

**Univerzita Pavla Jozefa Šafárika v Košiciach, Lekárska fakulta**  
**Department of Public Health and Hygiene**

Course: Hygiene

Study program: General Medicine

Form of study: daily

Category of object: compulsory subject

Period: 4<sup>th</sup> year summer term

Form of teaching: lecture / seminars and practical exercise    hours: 1 lecture hrs. / 2 practical hrs. per week

Form completion: written exam computerized

Credits: 3

Room: ŠP3, ŠP4

Teachers: Prof. MUDr. Kvetoslava Rimárová, CSc.

Prof. MVDr. Tatiana Kimáková, PhD.

MVDr. Zlatana Sulínová, PhD.

Week	Lecture
1. 14.2.2025	Trieda SNP 1, P1 <span style="float: right;">13,30-15,00</span> Environmental health, hygiene, basic definition of prevention. Environmental factors and modifying factors. <b>Prof. MVDr. Tatiana Kimáková, PhD.</b>
3. 28.2.2025	Water quality – risk of chemical and infectious factors, communicable diseases related to water, water supplies, the sources of drinking water. Division of WHO of all diseases related to the water. Division of waterborne diseases, epidemiology of water related diseases. <b>Prof. MUDr. Kvetoslava Rimárová, CSc.</b>
5. 14.3.2025	CINDI program, priorities. Primary, secondary and tertiary prevention. Examples of measures in primary, secondary and tertiary prevention. Disease categorization, old diseases – old problem, old diseases – new problem, new diseases – new problems. <b>Prof. MUDr. Kvetoslava Rimárová, CSc.</b>
7. 28.3.2025	Risk assessment steps, Risk assessment and risk management Principles of exposure assessment. NOAEL and LOAEL Overview of human exposure to chemicals, routes, magnitude, duration, frequency. <b>Prof. MUDr. Kvetoslava Rimárová, CSc.</b>
9. 11.4.2025	Air pollutants – SO <sub>2</sub> , NXOX, VOC, ozone, heavy metals, PAH. Air pollutants – PAH, CFC, CO, CO <sub>2</sub> Aluminum, asbestos, radioactive metals, arsenic, PCB, PBB, PCDD, pesticides. Smog, categorization of smog. <b>Prof. MUDr. Kvetoslava Rimárová, CSc.</b>
11. 25.4.2025	Energetic and biologic values of food. Proteins, fats, saccharides, recommended daily allowances. Vitamins, minerals, recommended daily allowances. <b>Prof. MVDr. Tatiana Kimáková, PhD.</b>
13. 9.5.2025	Study design. Ecological studies, advantages and limitations, examples, solving the real situation. Cross-sectional studies, advantages and limitations, examples, solving the real situation. Case – control, advantages and limitations, examples, solving the real situation. Cohort studies–prospective and retrospective, advantages and limitations, examples, solving the real situation. <b>Prof. MUDr. Kvetoslava Rimárová, CSc.</b>

Week	<b>Practical</b> Department of Public Health and Hygiene, Šrobárova 2, Košice				
1. 10.2. – 14.2. 2025	Introduction to the subject. Possible field visit. Organization of the semester. Demands for exam. Environmental health. Hygiene and preventive medicine, strategies for primary prevention, population and high risk strategy, prevention paradox.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	prof. Rimárová
				<b>12,00-13,30</b>	
				<b>16ab</b>	MVDr. Sulinová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13,30 – 15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> prof. Rimárová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Rimárová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	
Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	MVDr. Sulinová	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	MVDr. Sulinová	
2. 17.2. – 21.2. 2025	Physical factors in environmental and occupational health, Noise, occupational and environmental aspects, decibels. Hertz frequency, Lehman s classification. Noise, aural effect, extraaural effect, psychological effect of the noise. Hospital hygiene, ecology of hospital facilities, six basic areas /infectious, radiation, chemical, psychological, physiology of work, accidents. Model situation in the physical factors of occupation. Possible field visit.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	
		prof. Rimárová	prof. Rimárová	prof. Kimáková	
				<b>12,00-13,30</b>	
				<b>16ab</b>	prof. Rimárová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> prof. Rimárová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Rimárová
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Rimárová	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	prof. Rimárová	
3. 24.2. – 28.2. 2025	Occupational health in context with environmental health. Health impairment in the work environment. Chemical factors, criteria for health impairment, selected suspect carcinogens. Asbestos exposure in occupational setting, in buildings, asbestos – related diseases.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	
		prof. Rimárová	prof. Rimárová	prof. Kimáková	
				<b>12,00-13,30</b>	
				<b>16ab</b>	prof. Rimárová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> prof. Rimárová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Rimárová
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Rimárová	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	prof. Rimárová	

4. 3.3. – 7.3. 2025	Lipids and fats in nutrition. Saccharides, rec. daily allowances Proteins and malnutrition, marasmus and kwashiorkor. Vegetarian diet. Advantages and disadvantages. Limited amino acids. Nutrition and oral health, nutritional status of population and methods for assessment. Possible field visit.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	MVDr. Sulínová
				<b>12,00-13,30</b>	
				<b>16ab</b>	prof. Kimáková
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> MVDr. Sulínová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	MVDr. Sulínová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	
Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	MVDr. Sulínová	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	MVDr. Sulínová	
5. 10.3. – 14.3. 2025	Evaluation of child's growth, BMI, Rohrer's index, Brugh's index. Biological age, bone age, tooth age, primary and secondary sexual signs. Hygienic requirements on the organization and equipment on child's collective facilities, day nurseries, kindergartens, hygienic requirements, organization of educational process, Healthy schools. Visiting kindergarten or school.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	MVDr. Sulínová
				<b>12,00-13,30</b>	
				<b>16ab</b>	prof. Kimáková
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> MVDr. Sulínová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	MVDr. Sulínová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	
Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	MVDr. Sulínová	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	MVDr. Sulínová	
6. 17.3. – 21.3. 2025	Water quality – chemical health, water pollution sources, nitrates. Laboratory methods for determination of drinking water. Water quality – communicable diseases related to water, water supplies, the sources of drinking water. Division of WHO of all diseases related to the water. Division of waterborne diseases, epidemiology of water related diseases. Possible field visit.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	
		prof. Kimáková	prof. Kimáková	MVDr. Sulínová	
				<b>12,00-13,30</b>	
				<b>16ab</b>	prof. Kimáková
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> prof. Kimáková
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	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Kimáková
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Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Kimáková	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	prof. Kimáková	

7. 24.3. – 28.3. 2025	Ionizing radiation – human exposure, stochastic and non-stochastic effect. Ultraviolet radiation. Infrared radiation and radiofrequencies and microwaves, lasers. Vibration Biologic effect of ionizing radiation acute and chronic effects, cancer. Carcinogens, mutagens and teratogens, group A,B,C,D. Maximum allowable concentration Visiting public health institute.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	prof. Rimárová
				<b>12,00-13,30</b>	
				<b>16ab</b>	prof. Kimáková
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	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Rimárová
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Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Rimárová	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	prof. Rimárová	
8. 31.3. – 4.4. 2025	Vitamins, water soluble, fat soluble vitamins A,D,E,K. Hypovitaminosis, avitaminosis, hyper – vitaminosis. Mineral substances in nutrition: phosphorus, calcium, magnesium, iron, iodine, flour, selenium, zinc. Chemical food contamination - mercury, lead, cadmium, pesticides. Possible field visit.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	prof. Kimáková
				<b>12,00-13,30</b>	
				<b>16ab</b>	MVDr. Sulínová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> prof. Kimáková
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Kimáková
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	
Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Kimáková	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	prof. Kimáková	
9. 7.4. – 11.4 2025	Climate factors, air pollution, generally. Smog categorization, London smog, Los Angeles smog. Greenhouse effect, ozone hole. Global atmospheric issues. Indoor pollution – allergens, cooking gas, radon emissions, formaldehyde, ammonium passive smoking, bacteria, fungi. Possible field visit.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	prof. Kimáková
				<b>12,00-13,30</b>	
				<b>16ab</b>	MVDr. Sulínová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b> prof. Kimáková
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Kimáková
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	
Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Kimáková	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	MVDr. Sulínová	

10. 14.4. - 18.4. 2025	Food quality assessment. Principles of chemical and microbiological food quality Risk of communicable disease from food – biological contamination of food. Solid waste management. Possible field visit.					
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>		
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	MVDr. Sulínová	
				<b>12,00-13,30</b>		
				<b>16ab</b>	prof. Kimáková	
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>	
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b>	MVDr. Sulínová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>		
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	MVDr. Sulínová	
		-	-	-		
Thursday						
	-	-	-			
Friday						
11. 21.4. - 25.4. 2025	Epidemiological studies – advantages and disadvantages. Cross-sectional study. Case-control study. Longitudinal study.					
		-	-	-		
	Monday					
				-		
		-	-	-	-	
	Tuesday					
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>		
	Wednesday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Kimáková	
		<b>8,00-9,30</b>	9.45-11,15	11,30-13,00		
	Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Kimáková	
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>			
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	prof. Kimáková		
12. 28.4 - 2.5 2025	Assessment of the nutritional status of population. BMI index standards and values, WHR index standards and values. Measuring body fat. Health and nutritional status of population, methods for assessment, energetic and biologic value of food.					
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>		
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>		
		prof. Rimárová	prof. Rimárová	MVDr. Kimáková		
				<b>12,00-13,30</b>		
				<b>16ab</b>	prof. Rimárová	
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30- 15,00</b>	
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b>	
		prof. Kimáková	prof. Rimárová	prof. Rimárová	prof. Rimárová	
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>		
Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Kimáková		
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>			
Thursday	-	-	-			
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>			
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	prof. Kimáková		
13. 5.5. - 9.5. 2025	Heavy metals – lead, mercury, cadmium, arsenic, chromium, nickel. Heavy metals, chromium, nickel, manganese, selenium, beryllium. Biologic agents in the workplace. Dust and fumes, silicosis, asbestosis, non fibrogenic agents, pneumoconiosis. Visible light effect. Possible field visit.					
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>		
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	prof. Rimárová	
				<b>12,00-13,30</b>		
				<b>16ab</b>	prof. Kimáková	
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30 -15,00</b>	
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b>	prof. Rimárová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>		
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Rimárová	
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>		
Thursday	-	-	-			
	<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>			
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	MVDr. Sulínová		

14. 12.5. – 16.5. 2025	Summary credits, preterm tests preparation.				
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>12,00-13,30</b>	
	Monday	<b>15ab</b>	<b>10ab</b>	<b>3ab</b>	
		prof. Rimárová	prof. Rimárová	MVDr. Sulinová	
				<b>12,00-13,30</b>	prof. Rimárová
				<b>16ab</b>	
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	<b>13.30- 15,00</b>
	Tuesday	<b>9ab</b>	<b>5ab</b>	<b>8ab</b>	<b>only 5GM</b>
					prof. Rimárová
		<b>8,00-9,30</b>	<b>10,00-11,30</b>	<b>11,45-13,15</b>	
	Wednesday	<b>7ab</b>	<b>13ab</b>	<b>4ab</b>	prof. Kimáková
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	
	Thursday	<b>2ab</b>	<b>6ab</b>	<b>12ab</b>	prof. Rimárová
		<b>8,00-9,30</b>	<b>9,45-11,15</b>	<b>11,30-13,00</b>	
Friday	<b>11ab</b>	<b>1ab</b>	<b>14ab</b>	MVDr. Sulinová	

**Conditions for exam: Active participation on practicals**

**Topics in selected weeks are subject of the change due organization management.**

**Form of exam: Written, computerized ROGO**

**Condition for exam: maximum 2 absences on practical exercises during semester including week 14<sup>th</sup> (means from week 1 to week 13 maximum 1 absences)**

**Replacement of practical: Withing the same week and same topic student can replace practical wit another group.**

**For preterm will be Selection test in the week 12 -13.**

**Literature: - compulsory**

**RIMÁROVÁ, K.: Environmental medicine – hygiene. Košice, Univerzita Pavla Jozefa Šafárika v Košiciach, 2006. - 148 s. ISBN 80-7097-646-2.**

**RIMÁROVÁ, K.: Compendium of Hygiene. Košice, 2014.**

prof. MUDr. Kvetoslava Rimárová, CSc.  
guarantee of the subject, chair of the Institute of Public Health and Hygiene