



## CD 8.5.1 DISCIPLINE CURRICULUM

Edition:	07
Date:	15.04.2019
Page:	1/8

### FACULTY OF MEDICINE

### STUDY PROGRAM 0912.1 MEDICINE

### CHAIR OF NICOLAE TESTEMITANU SOCIAL MEDICINE AND HEALTH MANAGEMENT

#### APPROVED

at the meeting of the Commission for Quality  
Assurance and Evaluation of the Curriculum  
faculty Medicine

Minutes No. 5 of 13.01.2020

Chairman dr.hab.st.med., prof. universitar

SUMAN SERGHEI

#### APROBATĂ

at the Council meeting of the Faculty  
Medicine 2

Minutes No. 3 of 25.02.2020

Dean of Faculty dr.st.med., conf.universitar

BETIU MIRCEA

#### APPROVED

at the meeting of the Nicolae Testemitanu Chair of  
Social Medicine and Health Management

Minutes nr. 1 din 30.08.2019

Head of chair dr. hab.st.med., conf. universitar

RAEVSCI ELENA

## SYLLABUS

### DISCIPLINE THE HISTORY OF GREATEST MEDICAL SCIENTISTS

Integrated studies / Cycle I, License

Type of course: **Optional course**

Chisinau, 2019



## CD 8.5.1 DISCIPLINE CURRICULUM

<b>Edition:</b>	<b>07</b>
<b>Date:</b>	<b>15.04.2019</b>
<b>Page. 2/8</b>	

### I. INTRODUCTION

- General presentation of the discipline: place and role of the discipline in the formation of the specific competences of the professional / specialty training program

The history of greatest medical scientists is a part of history of medicine and focuses on the various personalities that have contributed to the development of medicine as a science during different periods starting from the ancient times. The history of medicine as well as the history of greatest medical scientists, contributes to the professional and intellectual training of the physician. Understanding the historical path of medical practice and research provides a key to integrating students into the current and proactively positioning them towards the challenge of the future medicine. The knowledge of great personalities in the history of medicine and their achievements provides a key to motivating students on a professional level and deciding them for the highest deontological values. The content of the course is correlated with students' level of education, similar to other European universities with up-to-date information, and represents the necessary baggage of knowledge in order to know the history of medicine at international level.

- Mission of the curriculum (aim) in professional training:  
Knowledge and understanding of the origins and evolution of medical practice and science from a historical perspective. Acquiring the basics of medical culture: the stages of universal medicine development, biomedical doctrines, their personalities and contributions.
- Language (s) of the course: Romanian, Russian, English
- Beneficiaries: students of the I year, faculty Medicine I and II

### II. MANAGEMENT OF THE DISCIPLINE

Code of discipline		<b>G.01.A.009.3</b>	
Name of the discipline		<b>The history of greatest medical scientists</b>	
Person(s) in charge of the discipline		<b>Grossu Iu., Badan V., Penina O.</b>	
Year	<b>I</b>	Semester/Semesters	<b>I</b>
Total number of hours, including:			<b>30</b>
Lectures	<b>10</b>	Practical/laboratory hours	<b>10</b>
Seminars		Self-training	<b>10</b>
Clinical internship			
Form of assessment	<b>CD</b>	Number of credits	<b>1</b>

### III. TRAINING AIMS WITHIN THE DISCIPLINE

*At the end of the discipline study the student will be able to:*

- *at the level of knowledge and understanding:*
  1. The most important milestones in the history of various preclinical, medical and surgical specialties;
  2. Principles of the development of medicine in different time periods;



## CD 8.5.1 DISCIPLINE CURRICULUM

<b>Edition:</b>	<b>07</b>
<b>Date:</b>	<b>15.04.2019</b>
<b>Page. 3/8</b>	

3. The most outstanding personalities who have made important contributions to the progress of medicine;
  4. The particularities of the development of each age and its significance in the evolution and progress of medicine.
  5. The main representatives of scientific medical science schools, their conceptions and role in the development of medicine;
  6. Achievements of renowned scholars in correlation with the evolution of medical sciences.
- **at the application level:**
    1. Development of skills in the elaboration of scientific papers on the presentation of the greatest medical scientists from different time periods;
    2. Development of verbal and written communication skills by drawing up and presenting reports on the life and activity of outstanding personalities in the field;
    3. Create a PowerPoint presentation on the history of medicine and its public support.
  - **at the integration level:**
    1. To integrate knowledge in the history of medicine and the history of greatest medical scientists with the clinical ones;
    2. To apply the knowledge acquired for the realization of the personal scientific researches within the bachelor's thesis, the University Days and as a future doctor-clinician and young researcher.

### IV. PROVISIONAL TERMS AND CONDITIONS

1. Language requirements (intermediary level);
2. Basic computer skills (MS Office Word, EXCEL, PowerPoint);
3. Ability to work in a team;
4. Non-work related activities are strictly forbidden, disconnected mobile phones;
5. Lateness is not tolerated.

### V. THEMES AND ESTIMATE ALLOCATION OF HOURS

*Lectures, practical hours/ laboratory hours/seminars and self-training*

Nr. d/o	THEME	Number of hours		
		Lectures	Practical hours	Self- training
1.	The place of history of medicine, including the history of the greatest medical scientists, between medical sciences and its role in the professional and intellectual training of the doctor.	2	2	2
2.	Prehistoric and Ancient Medicine. Main representatives of medical sciences in Greece and Ancient Rome.	2	2	2
3.	Medieval Medicine and Medicine of the Renaissance and Enlightenment: the main representatives and their contributions.	2	2	2
4.	The greatest medical scientists of the Modern and Postmodern medicine. The role of Nicolae Testemitanu in the development of medicine in Moldova.	4	4	4
<b>Total</b>		<b>10</b>	<b>10</b>	<b>10</b>

### VI. REFERENCE OBJECTIVES OF CONTENT UNITS

Objectives	Content units
<b>Theme (chapter) 1. The greatest representatives in medicine before 1800</b>	



## CD 8.5.1 DISCIPLINE CURRICULUM

**Edition:**

**07**

**Date:**

**15.04.2019**

**Page. 4/8**

Objectives	Content units
<ul style="list-style-type: none"> <li>- To define the main stages of the evolution of science and medical practice from a historical perspective.</li> <li>- To know the most outstanding personalities and their contributions to ancient, medieval, renaissance and enlightenment medicine;</li> <li>- To demonstrate the knowledge of the most important discoveries in the medical sciences in the Renaissance and Enlightenment era</li> <li>- To apply knowledge in the field of medical development up to 1800 to understand basic concepts in medicine;</li> <li>- To integrate advances in medical practice and science with public health and today's medicine.</li> </ul>	<ol style="list-style-type: none"> <li>1. Introduction to the history of medicine. Main stages of the evolution of medicine from a historical perspective.</li> <li>2. Traditional medicine and surgery in Asia: India (<i>Charaka</i> and <i>Sushruta</i>), China and Japan.</li> <li>3. Greek physicians. <i>Hippocrates of Kos</i> (c. 460–c. 370 B.C.) – “the Father of Medicine”. The Hippocratic collection (<i>Corpus Hippocraticum</i>) and the Oath of Hippocrates. Theory of the four humours.</li> <li>4. Medicine in the Roman Empire. <i>Herophilus</i> and <i>Erasistratus</i> – two great representatives of the medical school from Alexandria. <i>Asclepiades</i> and the atomic theory. <i>Aulus Cornelius Celsus</i>. <i>Soranus of Ephesus</i> – Greek gynaecologist, obstetrician, and paediatrician. <i>Aelius Galen</i> (c. 129–216 A.D.) – a prominent Greek physician, surgeon and philosopher in the Roman Empire.</li> <li>5. Medicine in the Middle Ages (V-XIV) and the Renaissance (XIV-XVI). Historical and cultural circumstances. Medieval Islamic world medicine: <i>Avicenna</i> (980–1037 A.D.) and the Canon of Medicine. Medieval medicine of Western Europe: the first medical schools at Salerno (Italy). The anatomists: <i>Mondino de Lucci</i> and <i>Andreas Vesalius</i>. The discovery of blood circulation by <i>William Harvey</i>. <i>Ambroise Paré</i> – the father of modern surgery. <i>Paracelsus</i> and his contribution to medicine.</li> <li>6. Medicine in the Age of Enlightenment (XVIII). <i>René Laënnec</i> and the invention of stethoscope. <i>Leopold Auenbrugger</i> and the invention of percussion. <i>Edward Jenner</i> and the discovery of vaccination for smallpox.</li> </ol>
<b>Theme (chapter) 2. The greatest representatives in the modern medicine (the XIX<sup>th</sup> century)</b>	
<ul style="list-style-type: none"> <li>- To define the particularities of the development of medicine in the sec. XIX;</li> <li>- To know the most important discoveries in the era of modern medicine and their representatives;</li> <li>- To demonstrate the knowledge of the most outstanding personalities of the modern medicine era and their contribution to the progress of medicine;</li> </ul>	<ol style="list-style-type: none"> <li>1. The foundation and development of physiology. Creating the concept of "Cell Pathology". Pioneers of physiology: <i>Johannes Müller</i>, <i>Rudolf Virchow</i>, <i>Claude Bernard</i> and their contributions.</li> <li>2. Fundamental discoveries in the world of microorganisms. Development of Microbiology. Verification of germ theory. Contributions of <i>Louis Pasteur</i>, <i>Joseph Lister</i> and <i>Robert Koch</i>.</li> <li>3. Important advances in the diagnosis and treatment of diseases. Introduction of narcosis and anesthesia (<i>William Thomas Green Morton</i>). Discover X-rays and radios (<i>Wilhelm Conrad Röntgen</i>); foundation of psychoanalysis (<i>Sigmund Freud</i>).</li> </ol>





## CD 8.5.1 DISCIPLINE CURRICULUM

**Edition:** 07  
**Date:** 15.04.2019  
**Page. 5/8**

Objectives	Content units
<ul style="list-style-type: none"> <li>- <i>To apply</i> modern medical knowledge in research and clinical activity;</li> <li>- <i>To integrate</i> progress in the medical practice and science of the sec. XIX with the current public health and medical challenges.</li> </ul>	
<b>Theme (chapter) 3. <u>The greatest representatives in the postmodern medicine (the 20th and early 21st century)</u></b>	
<ul style="list-style-type: none"> <li>- <i>To define</i> the premises and peculiarities of the development of medicine in the sec. XX;</li> <li>- <i>To know</i> the most outstanding personalities and scientific medical schools in the postmodern medicine era;</li> <li>- <i>To demonstrate</i> the understanding of the correlation between the progress of XXth century medicine and the evolution of demographic processes in the world;</li> <li>- <i>To apply</i> the knowledge in the field of postmodern medicine history in research and clinical activity;</li> <li>- <i>To integrate</i> advances in medical practice and science with current health challenges in the population.</li> </ul>	<ol style="list-style-type: none"> <li>1. Infectious diseases and chemotherapy. <i>Paul Ehrlich</i> and arsphenamine. <i>Alexander Fleming</i> and detection of penicillin;</li> <li>2. Immunology. Historical chronology of vaccination against infections caused by bacteria and viruses. Spanish influenza from 1918-1919. Contributions of <i>August von Wassermann</i> and <i>Charles Mantoux</i>. Construction of an electronic microscope;</li> <li>3. Development of cell biology. New discoveries in physiology and biochemistry. Biomedical engineering.</li> <li>4. Endocrinology. <i>Ernest Starling</i>. Discovery of insulin (<i>Frederick Banting</i> and <i>Charles H. Best</i>) and cortisone (<i>Edward C. Kendall</i>). Sex hormones and contraceptive pills.</li> <li>5. Developing Surgery in the Twentieth Century;</li> <li>6. Progressions in disease diagnosis: introduction of computed tomography, nuclear magnetic resonance tomography and ultrasound examinations;</li> <li>7. The history of medicine development in Moldova. The contribution of Nicolae Testemitanu.</li> </ol>

## VII. PROFESSIONAL (SPECIFIC (SC)) AND TRANSVERSAL (TC) COMPETENCES AND STUDY OUTCOMES

### ✓ Professional (specific) (SC) competences

*Not the case*

### ✓ Transversal competences (TC)

*Not the case*

### ✓ Study outcomes

The student at the end of the course will be capable:

1. To appoint the most prominent medical figures for each age in the history of medicine and to identify the major contribution of these personalities;
2. To identify the philosophical concepts and historical events that have shaped the concept and medical practice from the beginning to the present;
3. To identify the main challenges faced by medicine in the postmodern era and their possible influences on medical practice;
4. Developing skills to study the history of medicine;
5. To be open to lifelong learning.



## CD 8.5.1 DISCIPLINE CURRICULUM

**Edition:**

**07**

**Date:**

**15.04.2019**

**Page. 6/8**

**Note.** Study outcomes (are deduced from the professional competencies and formative valences of the informational content of the discipline).

### VIII. STUDENT'S SELF-TRAINING

No.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Working with information sources	Reading the material from the textbook on the topic. Reading the issues, which requires a reflection on the subject. To select additional sources of information on the topic. To be acquainted with the additional information sources on the topic. Formulation of generalizations and conclusions regarding the topic.	Ability to extract the essentials, interpretation skills, the volume of work.	During the semester
3.	Students' project presentations	Selecting the theme, establishing the research plan and terms of the achievement. Establishing the components of the PowerPoint presentation - topic, aim, results, conclusions, bibliography. Peer reviews. Professor reviews.	The volume of work, the degree of penetration in the essence of the researched project, the quality of the conclusions, the elements of creativity, the formation of the personal attitude, the coherence of the exposure and the scientific correctness, the presentation method.	During the semester

### IX. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

- Teaching and learning methods used***

For more effective learning in the course "Biostatistics. Methodology of Scientific Research", both traditional methods (exposure, conversation, exercise) and those considered today to be more effective for university education (active based learning based learning, case study, project method, modeling) are used. Practical methods use frontal methods, individual activity methods, group activity methods. Practical training within the course uses computer-assisted training / self-training (MS Office EXCEL, PowerPoint).



## CD 8.5.1 DISCIPLINE CURRICULUM

<b>Edition:</b>	<b>07</b>
<b>Date:</b>	<b>15.04.2019</b>
<b>Page. 7/8</b>	

- **Applied teaching strategies / technologies** (specific to the discipline)

Communication Technologies such as PowerPoint presentations are used during the theoretical lectures and practical seminars.

- **Methods of assessment** (including the method of final mark calculation)

**Current:** During the semester, the current assessment includes a midterm test (theoretical part) and Power Point presentation of the research project (practical part) that in fact represents the assessment of the applied skills.

*Theoretical part of the current assessment:*

Midterm test (test-grid)

*Practical part of the current assessment:*

Power Point project presentation + lecture participation

The mark for the practical part of the current assessment is complex and consists of two parts: the mark for the project presentation (coefficient is 0.9) and the mark for the attendance of the theoretical lectures (coefficient is 0.1).

The semester mark is calculated as the average of the mark for the midterm test and the project presentation mark.

**Final:** differentiated colloquium.

Those students who have the semester mark less than 5.0 and / or did not recover their absence(s) for the practical seminars (no absences are admitted for the practical seminars) are not admitted to the differentiated colloquium by the Department.

The differentiated colloquium represents the test-grid test which includes 30 random questions from each of the studied themes. The test-grid covers 40% single-choice questions and 60% multiple-choice questions. The student has at his/her disposal 30 minutes to answer to the grid-test.

The **final mark** is calculated as the average of the semester mark and the mark for the test-grid obtained at the differentiated colloquium.

### Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
<b>1,00-3,00</b>	<b>2</b>	<b>F</b>
<b>3,01-4,99</b>	<b>4</b>	<b>FX</b>
<b>5,00</b>	<b>5</b>	<b>E</b>
<b>5,01-5,50</b>	<b>5,5</b>	
<b>5,51-6,0</b>	<b>6</b>	
<b>6,01-6,50</b>	<b>6,5</b>	<b>D</b>
<b>6,51-7,00</b>	<b>7</b>	



## CD 8.5.1 DISCIPLINE CURRICULUM

**Edition:**

**07**

**Date:**

**15.04.2019**

**Page. 8/8**

7,01-7,50	7,5	C
7,51-8,00	8	
8,01-8,50	8,5	B
8,51-8,00	9	
9,01-9,50	9,5	A
9,51-10,0	10	

The average annual mark and the marks of all stages of final examination (computer assisted, test, oral) - are expressed in numbers according to the mark scale (according to the table), and the final mark obtained is expressed in number with two decimals, which is transferred to student's record-book.

*Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations.*

### X. RECOMMENDED LITERATURE:

#### A. Compulsory:

1. **Douglas James Guthrie, Philip Rhodes**, et al., 2017, "History of medicine", *Encyclopedia Britannica*. <https://www.britannica.com/science/history-of-medicine>

#### B. Additional

1. **Bynum William**, 2008, *The History of Medicine: A Very Short Introduction*, 1 edition, Oxford ; New York, Oxford University Press, 184 p.
2. **Jackson Mark**, 2013, *The Oxford Handbook of the History of Medicine*, Reprint edition, Oxford, United Kingdom, Oxford University Press, 696 p.
3. **Porter Roy** (ed.), 2001, *The Cambridge Illustrated History of Medicine*, Cambridge ; New York, Cambridge University Press, 400 p.