

Surgery

Educational subject description sheet

**Basic information**

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| **Department**  Faculty of Medicine | | **Didactic cycle**  2021/22 |
| **Field of study**  Medical Program | | **Realization year**  2023/24, 2024/25, 2025/26, 2026/27 |
| **Study level**  long-cycle master's degree program | | **Lecture languages**  English |
| **Study form**  full-time | | **Block**  obligatory for passing in the course of studies |
| **Education proﬁle**  general academic | | **Mandatory**  obligatory |
| **Disciplines**  Medical science | | **Examination**  examination |
| **Subject related to scientiﬁc research**  Yes | | **Standard groups**  A. Morphological education, B. Scientiﬁc basics of medicine, C. Preclinical course, F. Clinical procedural sciences |
| **Subject coordinator** | Marcin Dembiński, Jakub Kenig, Aleksander Konturek | |
| **Lecturer** | Michał Pędziwiatr, Marcin Dembiński, Mateusz Rubinkiewicz, Marcin Barczyński, Bartosz Bogusz, Tomasz Cegielny, Rafał Chrzan, Tomasz Gil, Wojciech Górecki, Andrzej Gryglewski, Katarzyna Jaśko, Halina Jurkowska, Jakub Kenig, Jarosław Kużdżał, Anna Lasek, Dawid Maduzia, Maciej Matyja, Katarzyna Milian-Ciesielska, Artur Pasternak, Barbara Piekarska, Michał Romaniszyn, Janusz Sulisławski, Jerzy Sułko, Jerzy Walocha, Piotr Wałęga, Aleksander Konturek, Jadwiga Dworak, Piotr Małczak, Piotr Major, Marcin Strzałka, Magdalena Pisarska, Marek Winiarski, Michał Natkaniec, Tomasz Wikar, Justyna Rymarowicz, Katarzyna Kołodziejska, Kinga Bugajska, Agata Czerwińska, Anna Dróżdż, Anna Rzepa, Wojciech Serednicki | |

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| **Periods**  Semester 5, Semester 6 | **Examination**  credit | **Number of ECTS points** 7.0 |
|  | **Activities and hours**  seminar: 35, classes: 57, e-learning lecture: 34 |  |

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| **Periods**  Semester 7, Semester 8 | **Examination**  credit | **Number of ECTS points** 5.0 |
|  | **Activities and hours**  e-learning lecture: 24, seminar: 8, classes: 44, simulations: 12 |  |

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| **Periods**  Semester 9, Semester 10 | **Examination**  credit | **Number of ECTS points** 5.0 |
|  | **Activities and hours**  e-learning lecture: 6, seminar: 33, classes: 42 |  |

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| **Periods**  Semester 11, Semester 12 | **Examination**  examination | **Number of ECTS points** 8.0 |
|  | **Activities and hours**  clinical classes: 120 |  |

**Goals**

E.U14. recognizes the states of immediate danger of life; E.U35. evaluates bedsores and apply the appropriate dressings; F.W1. knows and understands the causes, symptoms, principles of diagnosis and therapeutic treatment in relation to the most common diseases requiring surgical intervention, taking into account the individuality of childhood, in particular: a) acute and chronic diseases of the abdominal cavity, b) diseases of the chest, c) diseases of limbs and head d) fractures and injuries of organs; F.W3. knows the rules of qualiﬁcations and performance and the most common complications of basic surgeries and invasive diagnostic and therapeutic procedures; F.W14. knows in the basic scope the problem of surgical transplantation, indications for transplantation irreversibly damaged organs and tissues and related procedures; F.U1. assists with typical surgery, prepares operative ﬁeld and locally anesthetized the operated area; F.U2. uses basic medical sharps; F.U3. apply the principles of aseptic and antiseptic; F.U4. supplies a simple wound, assumed and changes sterile surgical dressing; F.U5. assumes the peripheral venous catheter; F.U6. examines nipples, lymph nodes, thyroid gland and the abdominal cavity in terms of acute abdomen and exercise test with ﬁnger through the anus;

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**Subject's learning outcomes**

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| **Code** | **Outcomes in terms of** | **Eﬀects** | **Examination methods** |
| **Knowledge – Student knows and understands:** | | | |
| W1 | the causes, symptoms, diagnostic and therapeutic management principles for the most common diseases requiring surgical intervention, taking into account the distinctness of childhood age, including in particular:  1) acute and chronic abdominal diseases, 2) thoracic diseases, 3) diseases of extremities and head, 4) fractures of bones and injuries to organs | F.W1 | test, gap ﬁlling test |
| W2 | selected issues in the ﬁeld of pediatric surgery, including traumatology and otorhinolaryngology, as well as acquired defects and diseases being indications for surgical treatment in children | F.W2 | test |
| W3 | rules of qualiﬁcation for basic surgical procedures and invasive diagnostic and therapeutic procedures, rules of their performance and the most frequent complications | F.W3 | test |

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| W4 | principles of perioperative safety, patient preparation for surgery, general and local anesthesia and controlled sedation | F.W4 | test |
| W5 | postoperative treatment with analgesic therapy and postoperative monitoring | F.W5 | test |
| W6 | the causes, symptoms, principles of diagnosis and therapeutic management of the most common diseases requiring surgical intervention, taking into account the distinctness of childhood age and in particular: a) diseases of arterial and venous vessels  b) diseases of the urinary tract c) heart and blood vessel diseases d) craniofacial diseases, acute and chronic diseases of the central nervous system | F.W17 | test |
| W7 | the rules of qualiﬁcation, what they consist of, how they take place and what are the possible complications and consequences of surgical procedures: a) removal of appendix, gallbladder b) excision of the thyroid, parathyroid, adrenal glands c) excision of part and entirety of the stomach, large intestine d) abdominal hernias, using synthetic mesh  e) surgical treatment of obesity | F.W20 | test |
| W8 | the qualiﬁcations rules, knows what they are, how they work and what are the possible consequences and complications of the following procedures: a) percutaneous and intraductive abdominal organ ultrasonography f) b) endoscopic gastrointestinal diagnostic and therapeutic procedures c) endoscopic diagnostic and respiratory therapeutic procedures (bronchoscopy, endoscopic ultrasound bronchoscopy)  d) endoscopic diagnostic and therapeutic procedures for the urinary tract (cystoscopy) e) endoscopic diagnostic and therapeutic procedures for the locomotor system (arthroscopy) f) screening tests used for the early detection of gastrointestinal neoplasms | F.W21 | test |
| W9 | the most common complications of the procedures listed in F.W2 | F.W18 | test |
| W10 | in the basic scope, the issues of surgical transplantation, indications for transplantation of irreversibly damaged organs and tissues and the procedures related thereto | F.W14 | test |
| **Skills – Student can:** | | | |
| U1 | assist in a typical surgical procedure, prepare the surgical ﬁeld and apply local anesthesia to the operated area | F.U1 | booklet of practical skills, classroom observation |
| U2 | use basic surgical instruments | F.U2 | booklet of practical skills, classroom observation |
| U3 | adhere to the principles of asepsis and antisepsis | F.U3 | booklet of practical skills, classroom observation |
| U4 | manage a simple wound, put on and change a sterile surgical dressing | F.U4 | booklet of practical skills, classroom observation |
| U5 | make a peripheral puncture | F.U5 | booklet of practical skills, classroom observation |

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| U6 | examine breasts, lymph nodes, thyroid gland and abdominal cavity in terms of acute abdomen and perform digital rectal examination | F.U6 | booklet of practical skills, classroom observation |
| U7 | manage external bleeding | F.U9 | booklet of practical skills, classroom observation |
| U8 | can tie a single and surgical knot | F.U28 | booklet of practical skills, classroom observation |
| U9 | can perform and interpret FAST ultrasound (Focused Assessment with Sonography for Trauma) | F.U30 | booklet of practical skills, classroom observation |
| U10 | insert a drain into the pleural cavity and connect the set for an active pleural drain | F.U31 | booklet of practical skills, classroom observation |
| U11 | insert a catheter into the bladder | F.U32 | booklet of practical skills, classroom observation |
| U12 | to take the informed and legally eﬀective consent: a) for high-risk diagnostic procedures (e.g. gastroscopy, colonoscopy), endoscopic retrograde cholangiopancreatography) b) for high-risk diagnostic procedures (transcutaneous biopsy under control) USG) c) surgery to remove the gallbladder | F.U33 | booklet of practical skills, classroom observation |
| U13 | to pass on information about the death of a close friend and relative | F.U34 | booklet of practical skills, classroom observation |
| U14 | assess the indications for suprapubic puncture and participate in its performance | F.U23 | booklet of practical skills, classroom observation |
| U15 | assist in typical urological procedures (diagnostic and therapeutic endoscopy of the urinary tract, lithotripsy, prostate puncture) | F.U24 | booklet of practical skills, classroom observation |
| U16 | can examine the breasts, the abdomen and perform a digital rectal examination | F.U29 | booklet of practical skills, classroom observation |
| **Social competences – Student is ready to:** | | | |
| K1 | to be guided by the well-being of a patient | O.K2 | classroom observation |
| K2 | respect medical conﬁdentiality and patients' rights | O.K3 | classroom observation |
| K3 | take actions towards the patient on the basis of ethical norms and principles, with an awareness of the social determinants and limitations of the disease | O.K4 | classroom observation |
| K4 | to establish and maintain deep and respectful contact with patients and to show understanding for diﬀerences in world views and cultures | O.K1 | classroom observation |

**Calculation of ECTS points**

# Semester 5, Semester 6

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| **Activity form** | **Activity hours\*** |
| seminar | 35 |
| classes | 57 |
| e-learning lecture | 34 |

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| preparation for classes | 30 |
| preparation for examination | 30 |
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| **Student workload** | **Hours**  186 |
| **Workload involving teacher** | **Hours**  126 |
| **Practical workload** | **Hours**  57 |

* hour means 45 minutes

# Semester 7, Semester 8

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| **Activity form** | **Activity hours\*** |
| e-learning lecture | 24 |
| seminar | 8 |
| classes | 44 |
| simulations | 12 |
| preparation for classes | 30 |
| preparation for colloquium | 30 |
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| **Student workload** | **Hours**  148 |
| **Workload involving teacher** | **Hours**  88 |
| **Practical workload** | **Hours**  56 |

* hour means 45 minutes

# Semester 9, Semester 10

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| **Activity form** | **Activity hours\*** |
| e-learning lecture | 6 |
| seminar | 33 |
| classes | 42 |
| preparation for classes | 30 |
| preparation for examination | 30 |
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| **Student workload** | **Hours**  141 |
| **Workload involving teacher** | **Hours**  81 |
| **Practical workload** | **Hours**  42 |

* hour means 45 minutes

# Semester 11, Semester 12

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| **Activity form** | **Activity hours\*** |
| clinical classes | 120 |
| preparation for classes | 30 |
| preparation for examination | 30 |
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| **Student workload** | **Hours**  180 |
| **Workload involving teacher** | **Hours**  120 |
| **Practical workload** | **Hours**  120 |

* hour means 45 minutes

**Study content**

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| **No.** | **Course content** | **Subject's learning outcomes** | **Activities** |
| 1. | Examination and diagnosis of the patient with acute abdomen | W1, U12, U16, U6, U9, K2 | seminar, clinical classes, e-learning lecture |
| 2. | Body composition | W6 | seminar |
| 3. | Shock | W1, W6, U5, U7, U9 | seminar, clinical classes, e-learning lecture |
| 4. | Acute abdomen | W1, W3, W4, W7, U1, U2, U8 | seminar, clinical classes, e-learning lecture |
| 5. | Hernias | W1, W3 | seminar, clinical classes |
| 6. | Thyroid and parathyroid glands. | W3, W7 | seminar, clinical classes |
| 7. | Congenital malformations of the gastrointestinal tract | W2 | seminar, clinical classes, e-learning lecture |
| 8. | Burns in children | W2, U3, U4 | seminar, clinical classes |
| 9. | Pediatric thoracic surgery | W1, W2, U10 | seminar, clinical classes |
| 10. | Head injuries in children. Congenital malformations of the nervous system. | W2, K1, K4 | seminar, clinical classes, e-learning lecture |

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| 11. | Congenital malformations of the urinary tract. | W2, U11 | seminar, clinical classes, e-learning lecture |
| 12. | Congenital heart defects. | W1, W10, W6, U7 | seminar, clinical classes, e-learning lecture |
| 13. | Thoracic cavity diseases. | W1 | seminar, clinical classes, e-learning lecture |
| 14. | Diseases of the bile ducts. | W3, W7, W9, U1, U2, U4 | seminar, clinical classes |
| 15. | Colon cancer. | W1, W7, W9, U13 | seminar, clinical classes |
| 16. | Bariatric and metabolic surgery | W4, W7, K3, K4 | seminar, clinical classes, e-learning lecture |
| 17. | Perioperative care (ERAS). | W3, W4, W5 | seminar, clinical classes |
| 18. | Pancreas. | W1 | seminar, clinical classes, e-learning lecture |
| 19. | Rules for qualifying for cardiac surgery and postoperative management. | W6 | seminar, clinical classes |
| 20. | Surgery in acute cardiological conditions ("acute heart"). | W6 | seminar, clinical classes |
| 21. | Principles of anticoagulation (cardiovascular system). | W6 | seminar, clinical classes |
| 22. | Anatomy. Abdominal and pelvic walls   * abdominal wall structure * groin anatomical structures * laparoscopic images of inguinal region anatomy on a corpse * pelvic wall construction | W1 | seminar, clinical classes |
| 23. | Anatomy. Stomach pain   * innervation of the abdominal walls and abdominal organs * innervation of the pelvic walls and pelvic organs * visceral pain * somatic painsc | W1 | seminar, clinical classes |
| 24. | Abdominal hernia anatomy. | W1 | seminar, clinical classes |
| 25. | Anatomy. Peritoneum   * peritoneal cavities * mesenteries and their contents | W1 | seminar, clinical classes |
| 26. | Anatomy. Glandular ﬂoor   * topographic anatomy of the esophagus * construction of the esophagus wall * stomach topographic anatomy * vascularization and innervation of the stomach * duodenum * pancreas * liver * spleen | W1 | seminar, clinical classes |
| 27. | Anatomy: Pelvic organs  - rectum | W1 | seminar, clinical classes |
| 28. | Hepatobiliary surgery. | W1, W7 | seminar, clinical classes |
| 29. | Gastric surgery | W1, W3, W7 | seminar, clinical classes |
| 30. | Endoscopy | W8, U12, U9 | seminar, clinical classes |
| 31. | Brest surgery | W1, U6 | seminar, clinical classes |

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| 32. | Pancreatic cancer | W1, W3 | e-learning lecture |
| 33. | Gastric cancer | W1, W7 | e-learning lecture |
| 34. | Colorectal cancer | W1, W7 | e-learning lecture |
| 35. | Introduction to urology seminars. The role of a family doctor in diagnosing urological diseases.  Symptomatology of urological diseases. Imaging diagnostics in urology (USG; CT; MR; scintigraphy; urodynamics).  Urological instruments. Basic urological procedures. Speciﬁc and unspeciﬁc inﬂammations of the genitourinary organs. | W1, U11, U14, U15 | seminar, clinical classes |
| 36. | Neoplasms of urinary organs in both sexes and male reproductive system: kidneys, ureter, bladder, urethra, prostate, testicles, penis. | W1, U11, U14, U15 | seminar, clinical classes |
| 37. | Urological emergencies. Urogenital injuries - conservative and surgical treatment. | W1, U11, U14, U15 | seminar, clinical classes |
| 38. | Male genital diseases. Diseases of the prostate gland. Andropause. Erectile dysfunction. | W1, U11, U14, U15 | seminar, clinical classes |
| 39. | Urolithiasis including modern treatment methods: ESWL, PCNL, URS. Urinary incontinence in men and women. Basic knowledge of gynecological urology. | W1, U11, U14, U15 | seminar, clinical classes |
| 40. | Selected problems of maxillofacial surgery. | W6 | seminar, clinical classes |
| 41. | Intracranial hypertension. Clinical symptomatology, recognition. Treatment. Craniocerebral injuries.  Fractures of the skull bones (vaults and bases). Intracranial hematomas. Diﬀuse axonal injury. | W6 | seminar, clinical classes |
| 42. | Tumors of the brain and spinal canal. | W6 | seminar, clinical classes |
| 43. | Central nervous system malformations. | W6 | seminar, clinical classes |
| 44. | Spinal pain syndromes. | W6 | seminar, clinical classes |
| 45. | Laboratory teaching of surgical skills. | U13, U2, U3, U4, U5, U8 | classes, simulations |

**Course advanced**

# Semester 5, Semester 6

**Teaching methods:**

clinical classes, OSCE examination, e-learning, problem solving method, seminar, simulation, workshop

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| **Activities** | **Examination methods** | **Credit conditions** |
| seminar | classroom observation, test | Student activity, presence |
| classes | booklet of practical skills | Student activity, presence |
| e-learning lecture | test | Written or oral exam, presence |

# Semester 7, Semester 8

**Teaching methods:**

case study, clinical classes, e-learning, problem solving method, seminar, simulation, workshop, lecture, PBL Problem Based Learning, practical classes

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| **Activities** | **Examination methods** | **Credit conditions** |
| e-learning lecture | gap ﬁlling test | Student Activity, presence |
| seminar | classroom observation | Student activity, presence |
| classes | classroom observation | Student acrtivity, presence |
| simulations | classroom observation | Oral exam, presence |

# Semester 9, Semester 10 Teaching methods:

case study, clinical classes, e-learning, seminar, workshop, lecture, practical classes

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| **Activities** | **Examination methods** | **Credit conditions** |
| e-learning lecture | gap ﬁlling test | Oral exam, presence |
| seminar | classroom observation | Student activity, presence |
| classes | booklet of practical skills | Student activity, presence |

# Semester 11, Semester 12 Teaching methods:

clinical classes, e-learning, seminar, simulation, lecture

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| **Activities** | **Examination methods** | **Credit conditions** |
| clinical classes | classroom observation | Student activity, presence, Written exam |

# Additional info

To complete the course, the student must be present at all classes. In the case of the student's absence during classes, it is necessary to make up for the absence during the medical duty.

Single-choice test will be required at the end of the course. In order to pass, it will be required to obtain 60% correct answers.

**Entry requirements**

Passed Anatomy and Labolatory Training of Clinical Skills Class attendance is obligatory

**Obligatory**

**Literature**

1. Schwartz’s Principles of Surgery, 10th ed.
2. Oxford Handbook of Clinical Surgery, 4th ed.

# Optional

1. Sabiston Texybook of Surgery, 19th ed.
2. Principles and Practice of Surgery, Garden, 7th ed.

**Standard eﬀects**

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| **Code** | **Content** |
| F.U1 | assist in a typical surgical procedure, prepare the surgical ﬁeld and apply local anesthesia to the operated area |
| F.U2 | use basic surgical instruments |
| F.U3 | adhere to the principles of asepsis and antisepsis |
| F.U4 | manage a simple wound, put on and change a sterile surgical dressing |
| F.U5 | make a peripheral puncture |
| F.U6 | examine breasts, lymph nodes, thyroid gland and abdominal cavity in terms of acute abdomen and perform digital rectal examination |
| F.U9 | manage external bleeding |
| F.U23 | assess the indications for suprapubic puncture and participate in its performance |
| F.U24 | assist in typical urological procedures (diagnostic and therapeutic endoscopy of the urinary tract, lithotripsy, prostate puncture) |
| F.U28 | can tie a single and surgical knot |
| F.U29 | can examine the breasts, the abdomen and perform a digital rectal examination |
| F.U30 | can perform and interpret FAST ultrasound (Focused Assessment with Sonography for Trauma) |
| F.U31 | insert a drain into the pleural cavity and connect the set for an active pleural drain |
| F.U32 | insert a catheter into the bladder |
| F.U33 | to take the informed and legally eﬀective consent: a) for high-risk diagnostic procedures (e.g. gastroscopy, colonoscopy), endoscopic retrograde cholangiopancreatography) b) for high-risk diagnostic procedures (transcutaneous biopsy under control) USG) c) surgery to remove the gallbladder |
| F.U34 | to pass on information about the death of a close friend and relative |
| F.W1 | the causes, symptoms, diagnostic and therapeutic management principles for the most common diseases requiring surgical intervention, taking into account the distinctness of childhood age, including in particular: 1) acute and chronic abdominal diseases, 2) thoracic diseases, 3) diseases of extremities and head, 4) fractures of bones and injuries to organs |
| F.W2 | selected issues in the ﬁeld of pediatric surgery, including traumatology and otorhinolaryngology, as well as acquired defects and diseases being indications for surgical treatment in children |
| F.W3 | rules of qualiﬁcation for basic surgical procedures and invasive diagnostic and therapeutic procedures, rules of their performance and the most frequent complications |
| F.W4 | principles of perioperative safety, patient preparation for surgery, general and local anesthesia and controlled sedation |
| F.W5 | postoperative treatment with analgesic therapy and postoperative monitoring |
| F.W14 | in the basic scope, the issues of surgical transplantation, indications for transplantation of irreversibly damaged organs and tissues and the procedures related thereto |
| F.W17 | the causes, symptoms, principles of diagnosis and therapeutic management of the most common diseases requiring surgical intervention, taking into account the distinctness of childhood age and in particular: a) diseases of arterial and venous vessels b) diseases of the urinary tract c) heart and blood vessel diseases d) craniofacial diseases, acute and chronic diseases of the central nervous system |
| F.W18 | the most common complications of the procedures listed in F.W2 |
| F.W20 | the rules of qualiﬁcation, what they consist of, how they take place and what are the possible complications and consequences of surgical procedures: a) removal of appendix, gallbladder b) excision of the thyroid, parathyroid, adrenal glands c) excision of part and entirety of the stomach, large intestine d) abdominal hernias, using synthetic mesh e) surgical treatment of obesity |

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| **Code** | **Content** |
| F.W21 | the qualiﬁcations rules, knows what they are, how they work and what are the possible consequences and complications of the following procedures: a) percutaneous and intraductive abdominal organ ultrasonography f)  b) endoscopic gastrointestinal diagnostic and therapeutic procedures c) endoscopic diagnostic and respiratory therapeutic procedures (bronchoscopy, endoscopic ultrasound bronchoscopy) d) endoscopic diagnostic and therapeutic procedures for the urinary tract (cystoscopy) e) endoscopic diagnostic and therapeutic procedures for the locomotor system (arthroscopy) f) screening tests used for the early detection of gastrointestinal neoplasms |
| O.K1 | to establish and maintain deep and respectful contact with patients and to show understanding for diﬀerences in world views and cultures |
| O.K2 | to be guided by the well-being of a patient |
| O.K3 | respect medical conﬁdentiality and patients' rights |
| O.K4 | take actions towards the patient on the basis of ethical norms and principles, with an awareness of the social determinants and limitations of the disease |