UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN
Faculty of Medicine

Course sylabus – part A
EBM with Elements of Medical Statistics

48SJ-EBM
ECTS: 0.50
CYCLE: 2023L

SUBJECT MATTER CONTENT

CLASSES

1. History and development of EBM and Cochrane Collaboration. Basic assumptions and principles of evidence based medicine. Definition of endpoints (hard, soft, primary, secondary, clinically important, surrogate, composite). Quality of life and tools to its assessment. Types of studies (original: experimental, observational, surveys; secondary: review papers, systematic analysis, meta- analysis, guidelines and recommendations). Randomisation. 2. Design and performance of double blind randomized control trial, basic statistical analysis and outcome analysis. Principles of making a poster. Sources of reliable answers. 3. Poster presentations. Types of variables. Effect size, definitions: risk, risk difference, absolute risk reduction, absolute risk increase, absolute benefit increase, number needed to treat, number needed to harm, hazard ratio, odds ratio, p value and statistical significance, outcome interpretation. Statistical vs. clinical significance. Diagnostic tests, usefulness of test, sensitivity and specificity. Partial and full economic analysis. Markov model. Meta-analysis and systematic analysis, assessment of their reliability. Analysis and interpretation of outcomes in meta- analysis. 4. Drugs registration, phases of clinical trials. Ethical aspects of clinical trials, bioethics committee. Definitions: Hirsch index, Impact factor. Strength of recommendations (classes of recommendations and levels of evidences). GRADE system. WYKŁAD:

TEACHING OBJECTIVE

learning ot critical analysis ot medical literature and independent evaluation values ot scientific, medical publications

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:

Symbols for outcomes related to the discipline:	M/NM+++
Symbols for outcomes related to the field of study:	M/NM_D.W23.+, B.U13.+, M/NM_B.W.27.+, B.U10.+, M/NM_B.W.29.+, B.U11.+, B.U12.+, K.5.+

LEARNING OUTCOMES:

Knowledge:

W1 – The student knows and understands the basic methods of statistical analysis employed in population and diagnostic surveys;
W2 – The student knows and understands the principles of conducting

Legal acts specifying learning outcomes: 672/2020
Disciplines: medical sciences
Status of the course: Obligatoryjny
Group of courses:B - przedmioty kierunkowe
Code: ISCED 0912
Field of study: Medicine
Scope of education:
Profile of education: General academic
Form of studies: full-time
Level of studies: uniform master's studies
Year/semester: 4/8

Types of classes: Classes
Number of hours in semester: Classes: 10.00
Language of instruction: English
Introductory subject: Intemal medicine, pathophysiology, Pharmacology, surgery, paediatrics., biostatistles
Prerequisites: knowledge baslcs ot pathophyslology, dlagnoslics, biostatisllcs and trealment

Name of the organisational unit conducting the course: Katedra Chorób Wewnętrznych
Person responsible for the realization of the course:prof. dr hab. n. med. Tomasz Stompór
e-mail: tomasz.stompor@uwm.edu.pl

Additional remarks:

scientific research, observational and experimental studies, and in vitro tests contributing to the advancement of medicine.
W3 – The student knows and understands the foundations of evidence-based medicine.

Skills:

U1 – The student can explain the difference between prospective, retrospective, randomised, and clinical control studies, case descriptions, and experimental tests, and arrange them by credibility and quality of the research evidence
U2 – The student can use databases, including those available on the Internet, and find the necessary information with the available tools
U3 – The student can select the appropriate statistical tests, conduct basic statistical analyses, employ appropriate methods to present the results, interpret the results of meta-analysis, and carry out a survival probability analysis;
U4 – The student can plan and perform simple scientific studies, interpet its results, and draw conclusions.

Social competence:

K1 – The student is ready perceiving and recognizing own limitations and self-assessment of deficits and educational needs

TEACHING FORMS AND METHODS:

Classes(W1;W2;W3;U1;U2;U3;U4;K1;):Discussion on scientific papers, poster presentations.

FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:

Classes (Oral test) - Discussion on scientlfic papers, poster presentations. -

BASIC LITERATURE:

1. Sharon E. Straus MD, *Evidence-Based Medicine: How to Practice and Teach*, Wyd. II. 4th Edition. Churchill- Livingston Elsevier, R. 2011

SUPPLEMENTARY LITERATURE:

1. Peacock JP, Peacock PJ, *Oxford Hanbook oof Medical Statistics*, Wyd. Oxford Medical Handbooks, R. 2017

Detailed description of ECTS credits awarded - part B

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EBM with Elements of Medical Statistics

The number of ECTS credits awarded consists of:

1. Contact hours with the academic teacher:

- participation in: Classes	10.0 h
- consultation	2.0
	Total: 12.0 h.

2. Independent work of a student:

Independent work of a student with a textbook	0.50 h

Total: 0.5 h

contact hours + independent work of a student Total: 12.5 h

1 ECTS credit = 25-30 h of an average student’s work, number of ECTS credit = 12.5 h : 25.0 h/ECTS = 0.50 ECTS on average: 0.5 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher: 0,00 ECTS points,

- including the number of ECTS credits for hours of independent work of a student: