

Документ подписан простой электронной подписью  
 Информация о владельце:  
 ФИО: Косенок Сергей Михайлович  
 Должность: ректор  
 Дата подписания: 18.07.2025 07:13:33  
 Уникальный программный ключ:  
 e3a68f3eaa1e62674b54f4998099d3d6bfdcf836

Khanty-Mansiysk Autonomous Okrug-Ugra  
 "Surgut State University"

Approved by  
 Deputy Rector for Academic Affairs  
 \_\_\_\_\_E.V. Konovalova

“ 11 ” June 2025, Record No.5

## Professional Practice, Urgent Medical Manipulations Using Simulation Technologies

### Syllabus

|                    |                                                                    |
|--------------------|--------------------------------------------------------------------|
| Department         | <b>Cardiology</b>                                                  |
| Curriculum         | s310501-ЛечДело-Ин-25-1.plx<br>Specialty 31.05.01 General Medicine |
| Qualification      | <b>General Practitioner</b>                                        |
| Form of education  | <b>Full-time</b>                                                   |
| Total (in credits) | 7                                                                  |

|                      |     |                                   |
|----------------------|-----|-----------------------------------|
| Total academic hours | 252 | Control:                          |
| including:           |     | Credit, 11,12 <sup>th</sup> terms |
| Classes              | 112 |                                   |
| Self-study           | 140 |                                   |
| Control hours        | 0   |                                   |

### Course outline in terms

| Academic year<br>(Term) | 6 (6.9, 6.10) |     | Total |     |
|-------------------------|---------------|-----|-------|-----|
| Weeks                   |               |     |       |     |
| Types of classes        | Cur           | Syl | Cur   | Syl |
| Lectures                |               |     |       |     |
| Practical               | 112           | 112 | 112   | 112 |
| Self-study              | 140           | 140 | 140   | 140 |
| Control hours           | -             | -   | -     | -   |
| Total                   | 252           | 252 | 252   | 252 |

The Syllabus is compiled by:

*PhD in Medical Sciences, Associate Professor, Vorobev A.S.*

*Lecturer, Astrakhantseva I.D.*

The Syllabus

**Professional Practice, Urgent Medical Manipulations Using Simulation Technologies**

Developed in accordance with Federal State Educational Standard:

Federal State Educational Standard of higher education in the specialty 31.05.01 General medicine (Order of the Ministry of Education and Science of the Russian Federation on August 12, 2020 No. 988)

Based on the Curriculum:

31.05.01 GENERAL MEDICINE

Specialization: General Medicine

Approved by the Academic Council of Surgut State University, 11.06.2025, Record No. 5

The Syllabus was approved by the department

**Cardiology**

Head of Department, PhD in Medical Sciences , Associate Professor, Urvantseva I.A.

| 1. PRACTICE OBJECTIVES           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------|
| 1.1                              | <b>The purposes</b> are the formation by students of a system of competencies for the required volume of urgent measures in professional activity, the formation and development of professionally significant personality traits. Industrial practice is an integral part of the main educational program of higher education and the most important qualified training.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |                 |
| 1.2                              | <b>The objectives</b> of the practice are:<br>- to form the ability and willingness to implement the ethical and deontological aspects of medical practice in communication with colleagues, nurses and nurses, adults and adolescents.<br>- to form the ability and readiness to analyse medical information, based on the comprehensive principles of evidence-based medicine, based on finding solutions using theoretical knowledge and practical skills in order to improve professional performance.<br>- to form the ability and willingness to analyse the results of their own activities to prevent medical errors, while being aware of disciplinary, administrative, civil and criminal liability.<br>- to form the ability and readiness to conduct and interpret data from anamnesis, results of physical examination, clinical examination, data of modern laboratory and instrumental studies, including on the basis of interactive interaction with robotic simulators.<br>- to form the ability and readiness to make pathophysiological analysis of clinical syndromes, to substantiate pathogenetically justified methods (principles) of diagnosis, treatment, rehabilitation and prevention among adults and adolescents. |                                               |                 |
| 2. COURSE OVERVIEW               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
| Course code (in                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>B2.O.02.06(II)</b>                         |                 |
| 2.1                              | <b>Assumed background:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               |                 |
|                                  | Introduction to Speciality. Ethics and Deontology (Bioethics)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                 |
|                                  | Topographic Anatomy, Operative Surgery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                               |                 |
|                                  | Microbiology, Virology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                               |                 |
|                                  | Pharmacology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                               |                 |
|                                  | Pathophysiology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
|                                  | Hygiene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                               |                 |
|                                  | Physics, mathematics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               |                 |
|                                  | Biochemistry                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                               |                 |
|                                  | Neurology, medical genetics, neurosurgery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |                 |
|                                  | Infectious diseases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |                 |
|                                  | Internal Diseases Propaedeutics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
|                                  | X-Ray Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |                 |
|                                  | Otorhinolaryngology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |                 |
|                                  | Faculty therapy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
|                                  | Hominal physiology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                               |                 |
|                                  | Human anatomy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                 |
|                                  | Clinical Pathologic Anatomy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                               |                 |
|                                  | Human genetics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                               |                 |
|                                  | Immunology and Allergology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               |                 |
| 2.2                              | <b>Post-requisite courses and practice:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                               |                 |
|                                  | Obstetrics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               |                 |
|                                  | Gynaecology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                               |                 |
|                                  | Hospital Therapy (5, 6 years)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                 |
|                                  | Endocrinology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                               |                 |
|                                  | Outpatient Therapy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                               |                 |
|                                  | Faculty Surgery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
|                                  | Clinical Surgery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                               |                 |
|                                  | Educational Practice in Research (primary research skills)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               |                 |
|                                  | Professional Practice, General Practitioner Assistant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |                 |
| 3. PLACE AND PERIOD OF PRACTICE  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
| Term                             | Place                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Department                                    | Period          |
| Term IX                          | Surgut State University                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Simulation, Training and Accreditation Center | During the Term |
| Term X                           | Surgut State University                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Simulation, Training and Accreditation Center | During the Term |
| 5. Mode of practice – stationary |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |
| 6. Form of practice – discrete   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |                 |

| 4. COMPETENCES UPON COMPLETION OF THE PRACTICE                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UC-3.1: Determines his/her role in the team based on the strategy of cooperation to achieve the goal                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                    |
| UC-3.2: Considers the behavior of other team members while implementing his/her role in the team                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                    |
| UC-3.3: Analyzes the possible consequences of personal actions and plans his/her actions to achieve the pre-planned result                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                    |
| UC-4.1: Chooses the style of communication in the State language of the Russian Federation in accordance with the purpose and conditions of communication                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                    |
| UC-5.3: Upholds the principles of tolerance and respect of fundamental human and civil rights in personal and social communication in order to solve professional tasks and enhance social integration                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                    |
| GPC-1.1: Knows the legislation of the Russian Federation on the rights and obligations of citizens in the field of healthcare (Constitution of the Russian Federation as amended in 2020, No. 323-FZ) and is able to implement legal norms, ethical and deontological principles of professional activity                                                                                                                           |                                                                                                                                                                                                                                                                                                                    |
| GPC-1.2: Knows the legislation of the Russian Federation on the legal basis of medical activity (Labor Code of the Russian Federation, No. 326-FZ, No. 323-FZ) and is able to form the doctor-patient relationship within the legal framework                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                    |
| GPC-1.3: Able to apply ethical and deontological principles in professional activity                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                    |
| GPC-4.1: Knows the physical principles of instrumental methods and equipment for diagnosing human diseases aimed at effective and differentiated application in professional activities                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                    |
| GPC-4.3: Able to apply knowledge and skills in conducting a diagnostic search for diseases using medical equipment (products) to establish a diagnosis                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                    |
| GPC-5.8: Knows the mechanisms of development of general pathological processes and the pathogenesis of various diseases and pathological conditions of a person; is able to identify the leading factors of pathogenesis in their relationship with a specific disease or pathological condition and substantiate effective pathogenetic therapy                                                                                    |                                                                                                                                                                                                                                                                                                                    |
| GPC-5.10: Knows the etiology and pathogenesis of diseases, which is necessary to assess the physiological state and pathological processes in order to diagnose, treat and prevent diseases                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                    |
| GPC-6.3: Ready to make professional decisions in emergency situations, epidemics and in outbreaks of mass destruction, to provide medical assistance in emergency situations, including participation in medical evacuation, anti-epidemic measures, protection of the population in the outbreaks of especially dangerous infections, in case of deterioration of the radiation situation, natural disasters and other emergencies |                                                                                                                                                                                                                                                                                                                    |
| GPC-7.1: Knows the classification, mechanism of action, pharmacokinetics, pharmacodynamics of drugs used in various fields of medicine; indications and contraindications for their prescription; possible side effects and complications; methods of non-drug therapy, their mechanism of effect, indications and contraindications for prescription to adult patients, possible side effects and complications                    |                                                                                                                                                                                                                                                                                                                    |
| GPC-7.2: Able to prescribe modern treatment regimens based on approved current Clinical Recommendations                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                    |
| GPC-7.3: Able to monitor the effectiveness and safety of the treatment of diseases prescribed on the basis of the approved current Clinical Recommendations                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                    |
| PC-2.2: Applies techniques, medicines and medical devices (defibrillator) for emergency and urgent care in sudden acute diseases, conditions, as well as exacerbation of non-life threatening chronic diseases not requiring emergency medical care                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                    |
| PC-2.3: Performs basic cardiopulmonary resuscitation in the provision of emergency care for patients with sudden cessation of blood circulation and / or breathing                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                    |
| PC-5.2: Provides various categories of patients with outpatient treatment, treatment in hospitals and high-tech medical care (HMC) centers applying drugs, medical devices and medical nutrition, according to clinical pattern and current procedures, standards of medical care, Clinical guidelines (treatment protocols)                                                                                                        |                                                                                                                                                                                                                                                                                                                    |
| PC-5.3: Prescribes non-drug treatments to the patient, palliative and personalized medical care                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                    |
| By the end of the course students must:                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                    |
| 4.1                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Know:</b>                                                                                                                                                                                                                                                                                                       |
| 4.1.1                                                                                                                                                                                                                                                                                                                                                                                                                               | - indications, contraindications, technique, complications, prevention of complications of first aid techniques, methods of protection in emergency situations;                                                                                                                                                    |
| 4.1.2                                                                                                                                                                                                                                                                                                                                                                                                                               | - pharmacokinetics and pharmacodynamics of drugs, other substances and their combinations, used in emergency medical care: medical indications and medical contraindications for the appointment; possible complications, side effects, undesirable reactions, including serious and unforeseen ones;              |
| 4.1.3                                                                                                                                                                                                                                                                                                                                                                                                                               | - anatomy and physiology of morphofunctional, physiological conditions, etiology, pathogenesis, clinical, functional, laboratory diagnostics, differential diagnostics, treatment options for pathological processes in the human body in the provision of emergency medical care;                                 |
| 4.1.4                                                                                                                                                                                                                                                                                                                                                                                                                               | - diagnostic and treatment methods, prevention of complications, preparation of medical documentation in the provision of emergency medical care for conditions requiring urgent medical intervention.                                                                                                             |
| 4.2                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Be able to:</b>                                                                                                                                                                                                                                                                                                 |
| 4.2.1                                                                                                                                                                                                                                                                                                                                                                                                                               | - use first aid techniques in anesthesiology, intensive therapy of acute respiratory and cardiovascular failure, shock conditions and acute disturbances of consciousness, resuscitation of terminal states, in case of violations of the acid-base state and water-electrolyte metabolism, exo- and endotoxiosis; |
| 4.2.2                                                                                                                                                                                                                                                                                                                                                                                                                               | - use methods of protection in emergency situations;                                                                                                                                                                                                                                                               |

|       |                                                                                                                                                                                                                                                                                                                                                                                |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.2.3 | - use drugs, other substances and their combinations in anesthesiology, intensive therapy of acute respiratory and cardiovascular failure, shock conditions and acute disturbances of consciousness, resuscitation of terminal states, in case of violations of the acid-base state and water-electrolyte metabolism, exo- and endotoxiosis;                                   |
| 4.2.4 | - evaluate morphofunctional, physiological conditions and pathological processes in anesthesiology, intensive therapy of acute respiratory and cardiovascular insufficiency, shock conditions and acute disturbances of consciousness, resuscitation of terminal states, in case of violations of the acid-base state and water-electrolyte metabolism, exo- and endotoxiosis; |
| 4.2.5 | - provide emergency medical care in the intensive care of acute respiratory and cardiovascular failure, shock conditions and acute disturbances of consciousness, resuscitation of terminal states, in case of violations of the acid-base state and water-electrolyte metabolism, exo- and endotoxiosis.                                                                      |

## 5. STRUCTURE AND CONTENTS OF PRACTICE

| Class Code                                                                                              | Topics /Class type                                                            | Term / Academic year | Academic hours | Competences                                                                                                                                                                | Literature                                  | Interactive | Notes                                             |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------|---------------------------------------------------|
| <b>Clinical scenarios: "Acute coronary syndrome", "Anaphylactic shock", "Gastrointestinal bleeding"</b> |                                                                               |                      |                |                                                                                                                                                                            |                                             |             |                                                   |
| 1                                                                                                       | Safety briefing for the correct operation of a robotic simulator /Self-study/ | 11                   | 6              |                                                                                                                                                                            |                                             | 0           | briefing log entry                                |
| 2                                                                                                       | Business Games on Clinical Scenarios /Practical/                              | 11                   | 50             | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3 | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0           | practice diary                                    |
|                                                                                                         | Clinical Scenarios Performance in Simulated Settings /Self-study/             | 11                   | 60             |                                                                                                                                                                            | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0           | practice diary                                    |
|                                                                                                         | Debriefing /Practical/                                                        | 11                   | 6              |                                                                                                                                                                            | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0           | practice diary                                    |
| 3                                                                                                       | Processing and analysis of Practice /Self-study/                              | 11                   | 16             | PC-2.2, PC-2.3, PC-5.2, PC-5.3,                                                                                                                                            | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 |             | practice diary, list of practical skills          |
| 4                                                                                                       | Credit / Practice test /                                                      | 11                   | 2              | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3 | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0           | practice diary, report of the practice, oral quiz |

|                                                                                                                                            | <b>Total</b>                                                                  |                             | <b>140</b>            |                                                                                                                                                                            |                                             | <b>0</b>           |                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------|---------------------------------------------------|
| <b>Class Code</b>                                                                                                                          | <b>Topics /Class type</b>                                                     | <b>Term / Academic year</b> | <b>Academic hours</b> | <b>Competences</b>                                                                                                                                                         | <b>Literature</b>                           | <b>Interactive</b> | <b>Notes</b>                                      |
| <b>Clinical cases: "Broncho-obstructive syndrome complicating bronchial asthma", "Pulmonary embolism", "Hyperglycemia", "Acute stroke"</b> |                                                                               |                             |                       |                                                                                                                                                                            |                                             |                    |                                                   |
| 1                                                                                                                                          | Safety briefing for the correct operation of a robotic simulator /Self-study/ | 12                          | 2                     |                                                                                                                                                                            | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0                  | briefing log entry                                |
| 2                                                                                                                                          | Business Games on Clinical Scenarios /Practical/                              | 12                          | 38                    | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1,                                                                                                                           | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4         | 0                  | practice diary                                    |
|                                                                                                                                            | Clinical Scenarios Performance in Simulated Settings /Self-study/             | 12                          | 56                    | GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2,                                                                                          | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0                  | practice diary                                    |
|                                                                                                                                            | Debriefing /Practical/                                                        | 12                          | 12                    | GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3                                                                                                                                    | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0                  | practice diary                                    |
| 3                                                                                                                                          | Processing and analysis of practice /Self-study/                              | 12                          | 2                     | PC-2.2, PC-2.3, PC-5.2, PC-5.3                                                                                                                                             | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4         |                    | practice diary, list of practical skills          |
| 4                                                                                                                                          | Credit /Practice test/                                                        | 12                          | 2                     | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3 | L1.1 L1.2<br>L2.1 L2.2<br>L2.3 L2.4<br>L2.5 | 0                  | practice diary, report of the practice, oral quiz |
|                                                                                                                                            | <b>Total</b>                                                                  |                             | <b>112</b>            |                                                                                                                                                                            |                                             | <b>0</b>           |                                                   |

## 6. ASSESSMENT TOOLS

### 5.1. Tests and tasks

Supplements

### 5.2. Topics for written papers

Supplements

| 7. COURSE (MODULE) RESOURCES |                                                                                                                                                                              |                                                                                                                                                                                                            |                                                           |          |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------|
| 7.1. Recommended Literature  |                                                                                                                                                                              |                                                                                                                                                                                                            |                                                           |          |
| 6.1.1. Core                  |                                                                                                                                                                              |                                                                                                                                                                                                            |                                                           |          |
|                              | Authors                                                                                                                                                                      | Title                                                                                                                                                                                                      | Publish., year                                            | Quantity |
| L 1.1                        | Svistunov A. A.,<br>Gorshkov M. D.                                                                                                                                           | Simulation training in medicine                                                                                                                                                                            | Moscow: Publishing house of the First Sechenov MSMU.      | 1        |
| L1. 2                        | Stepanenko S.M.;<br>Afukov I.I.; Zylbert E.V.; Isakov A.V.;<br>Sichkar S.Yu.                                                                                                 | Anesthesiology, resuscitation and intensive care in children: textbook                                                                                                                                     | Moscow: GEOTAR-Media, 2016, electronic resource           | 1        |
| 7.1.2. Supplementary         |                                                                                                                                                                              |                                                                                                                                                                                                            |                                                           |          |
| L 2.1                        | Oslopov V. N.,<br>Bogoyavlenskaya O. V., Oslopova Yu. V. et al                                                                                                               | Case history of the therapeutic patient [Electronic resource]: Manual<br><a href="https://www.studentlibrary.ru/book/ISBN9785970433836.html">https://www.studentlibrary.ru/book/ISBN9785970433836.html</a> | Moscow: GEOTAR-Media, 2014.                               | 1        |
| L 2.2                        | Davey P.                                                                                                                                                                     | Visual ECG [Text] = ECG at a glance: [study guide for students of medical schools and schools]                                                                                                             | Moscow: GEOTAR-Media, 2011, – 167 p.                      | 3        |
| L2. 3                        | Koryachkin V. A.,<br>Emanuel V. L.,<br>Strashnov V. I.                                                                                                                       | Anesthesiology, reanimation, intensive therapy. Clinic-laboratory diagnostics                                                                                                                              | Moscow: Urait Publishing House, 2018, electronic resource | 1        |
| L2. 4                        | Bogomolov B.N.<br>[and others].                                                                                                                                              | Practicum for novice anesthesiologists [Electronic resource].                                                                                                                                              | Saint Petersburg: Foliant, 2011, electronic resource      | 1        |
| L 2.5                        | Lyusov V.A., Volov N.A., Gordeev I.G.                                                                                                                                        | ECG in myocardial infarction: atlas [Electronic resource]                                                                                                                                                  | M.: GEOTAR-Media, 2009. - electronic resource             | 1        |
| 7.2. Internet resources      |                                                                                                                                                                              |                                                                                                                                                                                                            |                                                           |          |
| E1                           | Student Consultant, <a href="http://www.studmedlib.ru">http://www.studmedlib.ru</a> , «Guarantor», «Consultant Plus», «Consultant-region», FreeMedicalJournals               |                                                                                                                                                                                                            |                                                           |          |
| E2                           | Russian medical journal <a href="http://www.rmj.ru">http://www.rmj.ru</a>                                                                                                    |                                                                                                                                                                                                            |                                                           |          |
| E3                           | Journal "Consilium medicum" <a href="http://www.consilium-medicum.com/media/consilium">http://www.consilium-medicum.com/media/consilium</a>                                  |                                                                                                                                                                                                            |                                                           |          |
| E4                           | Standards of medical care: <a href="http://www.rspor.ru/index.php?mod1=standarts3&amp;mod2=db">http://www.rspor.ru/index.php?mod1=standarts3&amp;mod2=db</a>                 |                                                                                                                                                                                                            |                                                           |          |
| E5                           | Protocols for the management of patients:: <a href="http://www.rspor.ru/index.php?mod1=protocols3&amp;mod2=db">http://www.rspor.ru/index.php?mod1=protocols3&amp;mod2=db</a> |                                                                                                                                                                                                            |                                                           |          |
| 7.3. Software                |                                                                                                                                                                              |                                                                                                                                                                                                            |                                                           |          |
| 7.3.1                        | Operational system Microsoft, applied programs pack Microsoft Office                                                                                                         |                                                                                                                                                                                                            |                                                           |          |
| 7.3.2                        | Internet access (Wi-Fi)                                                                                                                                                      |                                                                                                                                                                                                            |                                                           |          |

## 9. Form of assessment (based on the results of the practice)

During the working day, the control of students' work is carried out by the responsible teacher at SATC. The head of the department monitors the compliance of the student's work assignment with the goals and objectives of industrial practice and the quality of mastering skills and abilities. Current control is carried out daily by observing the implementation of practical skills. The student keeps a diary of the work performed, signed by the responsible teacher.

The practice diary and the practice report are the main documents of the student, reflecting the work performed by him during the internship, the skills and competencies he acquired. The student prepares a report on the practice independently, evenly throughout the entire period of practice, finishes it and presents it for verification to the head of the practice from the department for credit on the final day of the industrial practice.

The report and diary on the industrial practice of the diagnostic profile is the main evidence of the content and quality of the student's work at SATC. The completed report with attachments is presented to the student personally to the head of industrial practice from the department. After checking the content of the report, the head from the department puts his signature, date and grade (passed / not passed).

Assessment (credit) based on the results of the practice is carried out on the last day according to the interview data, diary entries and a report on the practice.

Students who are late for practice or who did not show up for it on certain days must, after the end of the practice, work out all the missed hours in their free time under the supervision of the head of the department, independently submit reporting documents to the head of the practice from the department.

### Summative assessment for the practice is credit

The results are assessed in a two-grading scale:

- passed
- failed

## METHODOLOGICAL GUIDELINES FOR PRACTICE OUTCOMES ASSESSMENT

### Stage I: Formative assessment.

#### List of questions:

#### Sample test points

1. Types of anesthetic aid.
2. Local anesthetic techniques.
3. General anesthesia techniques.
4. Combined anesthesia
5. Intensive care for acute respiratory failure
6. Resuscitation and intensive care for ARF due to massive pneumonia
7. Acute Respiratory Distress Syndrome
8. Intensive care for acute cardiovascular failure
9. Resuscitation and intensive care of acute heart failure
10. Invasive and non-invasive hemodynamic monitoring
11. Resuscitation and intensive therapy of shock conditions
12. Traumatic shock - pathophysiology, diagnostics, principles of intensive care
13. Septic shock, pathophysiology, principles of diagnosis and intensive care
14. Resuscitation and intensive therapy of acute disturbances of consciousness
15. General questions of the clinic, diagnosis, intensive care of acute disorders of consciousness.
16. Intensive therapy of acute disturbances of consciousness in traumatic brain injury.
17. Intensive therapy of acute disturbances of consciousness in disorders of cerebral circulation.
18. Methods for resuscitation of terminal conditions
19. Resuscitation protocols at the prehospital and hospital stages
20. Intensive therapy for post-resuscitation disease
21. Pathophysiology of acid-base disorders and water-electrolyte metabolism
22. Types of acute disorders of the acid-base state.
23. Methods for the treatment of acute acid-base disorders
24. Types of acute disorders of water and electrolyte balance
25. Methods for the treatment of acute disorders of water and electrolyte balance
26. Characteristics of infusion media: crystalloid, colloidal based on dextran, hydroxyethyl starch, modified gelatin
27. Vascular access: peripheral and central venous catheterization.
28. Resuscitation and intensive with exo- and endotoxemia.

#### Assessment criteria:

The results are assessed in a four-grading scale: “excellent”, “good”, “satisfactory”, “unsatisfactory”.

| Type of the task | Assessed competences                                                                                                                                                                        | Assessment criteria | Grade          |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|
| Test             | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3, PC-9.1, PC-10.1 | 90 – 100%           | Excellent      |
|                  |                                                                                                                                                                                             | 80 – 89%            | Good           |
|                  |                                                                                                                                                                                             | 50 – 79%            | Satisfactory   |
|                  |                                                                                                                                                                                             | Less Than 50%       | Unsatisfactory |

| Type of the task | Assessed competences                                                                                                                                                       | Assessment criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Grade     |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Oral quiz        | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3 | The student demonstrates comprehensive, systematic and profound knowledge of the subject, can independently perform the tasks provided by the program; who has a good knowledge of the main literature and familiar with the additional literature recommended by the program; demonstrates creative abilities in understanding, statement and use of material of the studied discipline, faultlessly answers not only questions of the card, but also additional questions within the main program, correctly performs a practical task. | Excellent |

|  |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                             |                |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|  | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3 | The student has good knowledge of material of the studied discipline; can successfully perform the tasks provided by the program; has a good knowledge of the main literature recommended by the program; answers all questions of the card, correctly performs a practical task, but makes some mistakes.  | Good           |
|  | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3 | The student demonstrates knowledge of material for further study; can cope with the tasks provided by the program; familiar with the main recommended literature; makes mistakes when performing examination tasks, but has necessary knowledge for their elimination under the supervision of the teacher. | Satisfactory   |
|  | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2, PC-5.3 | The student demonstrates poor knowledge of the material, makes significant mistakes in performance of the tasks provided by the program.                                                                                                                                                                    | Unsatisfactory |

#### Sample Practice diary for assessment

| Date<br>(daily) | Completed work                                                                                                                                                |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.00-9.20       | Instructions on working with mannequins, simulators.                                                                                                          |
| 9.20-11.00      | Theoretical training according to the clinical case:<br><br>1. Simulated patient I., 42 years old.<br>Diagnosis:<br>Study:..<br>Conclusion:...<br>Diary entry |
| 11.00-12.00     | Business game based on a clinical scenario with the distribution of roles in the emergency care team<br>Diary entry                                           |
| 11.00-13.30     | Work in an office with a simulated patient according to a clinical scenario<br>Diagnosis:<br>Study:..<br>Conclusion:...<br>Diary entry                        |
| 13.30-14.00     | Debriefing of the developed clinical scenario on the topic: "....".                                                                                           |

The diary should describe the clinical scenarios of 7 patients. It should contain the medical advice on the use of other necessary urgent diagnostic and therapeutic techniques. Learning outcomes and conclusions are formulated.

## Khanty-Mansiysk Autonomous Okrug-Ugra

"Surgut State University"

## REPORT OF THE PRACTICE

« Professional Practice, Urgent Medical Manipulations Using Simulation Technologies»

(FULL NAME) \_\_\_\_\_

Student \_\_\_\_\_ group, specialty \_\_\_\_\_

Place \_\_\_\_\_

Terms of practice \_\_\_\_\_ Number of hours: 216 / Total (in credits) 6

Safety instruction « \_\_\_\_\_ » \_\_\_\_\_ 20\_\_

Head of the practice from the department (full name, position):  
\_\_\_\_\_Head of the practice from a medical organization (full name, position):  
\_\_\_\_\_

Final assessment of the practice: \_\_\_\_\_

Head of the practice \_\_\_\_\_

| Name of practical skills                                                                                         | Recommended level | Level reached | Actual performance (multiplicity) |
|------------------------------------------------------------------------------------------------------------------|-------------------|---------------|-----------------------------------|
| Collection and interpretation of complaints and anamnesis of patients                                            | 2                 |               |                                   |
| Physical and systemic examination of the patient with the definition of symptoms of pathology (objective status) | 2-3               |               |                                   |
| ECG recording, interpretation and evaluation                                                                     | 2-3               |               |                                   |
| Interpretation of instrumental research methods - ECG, radiographs, ultrasound studies, CT and MRI data, etc.    | 3                 |               |                                   |
| Drawing up a plan for examining a patient in the main emergency conditions                                       | 3                 |               |                                   |
| Drainage of the pleural cavity                                                                                   | 2-3               |               |                                   |
| Conicotomy                                                                                                       | 2-3               |               |                                   |
| Subclavian vein catheterization                                                                                  | 2                 |               |                                   |
| Internal jugular vein catheterization                                                                            | 2                 |               |                                   |
| Laparocentesis                                                                                                   | 2-3               |               |                                   |
| Lumbar puncture                                                                                                  | 2-3               |               |                                   |
| Pericardiocentesis                                                                                               | 3                 |               |                                   |
| Pleural puncture                                                                                                 | 2-3               |               |                                   |
| Radial artery catheterization                                                                                    | 2-3               |               |                                   |

**Midterm assessment (credit) is assessed in a two-grading scale**

1. «Passed»;
2. «Failed»

| Type of the task                                              | Assessed competences                                                                                                                                               | Assessment criteria                                                                                                                                                                                                       | Grade  |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Practice diary.<br>Report on the practice done.<br>Oral quiz. | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2 | The student answers all the questions correctly, clearly, logically and completely. The student closely applies theory and practice and correctly solves the problems of higher complexity with the professional content. | Passed |
|                                                               | UC-3.1, UC-3.2, UC-3.3, UC-4.1, UC-5.3, GPC-1.1, GPC-1.2, GPC-1.3, GPC-4.1, GPC-4.3, GPC-5.8, GPC-5.10, GPC-6.3, GPC-7.1, GPC-7.2, GPC-7.3, PC-2.2, PC-2.3, PC-5.2 | The student is not able to give logical answer, gives no answer to additional questions and does not understand the topic. He/she makes significant and serious mistakes in answers.                                      | Failed |

Students who are late for practice or do not show up for it on certain days, after the end of the practice, must work out all the missed hours in their free time under the supervision of the responsible lecturer of the Department and SATC, independently submit a diary and characteristics, a table of skills and self-analysis to the head of practices from the Department and decide whether to pass the final certification.

After conducting a test for local non-resident students, the heads of practices from the Department fill out statements and a report on the practice. The original statements are submitted to the educational and methodological part of the medical Institute, and copies are attached to the report and sent to the practice Department.

### **SPECIAL CONDITIONS OF THE EDUCATIONAL PRACTICE, PRIMARY PROFESSIONAL AND RESEARCH SKILLS PRACTICE FOR INDIVIDUALS WITH DISABILITIES**

For persons with disabilities, the procedure for passing the internship takes into account the state of health and the requirements of regulatory documents.

- STO-2.6.16-17 "Organization of the educational process for people with disabilities and people with disabilities."

The heads of the departments ensure the choice of places for passing industrial practice for the disabled and people with disabilities, taking into account the requirements of accessibility for these students. When determining the places of educational and industrial practice, it is necessary to take into account the recommendations, data based on the results of medical and social expertise, contained in the individual rehabilitation program for a disabled person, regarding the recommended conditions and types of work. When sending a disabled person and a student with disabilities to a specialized organization for the internship provided by the curriculum, the University agrees with the organization enterprise) conditions and types of work, taking into account the recommendations of medical and social expertise and an individual rehabilitation program for a disabled person. If necessary, special jobs can be created for the internship in accordance with the nature of the violations, as well as taking into account the professional type of activity and the nature of the work performed by the disabled student of labor functions. For people with disabilities and people with disabilities, the form and methods of practice are established taking into account the characteristics of their psychophysical development, individual capabilities and health status.

The University creates special conditions for people with disabilities and people with disabilities to receive the opportunity to master the educational program of higher education in full, while creating special conditions. Special conditions are understood as training conditions for disabled people and people with disabilities, including:

- the use of individual curricula of educational programs, methods of teaching and upbringing,
- special textbooks, teaching aids and didactic materials, special technical training aids for collective and individual use,

- provision of the services of an assistant (assistant) who provides students with the necessary technical assistance, group and individual correction classes,

- providing the opportunity to undergo an internship in the building of the University and organizations that have access for disabled people and persons with disabilities to the trainee's workplace and other conditions, without which it is impossible or difficult for people with disabilities and persons with disabilities to undergo an internship.

When determining places of practice for people with disabilities and people with disabilities, the recommendations of the medical and social expertise, reflected in the individual rehabilitation program for a disabled person, regarding the recommended conditions and types of work, should be taken into account.