**ACADEMIC DISCIPLINE OVERVIEW**

1. **Program data**

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| 1.1. Higher education institution | Grigore T. Popa University of Medicine and Pharmacy Iasi |
| 1.2. Faculty | Medical Bioengineering |
| 1.3. Department | Biomedical Sciences |
| 1.4. Field of study | Health |
| 1.5. The cycle of studies | Bachelor |
| 1.6. Study program / qualification | Balneo-physiokinetotherapy and rehabilitation – english language / Physiokinetotherapist |

**2. Discipline data**

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| 2.1. Name of the discipline / Code | | | | **Anatomy II** | | **RE1110** |
| 2.2. Teaching staff in charge with lectures | | | | **Lecturer Laura Adriana Rîșcanu, MD, PhD** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **Assistant Professor Loredana Toma, MD, PhD candidate** | | |
| 2.4. Year of study | **I** | 2.5. Semester | **2** | 2.6. The type of assessment | **Exam, E2** | |
| 2.7. Discipline type | | **Mandatory** | | **Fundamental discipline** | | |

**3. Estimated total time (hours/semester of didactic activity)**

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| 3.1. Number of hours / week: | | 3.2. Courses number of hours / week | | 3.3. Seminars / practical classes  number of hours / week | | | |
| Semester 1 |  |  | |  | | | |
| Semester 2 | **4** | **2** | | **2** | | | |
| 3.4. Total number of learning hours: | **56** | 3.5. Of which: Courses | **28** | 3.6. Of which: Seminars / practical classes: | | | **28** |
| 3.7. Distribution of individual study time: | | | | | Hours sem. 1 | Hours sem. 2 | |
| Study time using course book materials, bibliography and hand notes | | | | |  | 12 | |
| Supplementary documentation in the library, using specialised platforms via internet and by field work | | | | |  | 12 | |
| Preparation time for seminars / practical classes, study themes, reviews, portfolio and essays | | | | |  | 10 | |
| Tutorship | | | | |  | 4 | |
| Examinations | | | | |  | 4 | |
| Other activities | | | | |  | 10 | |
| Total hours of individual study (*without examinations*) | | | | |  | **44** | |
| 3.8. Total hours per semester | | | | |  | **56** | |
| 3.9. Number of credits | | | | |  | **4** | |

**4. Preconditions (where applicable)**

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| 4.1. of curriculum |  |
| 4.2. of competences |  |

5. **Conditions (where applicable)**

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| 5.1. for lectures | Logistic video support |
| 5.2. for seminars / practical classes | Students will wear protective clothing (lab coat) |

**6. Specific competences acquired**

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| **Professional competencies** | **C1.1** | Description of concepts, theories and fundamental concepts of physiological and pathological mechanisms of the body, symptoms and clinical signs, identification methods and techniques of physiotherapy |
| **C1.2** | Formulation of hypotheses and operationalization of key concepts to explain syndromes and / or diseases |

7**.** **Objectives of the study discipline (according to the grid of specific competences acquired)**

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| 7.1. General objective | Knowing the shape and structure of the human body and anatomy of various body systems |
| 7.2. Specific objectives | Gaining knowledge on the functioning of the musculoskeletal, cardiovascular, respiratory, digestive, urinary, nervous sistems  Integration anatomical data and functional unit of the living organism. |

**8. Contents**

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| 8.1. Lectures SEMESTER 1 | | Teaching methods | Observations |
| 1 | Cardiovascular system: external and internal conformation of the heart, functional anatomy and structure of the heart; endocardium, contractile myocardium, embryonic myocardium, pericardium; vasculature and innervation of the heart. | Interactive lectures,  Discussion, Explanations | 2 hours |
| 2 | Cardiovascular system - systemic circulation, pulmonary circulation | Interactive lectures,  Discussion, Explanations | 2 hours |
| 3 | Respiratory system- extrapulmonary respiratory tract: nasal passages, larynx, trachea- external and internal shape  Lungs-external conformation, structure, vascularization and innervation, pulmonary organization, pleura | Interactive lectures,  Discussion, Explanations | 2 hours |
| 4 | Digestive system- oral cavity and adnexal glands, oesophagus, descriptive and functional anatomy, structure, vasculature and innervation. Stomach, descriptive and functional anatomy, structure, vasculature and innervation | Interactive lectures,  Discussion, Explanations | 2 hours |
| 5 | Small intestine, descriptive and functional anatomy, structure, vasculature and innervation. Large intestine - descriptive and functional anatomy, structure, vasculature and innervation.  Appendicular glands: liver, bile ducts | Interactive lectures,  Discussion, Explanations | 2 hours |
| 6 | Adnexal glands: pancreas - descriptive anatomy; structure, vasculature and innervation, peritoneum; spleen - external conformation and structure- | Interactive lectures,  Discussion, Explanations | 2 hours |
| 7 | Urogenital system -  Kidneys external conformation, structure, excretory pathways functional organization | Interactive lectures,  Discussion, Explanations | 2 hours |
| 8 | Male genital apparatus - functional organization,  Female genital apparatus - functional organization, | Interactive lectures,  Discussion, Explanations | 2 hours |
| 9 | Topographical anatomy - head and neck regions | Interactive lectures,  Discussion, Explanations | 2 hours |
| 10 | Topographical anatomy - regions of the trunk | Interactive lectures,  Discussion, Explanations | 2 hours |
| 11 | Topographical anatomy - regions of the upper limb | Interactive lectures,  Discussion, Explanations | 4 hours |
| 12 | Topographical anatomy - regions of the lower limb | Interactive lectures,  Discussion, Explanations | 4 hours |

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| 8.2. Practical activities - practical class sem 1 | | Teaching methods | Observations |
| 1 | 1.External and internal conformation of the right and left heart, septum of the heart.  2.Serous and fibrous pericardium;  3.Coronary arteries;  4. innervation of the heart | Interactive lectures,  Discussion, Explanations | 2 hours |
| 2 | Aortic artery, Trunk of pulmonary artery;  2.1. relations; collateral branches  2.2. pulmonary arteries: ratios | Interactive lectures,  Discussion, Explanations | 2 hours |
| 3 | Upper and lower airways  1 ratios,  2. structure,  3. vascularisation and innervation  4. Lungs external conformation and ratios, intrapulmonary bronchial tree, vascular, nervous and lymphatic system, segmentation  Pleura - parietal and visceral external conformation | Interactive lectures,  Discussion, Explanations | 2 hours |
| 4 | Digestive tract  1 Oral cavity - walls, teeth, salivary glands  2 Esophagus - external conformation, ratios, structure, vasculature and innervation  3.Stomach - ratios, structure, vasculature and innervation | Interactive lectures,  Discussion, Explanations | 2 hours |
| 5 | Digestive tract  4.Duodenum - ratios, vasculature  5.Jejunum and ileum - ratios, structure of intestinal loop, vasculature  6.Cecum, colon, rectum - ratios, structure, vascularisation and innervation | Interactive lectures,  Discussion, Explanations | 2 hours |
| 6 | Digestive tract  Glands of the digestive tract  1 - Liver - ratios, external conformation, lobulation, vasculature, innervation.  2.Bile ducts - structure, vasculature and innervation.  3.Pancreas - external conformation and ratios- | Interactive lectures,  Discussion, Explanations |  |
| 7 | Kidneys-  1.External conformation, ratios, structure, vasculature and innervation Renal calyces,  2. renal pelvis, ureter, bladder,  urethra. | Interactive lectures,  Discussion, Explanations | 2 hours |
| 8 | 1.Structure of the male genital apparatus  2.Structure of the female genital apparatus | Interactive lectures,  Discussion, Explanations | 2 hours |
| 9 | Topographical anatomy - regions of the head  Topographical anatomy - neck regions | Interactive lectures,  Discussion, Explanations | 2 hours |
| 19 | Topographical anatomy - trunk regions | Interactive lectures,  Discussion, Explanations | 2 hours |
| 11 | Topographical anatomy - regions of the upper limb | Interactive lectures,  Discussion, Explanations | 4 hours |
| 12 | Topographic anatomy - lower limb regions | Interactive lectures,  Discussion, Explanations | 4 hours |

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| **8.3. Bibliography:** |
| Mandatory:  1.Course notes, e-Learning platform  2.Practical work notes, e-Learning platform  3. Gray's Anatomy: The Anatomical Basis of Clinical Practice, 41e 41st Edition Gray's Anatomy: The Anatomical Basis of Clinical Practice, 51st Edition , [Susan Standring PhD DSc](https://www.amazon.com/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Susan+Standring+PhD++DSc&search-alias=books&field-author=Susan+Standring+PhD++DSc&sort=relevancerank), 2012 |
| 4. Atlas of Human Anatomy , 6th Edition, Frank Netter, Saunders Edit , 2014  5.Gray's Anatomy for Students - Richard Drake, A. Wayne Vogl, Adam W. M. Mitchell, [Richard L. Drake](https://www.librariadelfin.ro/autor/richard-l-drake--i12018), [A. Wayne Vogl](https://www.librariadelfin.ro/autor/a-wayne-vogl--i12019), [Adam W. M. Mitchell](https://www.librariadelfin.ro/autor/adam-w-m-mitchell--i12020), [Elsevier](https://www.librariadelfin.ro/editura/elsevier--i794) Edit,  2019  6.Gray s anatomy , H.Gray, F.R.S., Running Press, Philadephia, 2021  7.The digestive system, Cristinel Ionel Stan, Anca Sava, Diana Bulgaru Iliescu, Grigore Tinica, UMF Iasi edit. 2021  8.The cardiovascular system, Cristinel Ionel Stan, Anca Sava, Diana Bulgaru Iliescu, Grigore Tinica, UMF Iasi edit. 2020  9.The respiratory system, Cristinel Ionel Stan, Anca Sava, Diana Bulgaru Iliescu, Grigore Tinica, UMF Iasi edit. 2021 |

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| ***Elective:*** |
| 1. Abrahams' and McMinn's Clinical Atlas of Human Anatomy, [Peter H. Abrahams](https://www.libristo.ro/ro/autor/Peter%20H.%20Abrahams), [Jonathan D. Spratt](https://www.libristo.ro/ro/autor/Jonathan%20D.%20Spratt), [Marios Loukas](https://www.libristo.ro/ro/autor/Marios%20Loukas), [Albert-Neels van Schoor](https://www.libristo.ro/ro/autor/Albert-Neels%20van%20Schoor), [Ralph T. Hutchings](https://www.libristo.ro/ro/autor/Ralph%20T.%20Hutchings)   [Elsevier](https://www.librariadelfin.ro/editura/elsevier--i794) Edit,  2019   1. Atlas of Anatomy 2nd Edition, [Anne M Gilroy](https://www.amazon.com/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Anne+M+Gilroy&search-alias=books&field-author=Anne+M+Gilroy&sort=relevancerank), [Brian R MacPherson](https://www.amazon.com/s/ref=dp_byline_sr_book_2?ie=UTF8&text=Brian+R+MacPherson&search-alias=books&field-author=Brian+R+MacPherson&sort=relevancerank), [Lawrence M Ross](https://www.amazon.com/s/ref=dp_byline_sr_book_3?ie=UTF8&text=Lawrence+M+Ross&search-alias=books&field-author=Lawrence+M+Ross&sort=relevancerank) [Michael Schuenke](https://www.amazon.com/s/ref=dp_byline_sr_book_4?ie=UTF8&text=Michael+Schuenke&search-alias=books&field-author=Michael+Schuenke&sort=relevancerank) , [Erik Schulte](https://www.amazon.com/s/ref=dp_byline_sr_book_5?ie=UTF8&text=Erik+Schulte&search-alias=books&field-author=Erik+Schulte&sort=relevancerank) , [Udo Schumacher](https://www.amazon.com/s/ref=dp_byline_sr_book_6?ie=UTF8&text=Udo+Schumacher&search-alias=books&field-author=Udo+Schumacher&sort=relevancerank) [Lippincott Williams & Wilkins](https://www.amazon.com/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Lippincott+Williams+%26+Wilkins&search-alias=books&field-author=Lippincott+Williams+%26+Wilkins&sort=relevancerank), 2011 2. Clinically oriented anatomy, [Keith L. Moore](https://www.google.ro/search?sa=X&biw=1600&bih=762&q=keith+l+moore&stick=H4sIAAAAAAAAAOPgE-LSz9U3SDaszCi0UOIEsy0M49O0ZLKTrfST8vOz9cuLMktKUvPiy_OLsq0SS0sy8osAnV1yTzcAAAA&ved=0ahUKEwjkmvjEvuTRAhVMNxQKHYRiBoQQmxMIyQEoATAU), Arthur F. Dalley, [Lippincott Williams & Wilkins](https://www.amazon.com/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Lippincott+Williams+%26+Wilkins&search-alias=books&field-author=Lippincott+Williams+%26+Wilkins&sort=relevancerank), 2012 |
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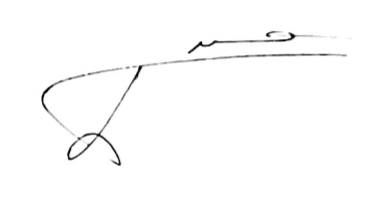
**9. *Correlation of the discipline contents with the expectations of the epistemic community, professional associations, and representative employers from the afferent program field***

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| Knowledge and abilities are established as didactic objectives and specified as such in the analytic programs that are revised yearly. After their analysis by the study discipline staff, these are discussed and approved in the Curricular Committee, towards curricular harmonization among the various study disciplines. Along this entire process systematic evaluation is performed, directly if possible, regarding the correspondence of the contents to the expectations of the academic community and of the representatives of the social community, professional associations, and employers. |

**10. Evaluation**

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| Type of activity | Assessment criteria | Evaluation methods | Contribution to the final grade |
| Lectures | Acquiring theoretical notions and presented in the course | Written exam.  MCQ Examination | 80 % |
| Practical activities | Activities carried out in laboratory and conducted quality essays. | Colloquium practical activity | Admitted/ Rejected |
| Individual study | Preparation time for seminars / practical classes, study themes, reviews, portfolio and essays.  Individual study using coursebook materials, bibliography and hand notes, documentation in the library, using specialised platforms via internet and by field work. | Tests during the semester | 20 % |
| Minimal performance standard:   * Basic knowledge of the components of each apparatus and system of the human bod | | | |

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| Date | Holder of course / signature, | Holder of practical activities / signature, |
| 11.09.2024 | Lecturer Laura Adriana Rîșcanu, MD, PhD | Assistant Professor Loredana Toma, MD, PhD candidate |



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| Date of approval in the Department Council/Teaching Council, | | |
| 19.09.2024 |  | Department director / signature, |

Associate Professor Daniela-Viorelia Matei, MD, PhD