Appendix number 1.5 to The Rector UR Resolution No. *12/2019*

SYLLABUS

**concerning the cycle of education**  2018-2024

Academic year 2021/2022

1. BASIC INFORMATION CONCERNING THIS SUBJECT

|  |  |
| --- | --- |
| Subject | Evidence Based Medicine |
| Course code \* | *EBM* |
| Faculty of (name of the leading direction) | College of Medical Sciences, University of Rzeszów |
| Department Name | Department of Internal Medicine |
| Field of study | Medical |
| level of education | Long-cycle studies |
| Profile | Practical |
| Form of study | *Stationary / Extramural* |
| Year and semester | Year IV, semester 7 |
| Type of course | Obligatory |
| Language | English |
| Coordinator | Bogdan Kolarz MD PhD |
| First and Last Name of the Teachers | Prof. Mirosław Markiewicz MD PhD  Prof. Rafał Filip MD PhD  Agnieszka Gala-Błądzińska MD PhD  Bogdan Kolarz MD PhD |

\* *-* According to the resolutions of Educational Unit

1.1. Forms of classes, number of hours and ECTS

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Semester No. | Lecture | Exercise | Conversation | Laboratory | Seminar | ZP | Praktical | Other | **Number of points ECTS** |
| 7 |  |  |  |  | 12 |  |  |  | 1 |
|  |  |  |  |  |  |  |  |  |  |

1.2. The form of class activities

x classes are in the traditional form

x classes are implemented using methods and techniques of distance learning

1.3 Examination Forms (exam, credit with grade or credit without grade)

2.BASIC REQUIREMENTS

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| --- |
| Knowledge of Propaedeutics of Internal Diseases from semester 4 and 5. Basic knowledge of anatomy, histology, pathophysiology, pathomorphology, microbiology, immunology and pharmacology. |

3. OBJECTIVES, OUTCOMES, AND PROGRAM CONTENT USED IN TEACHING METHODS

3.1 Objectives of this course

|  |  |
| --- | --- |
| C1 | Basics of EBM - the concept of "evidence-based medicine", the history of Cohrane Collaboration.  Clinical trial stages. Effect measures: risk, risk difference, absolute risk reduction, NNT, relative risk, relative risk reduction, hazard ratio, odds ratio, types of variables, endpoints, types of study error. Searching and using databases. |
| C2 | Interpretation of the results: Statistics in the study. scientific. Statistical significance, statistical significance and clinical significance. Assessment of the credibility of scientific research. Evaluation of the test usefulness and its clinical application. The level of evidence, determining the strength of recommendations, (classes of recommendations), SORT classification, strength of recommendations on the GRADE scale |
| C3 | Types and methodology of clinical trials: experimental studies, observational studies, randomization, case reports, evaluation of the credibility of observational studies, systematic review and meta-analysis. Using studies to make clinical decisions: formulating a clinical question, components of a clinical question. Relating the results of a clinical trial to a specific patient. PICO |

**3.2 OUTCOMES FOR THE COURSE**

|  |  |  |
| --- | --- | --- |
| EK (the effect of education) | The content of learning outcomes defined for the class (module) | Reference to directional effects [[1]](#footnote-1) |
| EK\_01 | Know the differences between prospective and retrospective, randomized and case-control studies, case reports and experimental studies, and rank them according to the reliability and quality of scientific evidence; uses databases, including the Internet, and searches for the necessary information using the available tools; | E.W7. |
| EK\_02 | knows the principles of scientific, observational and experimental research as well as in vitro research for the development of medicine | E.U1. |
| EK\_03 |  |  |
| EK\_04 |  |  |

**3.3 CONTENT CURRICULUM**

1. **Problems of the lecture**
2. **Problems of auditorium, seminar, laboratory and practical classes**

|  |  |
| --- | --- |
| Course contents | Hours |
| 1. Basics of EBM - the concept of "evidence-based medicine", the history of Cohrane Collaboration. | 3 |
| 1. Stages of clinical trials. Effect measures: risk, risk difference, absolute risk reduction, NNT, relative risk, relative risk reduction, hazard ratio, odds ratio, types of variables, endpoints, types of study error. Searching and using databases. | 3 |
| 1. Interpretation of the results: Statistics in the study. scientific. Statistical significance, statistical significance and clinical significance. Assessment of the credibility of scientific research. Evaluation of the test usefulness and its clinical application. The level of evidence, determining the strength of recommendations, (classes of recommendations), SORT classification, strength of recommendations on the GRADE scale | 3 |
| 1. Types and methodology of clinical trials: experimental trials, observational trials, randomization | 3 |

3.4 Didactic methods

Seminars: Analyzing Medical Publications

Student's own work: work with books and scientific articles, work in the library

Students' participation in designing scientific research: Formulating research hypotheses. Defining a research problem and developing an adequate research method, working with databases, planning research tasks, developing experimental results, statistical analysis, formulating and analyzing conclusions, participating in the preparation of scientific publications.

4. METHODS AND EVALUATION CRITERIA

4.1 Methods of verification of learning outcomes

|  |  |  |
| --- | --- | --- |
| Symbol of effect | Methods of assessment of learning outcomes (Eg.: tests, oral exams, written exams, project reports, observations during classes) | Form of classes |
| ek\_ 01 | Individual evaluation | seminars |
| Ek\_ 02 | Individual evaluation | seminars |

4.2 Conditions for completing the course (evaluation criteria)

|  |
| --- |
| Detailed information on the principles of conducting classes is contained in the Faculty's Regulations of clinical classes, which every student is required to read before starting them.  1. Obligatory attendance and active participation in all seminars.  2. Preparation of tasks related to the subject ordered by the teachers  Assessment criteria:  5.0 - the student shows knowledge of the content of education at the level of 93% -100%  4.5 - the student shows knowledge of the content of education at the level of 85% -92%  4.0 - the student shows knowledge of the content of education at the level of 77% -84%  3.5 - the student shows knowledge of the content of education at the level of 69% -76%  3.0 - the student shows knowledge of the content of education at the level of 60% -68%  2.0 - the student shows knowledge of the content of education below 60%  Assessment of skills, social competences, activity and knowledge to be assessed during exercises:  5.0 - the student actively participates in the classes, is well prepared, has gained theoretical and practical knowledge in the field of internal medicine at a very good level,  mastered to a high degree the diagnostic and therapeutic management skills in patients treated in the conditions of an internal ward.  4.5 - the student actively participates in the classes, gained theoretical and practical knowledge in the field of internal diseases at a good level, mastered the diagnostic and therapeutic skills of patients treated in the internal ward.  4.0 - the student actively participates in classes, is improved, gained theoretical and practical knowledge in the field of internal diseases at a good level, is able to plan diagnostic and therapeutic activities in patients treated in the conditions of an internal ward.  3.5 - the student participates in the classes, his scope of preparation does not allow for a comprehensive presentation of the discussed problem, he has acquired theoretical and practical knowledge in the field of  internal diseases to a sufficient degree, not always able to properly plan diagnostic and therapeutic activities in patients treated in the conditions of the internal ward.  3.0 - the student participates in classes, has theoretical and practical knowledge in the field of internal medicine to a sufficient degree, is often corrected.  2.0 - the student passively participates in the classes, statements are factually incorrect, theoretical and practical knowledge in the field of internal diseases is insufficient, cannot plan diagnostic and therapeutic activities in patients treated in an internal ward, often makes mistakes |

**5. Total student workload required to achieve the desired result in hours and ECTS credits**

|  |  |
| --- | --- |
| Activity | **The average number of hours to complete the activity** |
| Contact hours (with the teacher) resulting from the study schedule of classes | 12 |
| Contact hours (with the teacher) participation in the consultations, exams | 0 |
| Non-contact hours - student's own work  (preparation for classes, exam, writing a paper, etc.) | 8 |
| SUM OF HOURS | 20 |
| TOTAL NUMBER OF ECTS | 1 |

*\** *It should be taken into account that 1 ECTS point corresponds to 25-30 hours of total student workload.*

6. TRAINING PRACTICES IN THE SUBJECT

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| --- | --- |
| Number of hours | - |
| Rules and forms of apprenticeship | - |

7. LITERATURE

|  |
| --- |
| Basic literature: Evidence-Based Medicine and Statistics for Medical Exams by Dr Marc Barton 2016, ISBN-10 ‏ : ‎ 1533540470 |
| Additional literature: https://www.cochrane.org |

Acceptance Unit Manager or authorized person

1. In the case of a path of education leading to obtaining teaching qualifications, also take into account the learning outcomes of the standards of education preparing for the teaching profession. [↑](#footnote-ref-1)