PSYCHOPHYSIOLOGY

<table>
<tr><td>Credit points</td><td colspan="3">3 CP</td></tr>
<tr><td>Study course annotation</td><td colspan="3">The course introduces the basics of psychophysiology. Provides insight into the branches of psychophysiology and research methods. Helps todevelop worldviews and critical thinking.</td></tr>
<tr><td>Aim of the study course</td><td colspan="3">To develop a modern understanding of psychophysiology as an interdisciplinary discipline that uses the achievements of philosophy,psychology, physiology, informatics and other sciences.</td></tr>
<tr><td>Objectives of the course</td><td colspan="3">• To give an idea about the branches of psychophysiology.
• To teach the basics of psychophysiological methods.
• To provide detailed knowledge about the psychophysiology of sensory systems.
• Provide insight into exploratory research activity, attention,memory, learning, emotional states and their physiological correlates.
• To acquaint with applied psychophysiology.</td></tr>
<tr><td rowspan="2">Study course results</td><td>Knowledge</td><td>Skills</td><td>Competences</td></tr>
<tr><td>• Understanding psychophysiology as a science that studies the psychophysiological mechanisms of human behavior.
• Concept of research methods of psychophysiology. Notion of orientation research activity, attention, memory, learning,emotional states and their physiological correlates.
• Practical application and significance of psychophysiology.</td><td>• To base their professional activities on scientifically based theories of psychology and psychophysiology.
• Analyze the obtained results and give a psychophysiological interpretation.
• To critically evaluate the validity and reliability of different methods,to obtain
• psychological information, adequately using different
• methods of psychophysiology</td><td>• Ability to understand and apply the acquired knowledge, Integrate the acquired knowledge with knowledge of other disciplines (neuropsychology, cognitive psychology).
• Ability to obtain and analyze information from varioussources.
• During the research work, was able to choose the appropriate psychophysiological method for the purpose of the work.</td></tr>
<tr><td rowspan="9">Study course content</td><td colspan="3">Topics</td></tr>
<tr><td>1</td><td colspan="2">Object, tasks and methodological problems of psychophysiology. Separate directions of psychophysiology. Concept about theoretical and applied psychophysiology.</td></tr>
<tr><td>2</td><td colspan="2">Methods of psychophysiological research and their specific. Registration of impulse activity of neurons.</td></tr>
<tr><td>3</td><td colspan="2">Electric activity of the Brain. Rhythms of EEG. Typesof EEG. Functional meaningfulness of descriptions EEG. Evoked potentials.</td></tr>
<tr><td>4</td><td colspan="2">Psychophysiology of sensory processes. Generalpresentations. Concept about the sensory systems. Concept about an analyzer.</td></tr>
<tr><td>5</td><td colspan="2">Principles of reflection, perception, encryption and processing of information. Forms of reflection in the living nature. Psychical reflection and subjective character.</td></tr>
<tr><td>6</td><td colspan="2">Psychophysiology of different sensory systems. Skinsensitineness. Proprioception. Visceroreception. Nociception. Thermoreception. Psychophysiology oftaste, smell, hearing and vision.</td></tr>
<tr><td>7</td><td colspan="2">Basic anatomic and functional elements of the nervous system. Neuron. Acsons and dendrites. Afferent, efferent, associative neurons. Synapses.Mielinization of nervous fibres. Glia.</td></tr>
<tr><td>8</td><td colspan="2">Psychophysiology of searching activity, attention, learning, and memory.</td></tr>
</table>

	9	Psychophysiology of emotions. Definition, classification and functions of emotions. Cognitive processes in the genesis of emotions. Emotions and action. Neuroanatomy and neurochemistry of emotions.
	10	Psychophysiology of communications. Ratio of verbal and nonverbal components in perception andcommunication.
	11	Psychophysiology of deception and lie. Deception as component of social relations. Classification of deception. Types of deception. Signs and methods of deception. Lie detection.
	12	Functional structure of adjusting of activity in the process of probabilistic prognostication. Reflection ofprobabilistic-temporal structure of the system of events. Levels and types of reflection of probabilisticstructure of the system of events. The subjective probabilistic model of the current situation. Functional structure of activity regulation in the process of probabilistic prognostication.
	13	Sleep psychophysiology. Sleep functions. Sleep stages. Dreams. Sleep and psychological features.
	14	Psychophysiology of consciousness and unconscious.Phenomenon of psychological defence andinvoluntary emotions. Different approaches to problem of consciousness.
Form of assessment:	Exam	

Obligatory literature:

1. Handbook of Psychophysiology. (2016). 4th Edition Ed. By John T. Cacioppo, University of ChicagoLouis G. Tassinary, Texas A & M UniversityGary G. Berntson, Ohio State University.4th Edition. Cambridge University Press https://doi.org/10.1017/9781107415782
2. Ekman P. (2015). Darwin and Facial Expression: A Century of Research in Review.

Further reading list:

1. Āberberga-Augškalne L. , Korolova O. (2007). Fizioloģija ārstiem. Rīga, Medicīnasapgāds.
2. Stephen S.Hall (2010). Wisdom.From philosophy to neuroscience. Alfred A.Knopf, Publisher, New York.

Periodicals and electronic databases:

1. Cortex
2. Brain Research Reviews
3. Physiological Reviews
4. International Journal of Psychophysiology
5. Journal of Cognitive Neurosciences
6. Psychophysiology

Changes and additions to the program and literature list are possible during the study process