Course Title	**Physiology II**				
Course Code	**NURS 104**				
Course Type	Compulsory				
Level	BSc (Level 1)				
Year / Semester	1st/ Spring				
Instructor's Name	Dr Georgios Charalambous, Dr George Miltiadous				
ECTS	3	Lectures / week	2	Laboratories/week	-
Course Purpose	The aim of the course is to familiarize students with the concepts and principles of physiology of the human body. The course focuses on functions and mechanisms of the human body by which the various organic systems interact with each other, from simple cellular to complex systemic functions indicating the physiological parameters in humans. At the end of the course, students will be able to describe the basic physiological mechanisms and the role they play in homeostasis and maintaining health.				
Learning Outcomes	By the end of the course, students should be able to: - Name the basic principles of renal physiology and the structure of the kidneys and urinary system - Describe the homeostatic mechanisms of the kidneys and the processes of condensation and dilution of urine - Describe the processes that take place in the gastrointestinal tract: secretory functions, digestion and absorption - Analyze the metabolism of carbohydrates, lipids and proteins and the energy of the body - Name the organization of the nervous system, and describe the general functions of the nervous system - Describe the mechanisms that cause an energy potential and how energy potentials are conducted - Describe the contraction of skeletal and smooth muscles - Describe neuromuscular contraction - Name the functions and regulation of the autonomic nervous system - Describe the endocrine system and name the endocrine glands - Name the hormones, their secretion and function - Describe the function and stages of the menstrual cycle and reproduction				
Prerequisites	None		Co-requisites	None	

Course Content	- Regulation of renal function - Glomerular filtration, reabsorption and secretion of substances to and from the ureters - The role of the kidneys in the acid-base balance - Digestive system. Gastrointestinal secretory functions, digestion and absorption of substances - Metabolism of carbohydrates, lipids and proteins. Energizing the body - Muscles. Muscle tissue structure. Isometric and isotonic contractions. Adjust shrinkage and relaxation. - Nervous system. Organization of the nervous system. Central and peripheral system. Nerve tissue formation and transmission of information. - Neuromuscular contraction. Synaptic transmission - Special senses - optical system. Eye structure and normal vision. - The autonomic nervous system and its regulation. Sympathetic and parasympathetic system. - Endocrine system. Synthesis and secretion of hormones. Hormonal action - Reproductive function. Synthesis and regulation of sex hormone secretion. Function and stages of the menstrual cycle and reproduction.
Teaching Methodology	The course is delivered to the students through lectures, using computer-based presentations programmes. Case Studies, Discussion, Questions / Answers are also used depending on the content of the lecture. Lecture notes and presentations are available online for use by students in combination with textbooks. Relevant material published in international scientific journals are also used to follow the latest developments related to the subject of the course.
Bibliography	**(a) <u>Textbooks:</u>** Hall, J. E., Hall, M. E., & Guyton, A. C. (2021). *Guyton and Hall Textbook of Medical Physiology*. Elsevier. Hall, J. E., Hall, M. E., & Guyton, A. C. (2017). *Guyton and Hall, Φυσιολογία του Ανθρώπου και Μηχανισμοί των Νόσων 13η έκδοση*, Εκδόσεις Παρισιάνου. **(In Greek)** **(b) <u>References:</u>** Watson, R. (2011). *Anatomy and Physiology for Nurses*. ELSEVIER Hull, R. (2011). *Anatomy and Physiology for Therapists and Healthcare Professionals*. TheWrite Idea Berne, R.M. & Levy, M.N. (2011) *Αρχές Φυσιολογίας*. Εκδόσεις Κρήτης **(In Greek)**

	McGeon, J. G. (2008). *Συνοπτική φυσιολογία του ανθρώπου*. Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδης **(In Greek)** *Through the services of the university library, access is provided to electronic repositories of scientific journals and articles, indicatively* ***ProQuest, Cambridge University Press*** and ***Science Direct*** *with thousands of scientific journals in the fields of health sciences.*
Assessment	The assessment of the course consists of the coursework (midterm exam, student participation) and final exam. **Mid-Term Exam: 40%.** A written midterm exam will be comprised by multiple choice questions, short answer and open questions. **Student Participation: 10%.** The class participation includes formative assessments with interactive problem solving questions. **Written Final Exam: 50%.** A written final exam will be comprised by multiple choice questions, short answer and open questions.
Language	Greek / English