in the upper third of the arm.
70. Describe the surgical approach to the axillary nerve.
71. Describe the surgical approach to the radial nerve in the lower third of the arm.
72. Describe the surgical approach to the median nerve in the lower third of the forearm.
73. Describe the surgical approach to the ulnar nerve in the lower third of the arm.
74. Along which anatomical structure is a brachial plexus nerve block performed?
75. Through which structure is a nerve suture (neurorrhaphy) applied?
76. For how many days must the limb be immobilized after nerve suturing?
77. When is a delayed primary nerve suture performed?
78. When is a secondary nerve suture performed?

79. What is the operation called when a nerve is freed from scar tissue?
80. From which finger does infection typically spread to Parona's space?
81. Where does swelling typically appear in the hand due to deep space infection?
82. What complication results from compression of the finger pulp space?
83. Describe the incision for phlegmon of the anterior compartment of the arm.
84. Describe the incision for phlegmon of the axilla.
85. Describe the incision for phlegmon of the deltoid region.
86. What is the risk/complication of making an incision along the posterior border of the deltoid muscle?
87. Identify the boundaries and danger zones of the thenar space.
88. After how many hours does compartment syndrome of the forearm lead to irreversible muscle damage?
89. Which structure must be incised in forearm compartment syndrome?
90. Which suture material is used for tendon repair?
91. What is the operation called when a tendon is sutured?
92. At which anatomical landmark is the anterior approach for shoulder joint puncture performed?
93. At which anatomical landmark is the lateral approach for shoulder joint puncture performed?
94. Through which muscles is an anterior arthrotomy of the shoulder joint performed?
95. Through which muscles is a posterior arthrotomy of the shoulder joint performed?
96. At which landmark is the posterior approach for elbow joint puncture performed?
97. At which landmark is the posterolateral approach for elbow joint puncture performed?
98. Describe the anterior approach for drainage of a purulent elbow joint.
99. Describe the posterolateral approach for drainage of a purulent elbow joint.
100. Describe the approach for wrist joint puncture.
101. Which nerve must be preserved during amputation of the arm in the upper third?
102. The tendon of which muscle is preserved for myodesis in upper-third arm amputation?
103. At which joint is disarticulation of the thumb performed?
104. Ligation of the axillary artery proximal to which branch will compromise blood supply to the arm?
105. Which structures pierce the clavipectoral fascia?
106. List the branches of the first part of the axillary artery.
107. List the branches of the third part of axillary artery.
108. List the structures located in the subcutaneous tissue of the anterior forearm.
a. At which anatomical landmark is the femoral artery palpated?
109. Obstruction of which artery results in the loss of the popliteal artery pulse?
110. Against which bone is the femoral artery compressed to achieve temporary hemostasis?
111. At which anatomical landmark is the dorsalis pedis artery palpated?

112. At which anatomical landmark is the posterior tibial artery palpated?
113. At which anatomical level is the femoral artery ligated?
114. Describe the surface projection line of the femoral artery.
115. Describe the surface projection line of the posterior tibial artery.
116. Describe the surface projection line of the anterior tibial artery.
117. Describe the surgical approach to the popliteal artery.
118. Which vessels are at risk of injury during the surgical approach to the popliteal artery?
119. At which anatomical landmark is the great saphenous vein incised at the ankle (for cutdown)?
120. Which nerves must be blocked during a groin venous cutdown?
121. Describe the skin incision for a groin venous cutdown.
122. What complication is associated with venous congestion in the superficial veins?
123. At which anatomical landmark is a femoral nerve block performed?
124. At which anatomical landmark is a sciatic nerve block performed?
125. In which part of the lower limb is paresthesia observed after a femoral nerve block?
126. In which part of the lower limb is paresthesia observed after a sciatic nerve block?
127. In which part of the lower limb is anesthesia observed after a superficial fibular (peroneal) nerve block?
128. Through which anatomical pathways can an infection spread from the pelvic cavity to the medial aspect of the thigh?
129. Through which anatomical pathways can an infection spread from the popliteal fossa to the upper thigh?
130. The pulse of which artery is lost in anterior compartment syndrome of the leg?
131. Which nerve is compromised (or paralyzed) in anterior compartment syndrome of the leg?
132. Which structure must be incised in anterior compartment syndrome of the leg (fasciotomy)?
133. Describe the incision for posterior compartment syndrome of the leg.
134. Describe the incision for anterior compartment syndrome of the leg.
135. Describe the lateral approach for hip joint puncture.
136. Describe the anterior approach for hip joint puncture.
137. At which anatomical landmark is the knee joint punctured?
138. Describe the anterior approach for knee joint arthrotomy.
139. Describe the posterior approach for knee joint arthrotomy.
140. Which nerve is at risk of injury during a posterior approach to knee joint arthrotomy?
141. At which anatomical landmark is the ankle joint punctured?
142. Describe the anteromedial approach for ankle joint arthrotomy.
143. Describe the anterolateral approach for ankle joint arthrotomy.
144. Describe the posteromedial approach for ankle joint arthrotomy.
145. At which anatomical level is a below-knee (transtibial) amputation performed?
146. How is the fibula transected in a below-knee amputation?

147. Which neurovascular bundles are ligated in a below-knee amputation?
148. What type of skin incision is made in an above-knee (transfemoral) amputation?
149. Which neurovascular bundle is ligated by dividing the medial aspect of the sartorius muscle in an above-knee amputation?
150. Through which bones is Sharp's amputation of the foot performed?
151. Identify the "key" ligament in Chopart's disarticulation.
152. Identify the "key" ligament in Lisfranc's disarticulation.
153. Which suture material is used for fascial closure?
154. Which nerve supplies the upper lateral quadrant of the gluteal region (safe injection zone)?
155. Which nerve supplies the lower medial quadrant of the gluteal region?
156. Which structures pass through the saphenous opening (fossa ovalis)?
157. Which cutaneous nerves supply the medial aspect of the thigh?
158. Which nerves form the patellar plexus?
159. Identify the superficial (inferior) opening of the femoral canal.
160. Which ligaments are sutured during the repair of a femoral hernia?
161. List the main structures contained in the posterior compartment of the thigh.
162. Describe the boundaries (openings) and contents of the adductor (Hunter's / cruropopliteal) canal.
163. Describe the formation of the sural nerve.
164. List the structures located in the anterior aspect of the ankle.
165. List the structures located in the medial aspect of the ankle.
166. List the structures located in the lateral aspect of the ankle.
167. Where are the superficial inguinal lymph nodes located?
168. Where are the deep inguinal lymph nodes located?
169. To which structures is the plantar aponeurosis attached?
170. What structures form the boundaries of the medial, intermediate, and lateral plantar fascial spaces?
171. From which regions do the superficial inguinal lymph nodes receive lymphatic drainage?
172. Which arteries form the cruciate anastomosis?
173. Which arteries form the trochanteric anastomosis?
174. List the ligaments of the hip joint.
175. List the ligaments of the ankle joint.
176. What surgical incision is used for hip joint resection?
177. Between which muscles is the joint capsule penetrated during hip joint resection?
178. At which anatomical level is a Garengeot disarticulation of the foot performed?
179. At which level are the digital arteries ligated during a Garengeot disarticulation of the foot?
180. Which nerve must be identified and preserved during a great saphenous vein cutdown at the ankle?
181. Which nerve is closely associated with the small saphenous vein?
182. Along which anatomical structure is the incision made for plantar fasciotomy?
183. Between which bones is the bifurcate ligament located?

184. Between which bones is the medial cuneometatarsal ligament located?
185. Identify the muscles of the second layer of the gluteal region.
186. What structures form the boundaries of the greater sciatic foramen?
187. List the structures that exit the greater sciatic foramen below the piriformis muscle.
188. List the structures that pass through the lesser sciatic foramen.
189. Which muscle does the iliotibial tract sheath, and into which structure does it insert?
190. What structures are contained within the muscular lacuna of the retro-inguinal space?
191. What structures are contained within the vascular lacuna of the retro-inguinal space?
192. Identify the deep (superior) opening of the femoral canal (femoral ring).
193. Identify the lateral border of the femoral canal.
194. Identify the anterior border of the femoral canal.
195. Identify the muscles of the anterior compartment of the thigh.
196. Identify the muscles of the medial compartment of the thigh.
197. Identify the muscles of the posterior compartment of the thigh.
198. Describe the boundaries of the femoral triangle.
199. Describe the boundaries of the adductor (Hunter's) canal.
200. Describe the boundaries of the popliteal fossa.
201. List the muscles of the anterior compartment of the leg.
202. List the muscles of the posterior compartment of the leg.
203. Between which muscles does the anterior tibial artery pass?
204. Which nerve accompanies the anterior tibial artery?
205. Which vein accompanies the sural nerve?
206. Which vein accompanies the saphenous nerve?
207. Between which muscles does the superficial fibular (peroneal) nerve pass?
208. Describe the attachments (origin and insertion) of the superior and inferior extensor retinacula.
209. Describe the attachments of the flexor retinaculum.
210. Identify the muscles within the medial plantar fascial space.
211. Identify the muscles within the intermediate plantar fascial space.
212. List the main structures contained in the sole of the foot.
213. List the main structures contained on the dorsum of the foot.
214. List the muscles located on the dorsum of the foot.
215. Identify the ligaments of the knee joint.
216. Identify the ligaments of the talocalcaneonavicular joint.
217. Identify the ligaments of the calcaneocuboid joint.
218. Which ligaments constitute the bifurcate ligament?
219. Identify the ligaments of the tarsometatarsal joints.

Module: "Topographic anatomy and operative surgery of the thorax"

1. What structures bound the mediastinum?
2. List the contents of the superior mediastinum.

3. List the contents of the posterior mediastinum.
4. What structures are contained within the intercostal spaces?
5. Which lymphatic trunks drain into the right venous angle?
6. Which lymphatic trunks converge to form the thoracic duct?
7. Which layer of the heart wall is serous?
8. Which layer of the heart forms the cardiac valves?
9. Describe the area of distribution of the left coronary artery.
10. List the tributaries of the brachiocephalic vein.
11. At which vertebral level does the superior vena cava open into the right atrium?
12. At which vertebral level does the hemiazygos vein cross from left to right?
13. Which nerve passes anterior to the root (hilum) of the lung?
14. Which nerve passes posterior to the root (hilum) of the lung?
15. Which nerve plexus passes anterior to the esophagus?
16. At which vertebral level does the thoracic duct cross from the right to the left side?
17. Describe the surface projection (marking) of the aortic valve.
18. Describe the surface projection (marking) of the pulmonary valve.
19. Describe the surface projection (marking) of the mitral valve.
20. Describe the surface projection (marking) of the tricuspid valve.
21. The greater splanchnic nerve is a component of which nervous system structure?
22. What is the approximate length of the thoracic duct?
23. The thyroid ima artery typically arises from which vessel?
24. What is the most superior structure at the hilum of the left lung?
25. What is the most inferior structure at the hilum of the left lung?
26. List the structures contained within the hilum of the right lung.
27. List the bronchopulmonary segments of the upper lobe of the right lung.
28. List the bronchopulmonary segments of the lower lobe of the left lung.
29. What are the anatomical characteristics of a bronchopulmonary segment?
30. In which part of the bronchial tree are inhaled foreign bodies most likely to become trapped?
31. By which membrane are the lungs enclosed?
32. List the structures that pass posterior to the diaphragm (through the aortic hiatus).
33. Up to which order of bronchi do the bronchial arteries supply blood?
34. At which vertebral level does the trachea bifurcate?
35. What branches arise from the thoracic spinal nerves?
36. Up to which order of bronchi does the wall contain cartilage?
37. What is the arterial blood supply to the right lung?
38. The pericardiophrenic artery is a branch of which artery?
39. The phrenic nerve arises from which nerve plexus?
40. Which arteries supply blood to the trachea?
41. Which nerves provide sensory innervation to the parietal pleura?
42. What is the largest and deepest pleural recess?
43. Which surgical incision is preferred for penetrating chest wounds with uncontrolled hemorrhage?

44. What structures must be carefully avoided during an anterolateral thoracotomy?
45. Which surgical approach is preferred for operations on the right atrium?
46. What structure must be preserved during a rib resection?
47. Through which layer is the incision typically made after a rib resection?
48. Which intercostal nerves provide sensory innervation to the peripheral part of the parietal peritoneum?
49. Along which anatomical line does the lateral cutaneous branch of the intercostal nerve emerge?
50. In which intercostal space and along which line is a needle thoracostomy performed?
51. In which intercostal space and along which line is a tube thoracostomy performed?
52. In which intercostal space and along which line is a thoracentesis performed?
53. Which surgical procedure is performed for pleural effusion?
54. Which vessels and nerves are compressed in thoracic outlet syndrome?
55. Between which bony structures is the subclavian artery compressed in thoracic outlet syndrome?
56. Which surgical procedures are performed for thoracic outlet syndrome?
57. Which arteries supply blood to the breast?
58. What type of incision is made for the drainage of a breast abscess?
59. Into which lymph nodes does lymph from the breast primarily drain?
60. Name the surgical procedures performed for breast carcinoma.
61. Which muscles are removed during a radical mastectomy?
62. What is the term for the condition where air from the lung root enters the mediastinum and tracks up to the neck?
63. What is the first structure ligated during a segmental resection of the lung?
64. What is the third structure ligated during a segmental resection of the lung?
65. To which lymph nodes does a bronchogenic carcinoma typically metastasize?
66. At which anatomical landmark is the needle introduced for pericardiocentesis?
67. Describe the anatomical relations of the thoracic duct in the posterior mediastinum.
68. Which suture material is used for repairing heart wounds?
69. What must be left unsutured temporarily when repairing a cardiac wound?
70. Which medication reverses the effects of heparin?
71. At what temperature is the body maintained during cardiopulmonary bypass?
72. Into which vessel is the cannula for oxygenated blood inserted during cardiopulmonary bypass?
73. What is the surgical procedure called in which cardiac valves are replaced?
74. Which vessels are typically used as grafts in coronary artery bypass grafting (CABG)?
75. A surgical anastomosis between which arteries is used to revascularize the myocardium?
76. Into which part of the thorax can an infection spread posterior to the prevertebral fascia of the neck?

77. Compression of which mediastinal structure leads to venous engorgement in the upper half of the body?
78. Compression of which mediastinal structure leads to diaphragmatic paralysis?
79. Which procedure slows the body's metabolic rate and decreases its oxygen demand?
80. What condition results from a laceration of the thoracic duct?
81. On which side is central venous access most commonly preferred?
82. Compression of which mediastinal structure leads to dyspnea and cough?
83. Which suturing technique is preferred for bronchial closure?
84. Near which border of the rib is a thoracic incision typically made?
85. Which thoracic wall incision is made prior to a left upper lobectomy?
86. At what age does the thymus reach its maximum development, and what are its approximate weight and dimensions?
87. Describe the anatomical relations of the right vagus nerve.
88. Describe the anatomical relations of the left vagus nerve.
89. Describe the anatomical relations of the right phrenic nerve.
90. Describe the anatomical relations of the left phrenic nerve.
91. List the tributaries of the azygos vein.
92. List the tributaries of the hemiazygos vein.
93. List the tributaries of the accessory hemiazygos vein.
94. Which structure is located between the esophagus and the azygos vein?
95. Describe the origin of the greater splanchnic nerve.
96. Describe the origin of the lesser splanchnic nerve.
97. Into which lymph nodes does lymph from the intercostal spaces drain?
98. List four groups of visceral lymph nodes that drain the lungs.
99. Which lymph nodes receive lymphatic drainage from the thymus, pericardium, and heart?
100. Identify the regional lymph nodes of the heart.
101. Which efferent lymphatic vessels form the bronchomediastinal trunk?
102. Behind which structure does the needle tip enter the right venous angle during central line placement?
103. Which structure may be punctured if the needle is inserted too deeply during a subclavian vein puncture?
104. How many intercostal spaces must be anesthetized to provide complete local anesthesia for a thoracic procedure?

Module: "Topographic anatomy and operative surgery of the abdomen"

1. Which fascial layer prevents the extravasation of urine in the event of a urethral rupture?
2. Which nerves provide sensory and motor innervation to the anterior abdominal wall?
3. At which anatomical landmark is a nerve block for the T7–T11 thoracic nerves performed?
4. At which anatomical landmark is a nerve block for the iliohypogastric and ilioinguinal nerves performed?
5. What is the term for a surgical incision that opens the abdominal cavity?

6. Where is a paramedian incision of the abdomen typically made?
7. Where is a pararectus incision of the abdomen typically made?
8. Which abdominal incision typically involves transecting a segmental nerve?
9. Which surgical incision is preferred for a splenectomy?
10. At which anatomical site is abdominal paracentesis performed?
11. Which portion of the umbilical ring is anatomically weak?
12. Which portion of the umbilical ring is anatomically strong?
13. Which abdominal incision is considered muscle-sparing (does not cut through muscle fibers)?
14. Identify the anatomical remnant of the umbilical artery.
15. Identify the anatomical remnant of the left umbilical vein.
16. Identify the structures forming the floor of the inguinal canal.
17. Which type of hernia passes lateral to the inferior epigastric artery?
18. Which type of hernia passes medial to the inferior epigastric artery?
19. Which type of hernia is most commonly found in elderly men?
20. Which hernia occurs near the lateral margins of the rectus abdominis muscle?
21. List the contents of the inguinal canal.
22. Which hernia passes through a patent (unobliterated) processus vaginalis?
23. In which region of the abdomen does an epigastric hernia occur?
24. Which hernia initially presents as a small protrusion of extraperitoneal fat?
25. Which nerves travel within the spermatic cord?
26. Which muscle fibers surround the spermatic cord?
27. Describe the standard surgical approach (incision) for inguinal hernia repair.
28. Which structures of the inguinal canal are sutured together first in the Bassini hernia repair method?
29. Which structures are sutured first in the Martynov hernia repair method?
30. Which type of hernia is repaired using the Sapezhko method?
31. Which ligaments constitute the lesser omentum?
32. What is the anatomical and surgical significance of the epiploic foramen (of Winslow)?
33. Identify the posterior anatomical relations of the epiploic foramen.
34. Describe the surgical approach to access the lesser sac (omental bursa).
35. In which peritoneal spaces does infection (abscess) most commonly localize?
36. Which surgical incision is used to drain a subphrenic abscess?
37. Why does a patient with a subphrenic abscess complain of referred pain in the shoulder?
38. Describe the typical posture of a patient with peritonitis and explain the physiological reason for this position.
39. On which postoperative day does the serosal layer of the intestine typically achieve initial fusion/healing?
40. In which direction are sutures typically placed when closing the stomach?
41. In which direction are sutures typically placed when closing the large intestine?
42. At what distance from the wound edge are intestinal sutures typically placed?
43. Which type of intestinal suture carries a higher risk of infection or leakage?
44. Which suturing technique is preferred for intestinal anastomosis?

45. Which suture materials are appropriate for intestinal anastomosis?
46. List the contents of the lesser omentum.
47. List the structures contained within the hepatogastric ligament.
48. Which surgical procedures are performed for a gastric ulcer?
49. Identify the anatomical location of the acid-producing (parietal) mucosa of the stomach.
50. Into which anatomical space may a gastric ulcer on the posterior wall of the stomach perforate?
51. Into which part of the peritoneal cavity can pus spread if an anterior duodenal ulcer perforates?
52. Which vessels are ligated during a selective vagotomy?
53. Between which organs is the anastomosis created in a Billroth I procedure?
54. Between which organs is the anastomosis created in a Billroth II procedure?
55. Which surgical procedures are performed for gastric cancer?
56. Which ligaments and associated lymph nodes are resected during a total gastrectomy?
57. Which organs or structures are resected during a total gastrectomy?
58. Which surgical procedure is performed for esophageal strictures caused by chemical burns?
59. Which pathological condition can lead to severe hemorrhage from the gastroduodenal artery?
60. Which type of duodenojejunostomy (e.g., Roux-en-Y) is preferred for biliary drainage into the to the stomach? (Cardia / esophagogastric junction).
61. In which part of the gastrointestinal tract are the appendices epiploicae found?
62. Describe the dual blood supply of the liver.
63. Which portion of the peritoneum drapes over the transverse colon and the coils of the small intestine?
64. Which peritoneal structure attaches the liver to the anterior abdominal wall and diaphragm?
65. Which anatomical structures are crossed by the root of the mesentery of the small intestine?
66. Where are the vascular arcades located within the mesentery?
67. The cystic artery is typically a branch of which artery?
68. List the main tributaries of the portal vein.
69. Which artery supplies the descending colon?
70. The superior epigastric artery is a terminal branch of which artery?
71. The inferior epigastric artery arises from which artery?
72. Which aponeuroses form the anterior rectus sheath?
73. What are the anatomical boundaries of Hesselbach's triangle?
74. Identify the deep arteries supplying the anterior abdominal wall.
75. The greater omentum connects which structures?
76. Which structures form the anterior wall of the lesser sac (omental bursa)?
77. Which structures form the inferior wall (recess) of the lesser sac?
78. What are the anatomical boundaries of the hepatorenal pouch (Morison's pouch)?

79. At which rib/intercostal space is the upper border of the liver located in the right midclavicular line?
80. At which level is the lower border of the liver located in the midsternal line?
81. List the posterior anatomical relations of the liver.
82. Where is the fundus of the gallbladder projected on the anterior abdominal wall?
83. Describe the anatomical parts of the biliary tree (bile ducts).
84. Describe the peritoneal relations of the stomach.
85. List the posterior anatomical relations of the pancreas.
86. What are the visceral impressions on the medial surface of the spleen?
87. List the three main branches of the celiac trunk.
88. List the branches of the gastroduodenal artery.
89. List the main branches of the splenic artery.
90. Identify the regional lymph node groups of the stomach.
91. Describe the surface projection of the spleen on the abdominal wall.
92. To which anatomical structure is the transverse colon typically fixed during a transverse colostomy?
93. Identify the structures forming the anterior wall of the inguinal canal.
94. Which vessels can compress the third part of the duodenum (causing Superior Mesenteric Artery syndrome)?
95. Which vascular structures serve as anatomical guides for hepatic segmentation?
96. Which organ is removed during a cholecystectomy?
97. Identify the anatomical boundaries of Calot's triangle.
98. Which vessels are prone to thrombosis in severe pancreatitis?
99. Which surgical approach is used to drain pancreatic pseudocysts?
100. Which anatomical parts of the pancreas are resected in a pancreaticoduodenectomy (Whipple procedure)?
101. Repair of a rupture in which abdominal organ is particularly difficult due to profuse bleeding?
102. Which adjacent organ must be carefully preserved during a splenectomy?
103. The appendicular artery is a branch of which artery?
104. List the muscles of the anterior abdominal wall.
105. What is a characteristic anatomical feature of the large intestine?
106. Into which part of the duodenum does the common bile duct open?
107. The left gastro-omental (gastroepiploic) artery is a branch of which artery?
108. The inferior pancreaticoduodenal artery is a branch of which artery?
109. The right colic artery is a branch of which artery?
110. The sigmoid arteries are branches of which artery?
111. The left paracolic gutter is partially closed by which structure?
112. The right paracolic gutter communicates directly with which peritoneal space?
113. Describe the line of attachment of the root of the mesentery.
114. The Cantlie line passes through which anatomical landmarks?
115. Identify the anatomical segments of the left lobe of the liver.
116. Describe the surface projection of the right colic (hepatic) flexure.

117. List the branches of the inferior mesenteric artery.
118. The marginal artery of Drummond is formed by the anastomosis of which arteries?
119. What is the surgical method for identifying the first loop of the jejunum (ligament of Treitz)?
120. List the structures contained within the gastrocolic ligament.
121. Describe the standard skin incision made for an appendectomy.
122. Where does the accessory pancreatic duct (of Santorini) open, and at what distance from the pylorus?
123. What structure does the round ligament of the liver (ligamentum teres) contain?
124. What fetal structure is contained within the venous ligament of the liver (ligamentum venosum)?

Questions for Assessing "Be Able To" and "Be Able To Perform" Competencies

1. Use general and specialized surgical instruments and suture materials.
2. Apply knowledge of surgical anatomy to select appropriate surgical approaches and operative procedures.
3. Make incisions through the skin, fascia, muscles, and other tissues.
4. Suture wounds of the skin, muscles, and tendons.
5. Expose blood vessels and nerves.
6. Suture and ligate blood vessels within a wound.
7. Make incisions to drain abscesses, phlegmons, lymphadenitis, paronychia, and other purulent collections.
8. Perform disarticulation of the phalanges of the fingers.
9. Perform venesection (venous cutdown).
10. Perform puncture and catheterization of major veins, including the subclavian, internal jugular, and femoral veins.
11. Puncture major joints, including the shoulder, elbow, hip, knee, and ankle joints.
12. Perform osteoperforation of major bones in cases of osteomyelitis.
13. Handle bone, periosteum, muscles, blood vessels, nerves, and skin during limb amputation.
14. Perform primary surgical debridement of wounds of the head and face.
15. Perform decompressive craniotomy.
16. Perform a vagosympathetic novocaine block according to Vishnevsky.
17. Perform a lumbar puncture.
18. Perform a lower tracheotomy.
19. Perform a cricothyrotomy.
20. Make appropriate incisions to drain purulent mastitis in adults and children.
21. Perform thoracentesis (pleural puncture).
22. Perform thoracentesis and insert a chest tube to drain the pleural cavity.
23. Suture wounds of the chest wall.
24. Perform an intercostal nerve block with novocaine.
25. Perform pericardiocentesis using Larrey's approach.

26. Suture a cardiac wound in cases of cardiac injury.
27. Perform laparotomy through a midline incision or incisions in the right or left hypochondrium.
28. Perform laparocentesis for laparoscopic procedures.
29. Perform herniotomy for inguinal hernias.
30. Perform herniotomy for umbilical hernias.
31. Suture wounds of the stomach, small intestine, and large intestine.
32. Create an artificial anus (colostomy).
33. Perform an appendectomy.
34. Suture a perforated gastric ulcer.
35. Perform gastrostomy using the Witzel or Toprover technique.
36. Perform gastric resection using the Billroth I procedure.
37. Suture liver wounds resulting from trauma.
38. Perform cholecystectomy using the classical technique, either "from the fundus" or "from the neck."
39. Perform a splenectomy.
40. Suture splenic wounds resulting from trauma.
41. Perform a pararenal (perirenal) novocaine block.
42. Suture renal wounds resulting from trauma.
43. Drain retroperitoneal spaces.
44. Create a cystostomy.
45. Perform the Ross or Bergmann procedure for hydrocele.
46. Perform circumcision for phimosis.
47. Perform orchiopexy (testicular descent surgery) for cryptorchidism.

4. Midterm Assessment

Continuous Assessment: Mastery of course material during in-class sessions (lectures, practical classes) and completion of mandatory independent study assignments.

Continuous Assessment Grading Scale

3 semester

Modules	Practical Classes (hours)	Lectures (hours)	Weight (%)	Score	
				min	max
Module 1 "Topographic anatomy and operative surgery. Topographic anatomy and operative surgery of the limbs"	24	10	63	16	29
Module 2 "Topographic anatomy and operative surgery of the head and neck"	12	8	37	10	17
Total	36	18	100	26	46

No	Assessment Component	Weight (%)	Score	
			min	max
1	Frontal oral questioning	0-60%	15	27
2	Lecture notes	0-10%	3	5
3	Practical class performance	0-30%	8	14
4	Class participation	-	2	2
5	Attendance	-	2	2
6	Midterm assessment	-	10	20
7	Total		40	70

Note: Students are permitted to take the midterm assessment regardless of attendance record and completion of other coursework.

4 semester

Modules	Practical Classes (hours)	Lectures (hours)	Weight (%)	Score	
				min	max
Module 3 "Topographic anatomy and operative surgery of the thorax"	15	4	26	7	12
Module 4 "Topographic anatomy and operative surgery of the abdomen"	21	8	40	10	18
Module 5 "Topographic anatomy and operative surgery of the pelvis"	18	6	34	9	16
Total	54	18	100	26	46

No	Assessment Component	Weight (%)	Score	
			min	max
1	Frontal oral questioning	0-60%	15	27
2	Lecture notes	0-10%	3	5
3	Practical class performance	0-30%	8	14
4	Class participation	-	2	2
5	Attendance	-	2	2
6	Midterm assessment	-	10	20
7	Total		40	70

Note: Students are permitted to take the midterm assessment regardless of attendance record and completion of other coursework.

Assessment Criterion: A total score of 30 to 50 points accumulated during the 3rd semester is required to be eligible for the final assessment (Pass/Fail).

Continuous Assessment Tasks (Pass/Fail) -
These tasks consist of questions requiring student responses, divided into two equal components:

- Theoretical Knowledge: Requires a minimum of 60% correct answers.
- Name and Identify (Practical): Requires a minimum of 40% correct responses.

Minimum passing score: 20 points

- 26 – 30 points (86–100%): Excellent
- 21 – 25 points (75–85%): Good
- 15– 20 points (50–74%): Satisfactory
- Less than 15 points (<50%): Unsatisfactory (Fail)

Passing Criterion: A minimum of 50% correct answers is required to pass the continuous assessment.

MIDTERM ASSESSMENT
Evaluates the completeness of theoretical knowledge and practical skills across the entire module.
Midterm Assessment Grading Scale
Format: Written Test
Maximum Score: 40 points
Test Results Grading:
Refer to the Appendix for the detailed grade calculation methodology.
Passing Criterion: A minimum of 60% correct answers is required to pass the test and become eligible for the final exam.

FINAL COURSE ASSESSMENT (EXAMINATION)
A comprehensive evaluation of the completed course (or the entire discipline).
Final Assessment Grading Scale
Final Assessment Tasks:

- **Theoretical Knowledge:** 60%
- **Name and Identify (Practical):** 40%

Maximum score for the examination component: 30 points.
Examination Grading Scale:

- 26 – 30 points (86–100%): Excellent
- 21 – 25 points (75–85%): Good
- 15– 20 points (50–74%): Satisfactory
- Less than 15 points (<50%): Unsatisfactory (Fail)

Passing Criterion: A minimum of 50% correct answers is required to pass the continuous assessment.
Final Transcript Grading Scale:
The final course grade, reflecting performance over the entire study period, is recorded in the official academic transcript according to the following scale:

- 85 – 100 points: Excellent
- 70 – 84 points: Good
- 60 – 69 points: Satisfactory
- Less than 60 points: Unsatisfactory (Fail)

CONTINUOUS ASSESSMENT GRADING SCALE

Frontal Oral Questioning

No	Assessment Criterion	Score (%)
1	Class participation	0 - 10
2	Interpretation of human body structure in relation to its functional capabilities	0 - 35
3	Understanding of organ structure and function, adequacy of interpretation	0 - 10
4	Justified use of quantitative data (relevance and reliability of information)	0 - 20
5	Key terms (their importance for organ interpretation, correct usage, quantity)	0 - 5
6	Logical coherence and sequence of oral presentation	0 - 20
Participation Score (Continuous Assessment)		**Total Score**

Lectures Notes Assessment

No	Assessment Criterion	Score (%)
1	Lecture notes content must correspond to the specified sections	0 - 30
2	Completeness and quality of topic coverage according to the specified sections	30 - 50
3	Independent work completion, use of recommended and reference literature	0 - 20
Lecture Notes Score (Continuous Assessment)		**Сумма баллов**

Practical Assignment

No	Assessment Criterion	Score (%)
1	Practical skills using demonstration materials	0-30
2	Reproductive activity (review of previously learned material): a) Recognition of material with external prompts; b) Independent recall of learned information	0-25
3	Preparation of anatomical specimens	0-15
4	Preparation of visual teaching aids	0-30
Practical Assignment Score (Continuous Assessment)		**Total Score**

Overall Continuous Assessment Score	Average

Continuous Assessment Tasks (Pass/Fail)

These tasks consist of questions requiring student responses on the following topics:

1. Topographic anatomy and operative surgery of the limbs *(know)*
2. Topographic anatomy and operative surgery of the head and neck *(know)*

No	Assessment Criterion	Score (%)
1	Question 1	0 – 30
2	Question 2	0 – 30
3	Question 3	0 – 40
Performance Score (Pass/Fail)		**Total Score**

COURSE ASSESSMENT AND GRADING CRITERIA

During the final examination, a student can earn a maximum of 30 points. Grades are assigned based on the following demonstrated levels of knowledge and professional competencies:

- **26–30 points -** *Demonstrated Competencies: Proficient in working with scientific literature and biological specimens. Demonstrates effective use of online academic resources. Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development. Understands the general principles of the layered (stratified) structure of the human body. Capable of providing a topographic-anatomical rationale for medical interventions to prevent intraoperative errors and complications arising from age-related and regional topographic-anatomical features. Proficient in using general and specialized surgical instruments. Capable of performing surgical techniques and procedures on biological specimens, anatomical models, and medical simulators. Possesses practical skills in identifying crucial topographic-anatomical landmarks during medical assistance. Proficient in palpating major bony landmarks on a living human body, and in identifying the topographic contours of organs as well as major vascular and neural trunks.*

Exam Performance Requirements: The student must answer all questions on the exam ticket flawlessly and demonstrate comprehensive, confident mastery of the material when answering supplementary questions.

- **21–25 points -** *Demonstrated Competencies: Possesses fundamental skills in working with academic literature and biological specimens. Demonstrates effective use of online academic resources. Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development. Understands the general principles of the layered (stratified) structure of the human body. Capable of providing a topographic-anatomical rationale for medical interventions to prevent intraoperative errors and complications arising from age-related and regional topographic-anatomical features. Proficient in using general and some specialized surgical instruments.*

Exam Performance Requirements: The student answers the primary questions on the exam ticket accurately, but may provide incomplete or slightly inaccurate responses to supplementary questions.

- **16–20 points-** *Demonstrated Competencies: Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development. Understands the general principles of the layered structure of the human body. Capable of providing a topographic-anatomical rationale for medical interventions to prevent intraoperative errors and complications. Proficient in using general and some specialized surgical instruments.*

Exam Performance Requirements: Exam Performance: The student answers the primary questions on the exam ticket but struggles or hesitates when answering supplementary questions.

- **11–15 points -** *Demonstrated Competencies: Capable of applying acquired knowledge in practice. Possesses fundamental skills in working with academic literature. Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development, as well as the general principles of the layered structure of the human body.*

Exam Performance Requirements: The student answers the primary questions on the exam ticket accurately, but may provide incomplete or slightly inaccurate responses to supplementary questions.

- **6–10 points-** *Demonstrated Competencies: Has a basic understanding of the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development, and the general principles of the layered structure of the human body. Has a basic understanding of the topographic-anatomical rationale for medical interventions and the use of general and some specialized surgical instruments.*

Exam Performance: The student answers the primary questions on the exam ticket but struggles or hesitates when answering supplementary questions.

- **2–5 points -** *Demonstrated Deficiencies: Unable to isolate or identify key anatomical concepts. Cannot use basic surgical instruments. Lacks a clear understanding of how to properly utilize online academic resources.*

Exam Performance: The student struggles to answer the exam ticket questions, requires leading questions (prompts) to respond, and demonstrates poor knowledge when answering supplementary questions.

- **0 points -** *Demonstrates no knowledge of the subject.*

Exam Performance: The student fails to answer any question on the initial exam ticket. Even after being offered a second (supplementary) ticket and given preparation time, the student fails to demonstrate any knowledge of the subject.

Absence:

A student who fails to appear for the examination automatically receives 0 points.

MIDTERM ASSESSMENT GRADING SCALE (Written Test)

1. Each test consists of *N* multiple-choice questions.

2. Questions are presented with predefined answer options; there may be either a single correct answer or multiple correct answers.
3. A specific point value N_o is awarded for each correctly answered question.
4. The total percentage score is calculated as the sum of correct answers across all course modules throughout the academic period.
5. The total final score is the sum of points earned for each individual course module.

The score is calculated using the following formula:

Nb=No×B100*Nb*

Where:
Nb = points awarded for correct answers
No = percentage of correct answers (%)

No=Nx×100/*No*

Where:
N = total number of questions in the test
Nx = number of correct answers in the specific module/section
B =*X** = maximum possible score for testing each course module (see Appendix 4)

The final knowledge assessment result is determined by the following formula:

D=∑Nb×100/40

Where:
D = final score in percentage (%)
∑*Nb* = total sum of points for correct answers across all modules
40 = maximum possible total score for the midterm assessment

Passing Criterion:

To pass the midterm assessment, a student must achieve a minimum of 60% correct answers.

FINAL COURSE ASSESSMENT (EXAMINATION) GRADING SCALE

Exam Ticket Structure:

1. Regions of the limbs *(Know)*
2. Regions of the head and neck, abdomen *(Know)*
3. Regions of the pelvis *(Know)*
4. Clinical cases *(Skills and Competencies)*

No	Assessment Criterion	Score (%)
1	Question 1	0 – 20
2	Question 2	0 – 20
3	Question 3	0 – 20
4	Question 4	0 – 40
Performance Score (Exam)		**Total Score**

COURSE ASSESSMENT AND GRADING CRITERIA

During the final examination, a student can earn a maximum of 30 points. Grades are assigned based on the following demonstrated levels of knowledge and professional competencies:

- **26–30 points** - *Demonstrated Competencies: Proficient in working with scientific literature and biological specimens. Demonstrates effective use of online academic resources. Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development. Understands the general principles of the layered (stratified) structure of the human body. Capable of providing a topographic-anatomical rationale for medical interventions to prevent intraoperative errors and complications arising from age-related and regional topographic-anatomical features. Proficient in using general and specialized surgical instruments. Capable of performing surgical techniques and procedures on biological specimens, anatomical models, and medical simulators. Possesses practical skills in identifying crucial topographic-anatomical landmarks during medical assistance. Proficient in palpating major bony landmarks on a living human body, and in identifying the topographic contours of organs as well as major vascular and neural trunks.*

Exam Performance Requirements: The student must answer all questions on the exam ticket flawlessly and demonstrate comprehensive, confident mastery of the material when answering supplementary questions.

- **21–25 points** - *Demonstrated Competencies: Possesses fundamental skills in working with academic literature and biological specimens. Demonstrates effective use of online academic resources. Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development, and the general principles of the layered structure of the human body. Capable of providing a topographic-anatomical rationale for medical interventions to prevent intraoperative errors and complications. Proficient in using general and some specialized surgical instruments.*

Exam Performance Requirements: The student answers the primary questions on the exam ticket accurately, but may provide incomplete or slightly inaccurate responses to supplementary questions.

- **16–20 points** - *Demonstrated Competencies: Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development. Understands the general principles of the layered structure of the human body. Capable of providing a topographic-*

anatomical rationale for medical interventions to prevent intraoperative errors and complications. Proficient in using general and some specialized surgical instruments.

Exam Performance Requirements: The student answers the primary questions on the exam ticket but struggles or hesitates when answering supplementary questions.

-10–15 points - *Demonstrated Competencies: Understands the anatomical, physiological, age-related, sex-specific, and individual variations in human body structure and development. Understands the general principles of the layered structure of the human body. Capable of providing a topographic-anatomical rationale for medical interventions to prevent intraoperative errors and complications. Proficient in using general and some specialized surgical instruments.*

Exam Performance Requirements: The student answers the primary questions on the exam ticket but struggles or hesitates when answering supplementary questions.

- **2–5 points** - *Demonstrated Deficiencies: Unable to isolate or identify key anatomical concepts. Cannot use basic surgical instruments. Lacks a clear understanding of how to properly utilize online academic resources.*

Exam Performance: The student struggles to answer the exam ticket questions, requires leading questions (prompts) to respond, and demonstrates poor knowledge when answering supplementary questions.

0 points - *Demonstrates no knowledge of the subject.*

Exam Performance: The student fails to answer any question on the initial exam ticket. Even after being offered a second (supplementary) ticket and given preparation time, the student fails to demonstrate any knowledge of the subject.

Absence - *A student who fails to appear for the examination automatically receives 0 points.*

MONITORING AND ASSESSMENT OF INDEPENDENT STUDENT WORK

The following assessment and monitoring methods are used to manage and evaluate students' independent study:

- Topic-Specific Consultations: During these sessions, students process, analyze, and systematize the acquired information. The instructor assesses the students' level of mastery of the material and assignment topics, providing necessary academic guidance and support.
- Formative Assessment (Continuous Monitoring): Conducted during lectures, practical classes, and the solving of clinical situational tasks (case studies). It takes the form of questioning, discussions, oral responses, quizzes, tests, and organized debates.
- Continuous Assessment (Coursework): Conducted through the review and analysis of specific independent study assignments completed out of class. These include individual assignments such as academic reports, creating educational posters on various subject sections, and developing anatomical models or specimens of different organs and systems.

- Summative Assessment (Final Evaluation): Conducted through the system of pass/fail assessments and examinations stipulated in the curriculum. Special emphasis is placed on standardized, objective assessment methods for modules and final exams, which is primarily achieved through comprehensive testing formats.

Independent Out-of-Class Student Work

No	Name of Course Section	Types of Independent Work	Assessment Methods
1	Topographic Anatomy and Operative Surgery. Topographic Anatomy and Operative Surgery of the limbs.	• E-learning programs • Study of internal organ specimens • Preparation of presentations on section topics • Work with study guides • E-learning programs	Oral questioning
2	Topographic Anatomy and Operative Surgery of the head and neck.	• Independent solving of situational tasks (case studies) • Preparation of diagrams and drawings on topics • E-learning programs	Oral questioning
3	Topographic Anatomy and Operative Surgery of the thorax.	• Preparation of diagrams and drawings on topics • Filling out educational tables • Independent solving of situational tasks • E-learning programs	Oral questioning
4	Topographic Anatomy and Operative Surgery of the abdomen.	• Study of specimens • Work with study guides • Independent solving of situational tasks	Oral questioning
5	Topographic Anatomy and Operative Surgery of the pelvis.	• Study of specimens • Work with study guides • Independent solving of situational tasks • E-learning programs	Oral questioning