**INTERNATIONAL SCHOOL OF MEDICINE**

**Department of Public Health**

# SYLLABUS

## Epidemiology

2026-2027 academic year
for students of medical faculty
5th year, 9 semester groups 1-40 of Central campus,
1-15 of Issyk-Kul campus,
2 credit (60 h, including 24 class hours, 24 hours of independent study)


**Lecturer:** **Vishniakov D.V**.
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**Venue:** **Zoom**

**Practical classes** **Turdumambetova M.A**
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**Venue:**

| | | |
|---|---|---|
| Turdumambetova M. | Room #514 | ,1F Intergelpo str, Bishkek |
| Vishniakov D.V. | Room #518 | ,1F Intergelpo str, Bishkek |
| Matkerimova N.B | Room #513 | ,1F Intergelpo str, Bishkek |
| Aitalieva R.R. | Room #502 , | 1F Intergelpo str, Bishkek |

Lecture Sessions online: Monday, 9.30 for 1-47 groups of Ceand ntral campus, and 1-10 groups of Issyk-Kul campus.
Zoom links:
9.30 https://us02web.zoom.us/j/89189740627?pwd=NzZZWHh1QzAxSDBSTFQyOWY0VFVldz09

The Syllabus is considered
at the meeting of the department of Public Health
Protocol №1dated 27.08.2026
Head department _____K.O. Dzhusupov

**Course Objective:** is preparation of specialists having theoretical and practical knowledge in study of the distribution and determinants of disease frequency in human populations and the application of this study to control health problems and diseases in service area.

After study of the discipline the student must:

**Know:**

- the theoretical principles of epidemiology and their application, taking into account modern features of population morbidity.
- the concept of establishing cause-and-effect relationships and identification of risk factors.
- the basic practicals of evidence-based medicine.
- an organization of preventive measures based on the results of epidemiological diagnostics

**Skill:**

- Interpretation of morbidity and mortality measure
- Identification of endemic level of morbidity, outbreak, epidemic, pandemic, and determine the source of the infection
- Using the main epidemiologic studies identify causality and measure the strength of association between factors
- Recognition of type and main steps of epidemiological study.

**Attitude:**

- skills of expressing and substantiating one's own position regarding the ethical and deontological principles of modern medical science and practice
- special skills and ethical principles of work of medical staff in various fields of professional activity

**Pre-requisites.** To successfully master the discipline, a student must complete a full course of

- fundamental clinical subjects
- main clinical subjects
- biostatistics

**Post-requisites.** Evidence-based medicine

## THEMATIC PLAN OF LECTURES

| № | Theme of lecture | Hours | Data |
|---|---|---|---|
| 1. | Infectious disease epidemiology №1 | 2 | 01-07.09.2026 |
| 2. | Infectious disease epidemiology №2 | 2 | 02-08.09.2026 |
| 3. | Types of epidemiological studies #1. Observational vs experimental Criteria of causality | 2 | 03-09.11.2026 |
| 4. | Types of epidemiological studies #2 Case control | 2 | 04-10.11.2026 |
| 5. | Types of epidemiological studies #3 Cohort study | 2 | 05-11.12.2026 |
| 6. | Types of epidemiological studies #4 Clinical trial | 2 | 07-12.12.2026 |
| | **TOTAL** | **12** | |

**THEMATIC PLAN OF PRACTICAL LESSONS**

| | Theme of practical class | Hours | Data |
|---|---|---|---|
| 1. | Infectious disease epidemiology №1 | 4 | 15.09.2026-<br>26.09.2026- |
| 2. | Infectious disease epidemiology №2 QUIZ2 | 4 | 28.09.2026-<br>10.10.2026- |
| 3. | Practice of difficult questions and test, unite №1 | 2 | 12.10.2026-<br>24.10.2026 |
| 4. | Observational and experimental studies, Cross-sectional study | 2 | 26.10.2026-<br>07.11.2026 |
| 5. | Types of measure of association. Case-control study QUIZ 3 | 4 | 09.11.2026-<br>21.11.2026 |
| 6. | Types of measure of association. Cohort study | 2 | 23.11.2026-<br>05.12.2026 |
| 7. | Clinical trial. Bias and confounding. Efficacy, effectiveness, efficiency QUIZ 4 | 4 | 07.12.2026-<br>19.12.2026 |
| 8. | Practice of difficult questions and test, unite 2 | 2 | 21.12.2026-<br>02.01.2027 |
| | **TOTAL** | **24** | |

**12 лекций , 24 прак часа**
**THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS**

| Unit | Theme of independent work | Hours | Date |
|---|---|---|---|
| **Unit 1** | Descriptive epidemiology (Person,Place, Time) Preparation of presentation | **5** | October |
| **Unit 1** | Reading and analysis of recommended literature | **5** | October |
| **Unit 2** | Analytical epidemiology Preparation of presentation | **5** | December |
| **Unit 2** | Reading and analysis of recommended literature | **5** | December |
| **Unit 2** | Preparation for the final examination | **4** | December |
| **Total** | | **24** | |

**Recommended reading for the discipline:**

**Basic:**

1. A. Aschengrau, G. R. Seage III “Epidemiology in public health” 4 editions 2020 (available in the library)
2. C. Vivek Jain “Preventive and social medicine”-6 edition Mumbai, India, 2015
https://thelifesaversblog.files.wordpress.com/2015/11/review-of-preventive-and-social-medicine-sixth-edition.pdf
3. K. Park “Preventive and social medicine” 2015 Mumbai, India, https://milonm28.files.wordpress.com/2017/08/parks-preventive-social-medicine-23rd-ed.pdf
4. Richard Farmer, David Miller “Lecture notes on Epidemiology and Public Health Medicine” 2006 USA https://1h2u7myz.parzs19.ru/

**Additional:**

A. T. C. Timmreck. “An introduction to epidemiology” 3 edition 2008 (available in the library)
C. Saira Afzal “Community medicine and Public Health”- Paramount books. Karachi, Pakistan, 2017 Can be downloaded at
https://www.researchgate.net/publication/316503664_Textbook_of_Community_Medicine_and_Public_Health_Chapter_18_-_Tuberculosis_and_its_Control_in_the_Context_of_Pakistan
Kesmodel U.K. “Cross-sectional studies - what are they good for?” Acta Obstet Gynecol Scand . 2018 Apr;97(4):388-393. doi: 10.1111/aogs.13331 https://obgyn.onlinelibrary.wiley.com/doi/10.1111/aogs.13331
Bhide A., Shah P.S. “A simplified guide to randomized controlled trials” Acta Obstet Gynecol Scand . 2018 Apr;97(4):380-387. doi: 10.1111/aogs.13309. https://obgyn.onlinelibrary.wiley.com/doi/10.1111/aogs.13309

E. Centers for Disease Control and Prevention. Interim guidance on infection control precautions for patients with suspected severe acute respiratory syndrome (SARS) and close contacts in households. Available from: http://www.cdc.gov/ncidod/sars/icclosecontacts.htm
D. Remington PL, Hall WN, Davis IH, Herald A, Gunn RA. Airborne transmission of measles in a physician's office. JAMA 1985;253:1575–7.
https://pubmed.ncbi.nlm.nih.gov/3974036/
Murphy TV, Gargiullo PM, Massoudi MS, et al. Intussusception among infants given an oral rotavirus vaccine. N Eng J Med 2001 https://pubmed.ncbi.nlm.nih.gov/11207352/
Fraser DW, Tsai TR, Orenstein W, Parkin WE, Beecham HJ, Sharrar RG, et al. Legionnaires' disease: description of an epidemic of pneumonia. New Engl J Med 1977; https://pubmed.ncbi.nlm.nih.gov/335244/
E. General epidemiology with the basics of evidence-based medicine. Tutorial. Brazhnikov A.Yu., Briko N.I., Kiryanova E.V. et al. / ed. IN AND. Pokrovsky. 2nd ed., - M.: GEOTAR-Media, 2017. - 496 p https://www.rosmedlib.ru/book/ISBN9785970442555.html
Centers for Disease Control and Prevention. Interim guidance on infection control precautions for patients with suspected severe acute respiratory syndrome (SARS) and close contacts in households. Available from: http://www.cdc.gov/ncidod/sars/icclosecontacts.htm.

**Textbooks available in the library collection:**

A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020 (available in the library)
T. C. Timmreck. "An introduction to epidemiology" 3 edition (available in the library)

**Grading policy and procedures for all types of work**

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):
current score - 40 points
independent work - 20 points
control score (final assessment of knowledge per unit) - 40 points
Maximum score - 100 (40+20+40)

**Grading system for student's achievements**

| Grading criteria per discipline | | | | |
|---|---|---|---|---|
| Maximum score | Intervals | | | |
| | «unsatisfactory» | «satisfactory» | «good» | «excellent» |
| Current control - 40 | 0-23 | 24-30 | 31-35 | 36-40 |
| Interval description | Doesn't do homework; does not know and does not understand the main material of the lesson, which prevents further assimilation of the program; cannot apply the acquired knowledge to solving specific problems of various types | Does not complete homework in full; has gaps in mastering the material; has difficulty applying knowledge to solve various types of problems; partially understands the text, but answers the teacher/interlocutor's questions incompletely and inaccurately. | Completes homework in full; material, but sometimes experiences difficulties and makes mistakes when solving problems of various types; | Completes homework in full; easily applies knowledge and skills when solving problems of various types, sometimes can make mistakes (1.2); |
| Independent work - 20 | 0-11 | 12-15 | 16-17 | 18-20 |
| Interval description | The content partially corresponds to the stated topic, but the sequence of presentation is broken; the material | The content partially corresponds to the stated topic; sometimes the sequence of presentation is | The content of the presentation corresponds to the stated topic; clearly, clearly and | The content of the presentation corresponds to the stated topic; clearly, clearly and consistently presented; The |

| | | | | |
|---|---|---|---|---|
| | used is of low quality, based on the analysis of 1 scientific article; | broken; Low quality material based on analysis of 2 scientific articles | consistently presented; the material is of good quality, but does not always correspond to the content: based on the analysis of 3-4 scientific articles | material is of good quality, presented in full: based on the analysis of 4 of the most scientific articles. |
| Control work (module) - 40 | 0-23 | 24-30 | 31-35 | 36-40 |
| Interval description | There are more than 30% of bugs or errors in the assignment | There are a less than 30% of bugs or errors in the assignment | One or two shortcomings and(or) not more than 10% mistake were made in the task | The assignment was done according to requirements with minor mistakes |

**Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).**
- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-10 points.

**Academic Ethics Policy.**
- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.

For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-10 points.

**Guidelines for the lessons of the discipline**

**UNIT №1. Introduction to epidemiology. Descriptive epidemiology. Key measures of disease frequency Infectious disease epidemiology**

**Key questions covered in Lecture 1. Introduction to epidemiology. Descriptive epidemiology**

Definition and objectives of epidemiology. Descriptive epidemiology Definition and types of population: fixed, dynamic Three main elements of descriptive epidemiology: person, place and time (Who, When, Where)

**Key questions covered in lesson 1. Historical context. Epidemiology and Prevention. Definition and objectives of epidemiology Descriptive epidemiology**

Definition and objectives of epidemiology Types of prevention: primary, secondary, tertiary. Examples Definition and types of population: fixed, dynamic. Examples Disease distribution by three elements: person, place and time (Who, When, Where), Example using familiar disease.

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020. Chapter 1, p. 1-31, chapter 2 p. 34-36, chapter 5 p 99-116
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002. p.1-5, 71-95, 110-115, 203-229.

**Key questions covered in lesson 2. Historical context. Epidemiology and Prevention. Definition and objectives of epidemiology Descriptive epidemiology**

Practice: description of infectious and chronic diseases using person, place and time pattern and application different types of prevention

Distribution of topics for student's presentations and explanation of requirements (Attachment 1)

**Teaching videos:**

1.Natural history of disease and level of prevention

2. John Snow and 1854 Broad street Cholera outbreak

3.Louis Pasteur –scientist

4. How we conquered the deadly smallpox virus

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020. Chapter 1, p. 1-31, chapter 2 p. 34-36, chapter 5 p 99-116

2. D. A Grimes, K. F. Schulz. Descriptive studies: what they can and cannot do. THE LANCET, Vol 359, January 12, 2002

**Key questions covered in Lecture 2. Key elements of descriptive epidemiology: person, place, time**

John Snow cholera investigation. Three main elements of descriptive epidemiology: person, place and time (Who, When, Where). Measures of disease frequency- examples.

**Key questions covered in lesson 3. Key measures of disease frequency**

Identify differences and give examples of ratio, rate and proportion. Cause-specific mortality rate, case fatality rate, live-birth rate, neonatal mortality rate, attack rate, sex ratio, risk ratio. Student's presentations.

**Teaching videos:**

1. Causes cholera –treatment and prevention
2. How we conquered the deadly smallpox virus

**Recommended reading for the lesson:**

**1.** A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020. Chapter 2 p. 33-40. chapter 5, p 116-150

2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 (available in the library).

3. K. Park "Preventive and social medicine"-Mumbai, India, 2015.

4. J. E. Park "Community medicine"- Karachi, Pakistan, 2010.

5. Richard Farmer, David Miller "Lecture notes on Epidemiology and Public Health Medicine"-USA, 2006.

5. General epidemiology with the basics of evidence-based medicine. Tutorial. Brazhnikov A.Yu., Briko N.I., Kiryanova E.V. et al. / ed. IN AND. Pokrovsky. 2nd ed., - M.: GEOTAR-Media, 2017. - 496 p.

6. Lecture material

**Key questions covered in lesson 4. Key measures of disease frequency**

Definition of incidence and prevalence and relations between them: cumulative incidence, incidence rate, point prevalence, period prevalence. Understanding of standardization rate: crude and age adjusted (just to be familiar). Student's presentations.

**Teaching videos:**

1. Causes cholera –treatment and prevention
2. How we conquered the deadly smallpox virus

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020. Chapter 2 p. 39-51, chapter 3 p 57-73.

2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 (available in the library).

3. Lecture material

**Key questions covered in Lecture 3. Key measures of disease frequency.**

Understand and calculate the key measures of disease frequency ratio, rate, proportion cause-specific mortality rate, case fatality rate, live-birth rate, neonatal mortality rate, attack rate, sex ratio, risk ratio incidence and prevalence, cumulative incidence, incidence rate, point prevalence, period prevalence, relations between incidence and prevalence

**Key questions covered in lesson 5. Key measures of disease frequency**

Endemic, epidemic, pandemic. The epidemiologic tread of the disease: host, agent, environment and vector. Mode of transmission: direct and indirect (common vehicle, vector). The iceberg concept of infectious disease (just to be familiar). Clinical and nonclinical (inapparent) disease: preclinical, subclinical, persistent, latent, carrier

**Teaching videos:**

1. Personal protection equipment

**Recommended reading for the lesson:**

1. Aschengrau, G. R. Seage III "Epidemiology in public health"

2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002p.6-25, 27-65.

3. Remington PL, Hall WN, Davis IH, Herald A, Gunn RA. Airborne transmission of measles in a physician's office. JAMA 1985;253:1575–7.

**Key questions covered in lesson 6. Outbreak investigation**

Outbreak investigation. Epidemic curves. Attack rate. Pathogenicity, virulence, incubation period, mortality Student's presentations.

**Teaching videos:**

Outbreak investigation, step by step

Outbreak investigation and control

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020. Chapter 3, p 57-73
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002P.197-417

**Key questions covered in Lecture 4. Infectious disease epidemiology №1**

Define:Endemic, epidemic, pandemic. The epidemiologic tread of the disease: host, agent, environment and vector. Mode of transmission: direct and indirect (common vehicle, vector). The iceberg concept of infectious disease (just to be familiar). Clinical and nonclinical (inapparent) disease: preclinical, subclinical, persistent, latent, carrier. Disease outbreak: main steps and epidemic curves. Confirm diagnosis, determine existence of epidemic, establish case definition (who, when, where), rapid search for all cases, analysis of data, writing report. The epidemic curve: common source of infection with intermittent exposure, with continuous exposure; point source outbreak, propagated outbreak

**Key questions covered in lesson 7. Infectious disease epidemiology №1**

Epidemic of COVID-19. Mode of transmission: direct and indirect (common vehicle, vector). Clinical and nonclinical (unapparent) disease: preclinical, subclinical, persistent, latent, carrier. Disease outbreak: main steps and epidemic curves. Confirm diagnosis, determine existence of epidemic, establish case definition (who, when, where), rapid search for all cases, analysis of data, writing report. Student's presentations.

**Recommended reading for the lesson:**

**1.** A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020. Chapter 3, p 57-73
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002P.197-417

**Key questions covered in lesson 8. Quiz 2: Practice to calculate cumulative incidence, point prevalence and main key concepts of infectious epidemiology**

Simulation of disease outbreak using examples: go through main steps and secondary attack. Define infectivity, pathogenicity, virulence, case fatality, serial interval, incubation period and how it might affect disease outbreak and epidemic curve. Student's presentations.

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020. Chapter 3, p 57-73
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 P.197-417

**Key questions covered in Lecture 5. Infectious disease epidemiology №2**

Disease outbreak: main steps and epidemic curves. Confirm diagnosis, determine existence of epidemic, establish case definition (who, when, where), rapid search for all cases, analysis of data, writing report. The epidemic curve: common source of infection with intermittent exposure, with continuous exposure; point source outbreak, propagated outbreak

**Key questions covered in lesson 9. Infectious disease epidemiology №2**

Review questions for the first module. Student's presentations. Module 1

**UNIT № 2. Analytical epidemiology**

**Key questions covered in Lecture 1. Types of epidemiological studies #1**

Observational vs experimental. Criteria of causality. Ecological studies (ecological fallacies), Cross-sectional. Introduction to case-control and cohort studies. Student's presentations.

**Key questions covered in lesson 1. Observational and experimental studies, Cross-sectional study**

Examples of observational and experimental studies. Examples of ecological studies (ecological fallacies), Cross-sectional study, key elements. Student's presentations.

**Teaching videos:**

Causality Bradford Hill criteria

Causal inference –causation and Association

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020 p. 153-179
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 p. 231-272

**Key questions covered in lesson 2. Observational and experimental studies, Cross-sectional study**

Examples of Cross-sectional and cohort studies . Key elements, advantages and disadvantages of different types, types of measure of association. Student's presentations.

**Teaching videos:**

Epidemiological studies Iceberg phenomenon

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020 p. 153-179
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 p. 231-272
3. General epidemiology with the basics of evidence-based medicine. Tutorial. Brazhnikov A.Yu., Briko N.I., Kiryanova E.V. et al. / ed. IN AND. Pokrovsky. 2nd ed., - M.: GEOTAR-Media, 2017. - 496 p

**Key questions covered in Lecture 2. Types of epidemiological studies #2 Case control**

Case control: advantages and disadvantages of different types. Types of measure of association. Calculation of measure association

**Key questions covered in lesson 3. Types of measure of association. Case-control study**

Measure of association. Calculate measure of association and interpret results. Case-control. Student's presentations.

**Teaching videos:**

Causal inference –causation and Association

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020 p. 237-265
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 p. 231-272
3. D. A. Grimes, K. F Schulz.. Case-control studies: research in reverse. THE LANCET, Vol 359, February 2, 2002

**Key questions covered in lesson 4. Types of measure of association. Case-control study**

Advantages and disadvantages different types of studies. Practice to identify type of study, measure of association, calculate measure of association and interpret results. Case-control.Student's presentations.

**Teaching videos:**

Epidemiological studies

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020 p. 237-265
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 p. 231-272
3. D. A. Grimes, K. F Schulz.. Case-control studies: research in reverse. THE LANCET, Vol 359, February 2, 2002

**Key questions covered in Lecture 3. Types of measure of association. Cohort study**

Cohort study: advantages and disadvantages. Types of measure of association, Calculation of measure association. Introduction to clinical trial

**Key questions covered in lesson 5. Types of measure of association. Cohort study**

Examples of Cohort study. Advantages and disadvantages of different types. Types of measure of association and calculation of measure association. Students presentation

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020 p. 211-235
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 p. 231-272
3. D. A. Grimes, K. F Schulz.. Cohort studies: marching towards outcomes. THE LANCET, Vol 359, January 26, 2002.

**Key questions covered in lesson 6. Types of measure of association. Cohort study**

Advantages and disadvantages of different types of epidemiological studies. More practice to identify type of study, measure of association, calculation Odds Ratio and Risk Ratio and interpretation results using common student's mistakes . Student's presentations.

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III "Epidemiology in public health" 4 editions 2020 p. 211-235
2. T. C. Timmreck. "An introduction to epidemiology" 3 edition 2002 p. 231-272
3. D. A. Grimes, K. F Schulz.. Cohort studies: marching towards outcomes. THE LANCET, Vol 359, January 26, 2002.

**Key questions covered in Lecture 4. Clinical trial. Bias and confounding. Matching, Blinding, Randomization**

Clinical trial. Matching, Blinding, Randomization. Bias and confounding.

**Key questions covered in lesson 7. Clinical trial**

Clinical trial. Matching, Blinding, Randomization . Student's presentations.

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III “Epidemiology in public health” 4 editions 2020 p. 181-209
2. T. C. Timmreck. “An introduction to epidemiology” 3 edition 2002 p. 231-272

**Key questions covered in lesson 8. Clinical trial Practical study**

Clinical trial. Bias and confounding.

**Recommended reading for the lesson:**

1. A. Aschengrau, G. R. Seage III “Epidemiology in public health” 4 editions 2020 p. 181-209
2. T. C. Timmreck. “An introduction to epidemiology” 3 edition 2002 p. 231-272

**Key questions covered in lesson 9. Practical study**

Review questions for Module 2, Module 2

**Control questions:**

Types of epidemiological studies. Advantages and disadvantages of different types. Types of measure of association. Calculation of measure association (Odds Ratio, Risk Ratio), interpretation of results. Observational vs experimental. Ecological studies (ecological fallacies). Cross-sectional, case-control. Cohort study retrospective and prospective, Framingham heart study. Clinical trial (matching, blinding- single double triple, randomization). Hills criteria of casual association. Biases and confounding (bias- hawthorne effect, recall bias, selection bias, intervention bias, berdesonian bias). Evaluation of health services: efficacy, effectiveness, efficiency

**Methodological instructions for the implementation of independent work on the** discipline

Writing assignments must be presented in the following format, 12-font, and double-spaced.

Projects and presentations must be completed or turned in on the assigned due date. No late assignments will be accepted. If you know in advance that you will have to miss a class in which an assignment is due, you may plan with the instructors to turn the assignment in early.

**Assignments for Working off missed class are mandatory** (max – 20 for class activity only, an excused absence is still an absence): Prepare the abstract or Power Point presentation on the topic of missed classes and answer the questions