

DISCIPLINE SHEET

1. Data about the Program

1.1 Academic institution	UNIVERSITY OF MEDICINE AND PHARMACY "VICTOR BABEȘ" TIMIȘOARA
1.2 Faculty	FACULTY OF DENTISTRY
1.3 Department	2 MD
1.4 Field of studies ¹⁾	Licence
1.5 Cycle of studies ²⁾	Licence
1.6 Program of studies/ Qualification	MD

2. Data about the Discipline

2.1. Name	THE METHODOLOGY OF SCIENTIFIC MEDICAL RESEARCH							
2.2 Lecture holder	Assist. Prof. Dr. MARIANA MIRON, PhD							
2.3 Laboratory holder	Assist. Prof. Dr. MARIANA MIRON, PhD Asist. univ.Drd. ELENA HANIGOVSKI Asist. univ.Drd. DALIANA MOCUȚA Asist. univ.Drd. RUXANDRA LUCA Asist. univ.Drd. EDMOND CIORA – cadru didactic asociat							
2.4 Year of study	4th	2.5 Semester	7	2.6 Type of assessment	MULTIPLE CHOICES	2.7 Discipline policy	Contents ³⁾	DS
							Obligativity ³⁾	DI

3. Total Estimated Time (hours/ semester of didactic activities)

3.1 Number of hours/ week	2	3.2 of which: lecture	1	3.3 laboratory	1
3.4 Total of hours in the curriculum	210	3.5 of which: lecture	14	3.6 laboratory	196
Time unit	hours				
Textbook study, course frame, bibliography and notes	14				
Extra study in the library, on specialty electronic platforms and on the job	14				
Preparation of seminars/ laboratories/ projects, themes, papers, portfolios and essays	20				
Tutoring	-				
Examinations	6				
Other activities	14				
3.7 Total hours of individual study	68				
3.8 Total hours/ semester	278				
3.9 Number of credits⁵⁾	2				

4. Preconditions (if there is the case)

4.1 curriculum	• General and minimal notions of methodology of medical scientific research.	
4.2 competences	• Specific and general competences such as: - Guiding and monitoring the learning process of students - Interaction and communication in team working	

5. Conditions (if there is the case)

5.1 course development	<ul style="list-style-type: none"> • Attendance is mandatory, absences more than 20% from the overall of the didactic process are not admitted • Students study the course notes and the references recommended for each course • Use of modern teaching technologies such as: laptop, video projector, Internet, PowerPoint presentations and other didactic specific materials
5.2 seminar/ laboratory/ project development	<ul style="list-style-type: none"> • Attendance is mandatory, absences more than 20% from the overall of the didactic process and being late more than 15 minutes are not admitted, neither allowing students to perform activities other than the ones related to the topic of the seminar • Study of course notes and bibliographic resources related to each seminar • Provide work materials (hand-outs, printed support, markers, flipchart sheets)

6. Specific Competences acquired

Professional Competences	C1. Access of information in the health sector through correct and targeted bibliographic research. C2. Acquisition of the abilities of reading and evaluating a specialized article from the point of view of research methodology as well as respecting the editing standards of a written material. C3. Correct identification of the elements related to research methodology in a clinical-epidemiological study. C4. Acquisition of correct medical scientific editing rules.
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Transversal Competences	Ct1 Identification and use of specialized scientific resources and of resources of communication and assisted professional formation (Internet, databases, on-line courses etc.) in Romanian language as well as in an international language.
	Ct2. Awareness of the roles in a medical scientific research team as well as of the interpersonal relationships, based on the principles, norms and values established by the professional ethics code.
	Ct3. Acquisition of the abilities to work in a team.

7. Discipline Objectives (as they result from the acquired specific competences)

7.1 General Objective	<ul style="list-style-type: none"> We consider the acquisition of basic notions necessary for the knowledge of the research methods, of the types of clinical-epidemiological studies, the ethical aspects in research, the stages necessary for performing a clinical study and statistical processing of the obtained data. We also aim at the acquisition of the norms of communicating the research results obtained, both in printed form (editing a specialized article) and orally (facilitated by Microsoft PowerPoint).
7.2 Specific Objectives	<ul style="list-style-type: none"> - performing a database correctly - critical analysis of an article, both from the point of view of research methodology, and the editing of a written material.

8. Contents

8.1 Course		Teaching methods	Number of hours	Observations
1. Research in medical sciences. Types of research.		Lecture, explanation, problem rising	1	ppts (offered by the main holder of the course)
2. Clinical research - Elaboration stages of a clinical study. Descriptive clinical studies. Analytical clinical studies – Observational studies.			1	
3. Clinical research - Analytical clinical studies - The experimental clinical trial. Review and meta-analysis.			1	
4. Defining the study material (<i>target population; sample; defining the inclusion and exclusion criteria from the study; defining the interest variables</i>)			1	
5. Types of data and data collection. Data presentation.			1	
6. Normal distribution. Measures of central tendency: <i>mean, median, mode</i> . Measures of dispersion: <i>range, median deviation, standard deviation</i>			1	
7. Research hypothesis. Errors in medical studies.			1	
8. Techniques for testing the hypotheses. Testing the association between two variables - <i>The r correlation coefficient</i> . Comparison techniques among groups – <i>The t techniques (Student), Techniques χ^2 (Hi square) and ANOVA</i>			1	
9. Medical scientific editing: <i>Title. Authors. Abstract. Key words. Introduction.</i>			1	
10. Medical scientific editing: <i>Material and method. Medical ethics. Results.</i>			1	
11. Medical scientific editing: <i>Statistic analysis. Discussions.</i>			1	
12. Medical scientific editing: <i>Bibliographic references: Harvard Style, Vancouver Style</i>			1	
13. Medical scientific editing: <i>Tables and figures. Abbreviations. Symbols. Acknowledgements.</i>			1	
14. The oral presentation of a study: <i>PowerPoint. Poster.</i>			1	
Mandatory bibliography: Bibliografie obligatorie: 1. Gao Smith, F.; Smith, J.E. 2004. Key topics in Clinical Research, Taylor & Francis, London and New York 2. Gustavii, B. 2003. How to Write and Illustrate a Scientific Paper, Cambridge University Press 3. Miron, M.; Grozav, I.; Todea, C. 2004. Noțiuni fundamentale de metodologia cercetării științifice medicale, Editura MARINEASA, Timișoara 4. Bacărea, V.; Sabău, M.; Mărușteri, M.; Bacărea, A. 2009. Metodologia cercetării științifice medicale , Editura University Press, Târgu Mureș 5. Achimaș, A. 1999. Metodologia Cercetării Științifice Medicale, Cluj-Napoca: Editura Universitară Iuliu Hațieganu Optional bibliography: 1. Comes, C.A.; Popescu-Spineni, A. 2005. Metodologia cercetării tiin ificeș ț , Editura Cermaprint, București 2. Rădulescu, M. Șt. 2011. Metodologia cercetării științifice – Elaborarea lucrărilor de licență, masterat, doctorat, Editia II, Editura Didactică si Pedagogică. R:A.. Bucuresti				

8.2 Seminar/ Laboratory /Internship/ Project	Teaching-learning methods	Number of hours	Observations
1. Presentation of the practical works themes and of the evaluation system.	Content analysis, project exercise, conversation, explanation, problem rising	1	Work sheets and specialized articles (made available by the teacher)
2. Searching, stocking and analysing the specialized literature. Search tools.		1	
3. Identification of the <i>research theme</i> and of the <i>type of research</i> performed in a study in a scientific article.		1	
4. <i>Stages of the research activity</i> . Identification of the <i>ethical aspects</i> in a scientific article.		1	
5. Identification of the <i>target population</i> , of the <i>sample</i> , the <i>inclusion and exclusion criteria</i> in the study and the <i>variables</i> , in a scientific article.		1	
6. Identification of the <i>type of data</i> and of <i>data collection method</i> in a scientific article.		1	
7. Identification of the <i>hypothesis</i> and of the <i>statistical method</i> for data analysis in a scientific article.		1	
8. Evaluation of the editing of a clinical study: <i>Title. Authors. Abstract. Key words</i> .		1	
9. Evaluation of the editing of a clinical study: <i>Introduction. Material and method</i> .		1	
10.Evaluation of the editing of a clinical study: <i>Results. Statistical analysis. Discussions</i> .		1	
11.Evaluation of the editing of a clinical study: <i>Acknowledgements. Tables and figures. Abbreviations. Symbols</i> .		1	
12.Evaluation of the editing of a clinical study: <i>Bibliographic references</i> .		1	
13.Critical reading of an article.		1	
14.Means of oral communication of the results of the scientific research: <i>PowerPoint. Poster. Submission of project</i> .		1	
Mandatory bibliography: 1. Gustavii, B. 2003. <i>How to Write and Illustrate a Scientific Paper</i> , Cambridge University Press 2. Gao Smith, F.; Smith, J.E. 2004. <i>Key topics in Clinical Research</i> , Taylor & Francis, London and New York 3. Ppt – made available by the main teacher			
Optional bibliography: 1. Rădulescu, M. Șt. 2011. <i>Metodologia cercetării științifice – Elaborarea lucrărilor de licență, masterat, doctorat</i> , Ediția II, Editura Didactică și Pedagogică, R.A., București.			

9. Corroboration of the discipline contents with the expectations of the epistemic community representatives, professional associations and main employers in the field connected to the program

Medical Scientific Research Methodology aims at offering the students knowledge and skills in order to analyse and select correctly the specialized bibliography, their understanding and performing research in the medical field, critically evaluating a scientific material, editing and presenting a specialized scientific material.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	<p><i>Knowledge for grade 5:</i> – obtain the minimum standards of performance (50% from the overall test points).</p> <p><i>Knowledge for grade 10:</i> - Obtain the maximum standards of performance (over 90% from the overall test points)</p>	Evaluation consists of a multiple choice test , made of two types of questions, simple complement and multiple complement.	60%

10.5 Laboratory/ Internship	<p><i>Knowledge for grade 5:</i></p> <ul style="list-style-type: none"> - Correct choice of a specialized scientific article, according to the knowledge accumulated throughout the semester. <p><i>Knowledge for grade 10:</i></p> <ul style="list-style-type: none"> - Active participation in the seminar. - Searching and selecting a specialized scientific article, as well as evaluating it, at will, <u>either from the point of view of the research methodology, or from the perspective of the editing criteria of a scientific article</u>. Correct evaluation of the chosen article, according to the specific standards. 	<ul style="list-style-type: none"> - <u>Teamwork task - max. 3 participants, mandatory for the participation in the preliminary exam. May also be performed as an individual task.</u> - Seminar activity (at least 1 personal activity or group activity graded in the seminar) - The aspects which must be evaluated were discussed in detail throughout seminars 3 -12, revisioned in seminar 13. 	40%
10.6 Minimum standard of performance			
<ul style="list-style-type: none"> • Meet the criteria regarding the minimum number of attendancies in course and seminar. • Obtain at least grade 5 in the course activities, so that the student respects the evaluation grid set by the teacher. • Obtain at least grade 5 in the seminar activities, according to the calculation formula of the grade in the seminar. 			

Data completării, 29.10.2018	Semnătura titularului de curs, Ș.L. Dr. Mariana Miron	Semnătura titularului de laborator/stagiu, Ș.L. Dr. Mariana Miron Asist.univ.Drd. Elena Hanigovski Asist.univ.Drd. Daliana Mocuța Asist.univ.Drd. Ruxandra Luca Cadru didactic asociat: Asist. drd. Edmond Ciora
Semnătura șefului de disciplină, Prof. Dr. Carmen Todea		
Data avizării în departament 30.10.2018	Semnătura directorului de departament, Prof. Dr. Carmen Todea	

Notă:

- 1) Domeniul de studii - *se alege una din variantele:* Licență/ Masterat/ Doctorat (**se completează conform cu Nomenclatorul domeniilor și al specializărilor/ programelor de studii universitare în vigoare**) ;
- 2) Ciclul de studii - *se alege una din variantele:* Licență/ Master/ Doctorat;
- 3) Regimul disciplinei (conținut) - *se alege una din variantele:* **DF** (disciplină fundamentală)/ **DD** (disciplină din domeniu)/ **DS** (disciplină de specialitate)/ **DC** (disciplină complementară) - *pentru nivelul de licență*; **DAP** (disciplină de aprofundare)/ **DSI** (disciplină de sinteză)/ **DCA** (disciplină de cunoaștere avansată) - *pentru nivelul de masterat*;
- 4) Regimul disciplinei (obligativitate) - *se alege una din variantele:* **DI** (disciplină obligatorie)/ **DO** (disciplină opțională)/ **DFac** (disciplină facultativă);
- 5) Un credit este echivalent cu 25 – 30 de ore de studiu (activități didactice și studiu individual).
- 6) Pentru specializările și/sau disciplinele a căror tematică se regăsește în bibliografia de rezidențiat, aceasta devine obligatorie.