MODULE / SYLLABUS
EDUCATION CYCLE 2022-2025

Module/subject name:	**GENETICS**	
Direction:	**NURSING**	
Level of study*:	**I degree (bachelor's)** II degree (master's degree)	
Profile of education:	**practical**	
Type of studies*:	**stationary** / non-stationary	
Type of classes*:	obligatory **X** supplementary □ to choose from □	
Year and semester of studies*:	Year of study*: I **X** II □ III □	Semester*: 1 **X** 2 □ 3 □ 4□ 5 □ 6□
Number of ECTS credits assigned	**1,5**	
Language of instruction:	**English**	
Name of the PSW Department:	**Faculty of Health Sciences**	
Contact (tel./email):	**Tel.** 55,279 17,68 **e-mail:** dziekanat@psw.kwidzyn.edu.pl	
Type of module/subject relating to apprenticeships*:	• basic sciences **X** • social sciences and humanities □ • science in the basics of nursing care □ • specialist care □	
Presenter(s):	according to the studies plan	

Forms of student workload	**Student charge (number of teaching hours)**
Contact hours with an academic teacher (according to the study plan)	
Lectures (W)	**24**
Seminar (S)	
E-learning (e-L)	
Conversatories	
Exercises (C)	
Practical classes (ZP)	
BUNA - independent student work* (*according to the study plan)	**13**
Student's workload related to work placements (***according to the study plan)***	
Total student workload – total number	**37**
Number of ECTS credits per subject/module	**1.5, including 0.5 BUNA**

Didactic methods	• giving (lecture, talk), • programmatic (using audiovisual tools, boards), • analysis of clinical cases.
Assumptions and aim of the subject	Familiarize students with the basics of classical, molecular and medical genetics.
Teaching tools	Board and multimedia projector, boards.
Prerequisites:	Knowledge of biology at the high school level.

Matrix of learning outcomes for the module/subject with regard to methods of verifying the achievement of the intended learning outcomes and the form of delivery of learning activities

Symbol learning effect	who pass the module (subject) will know/understand/ be able to:	Methods for verifying the achievement of the intended learning outcomes	Form of implementation of didactic classes * enter the symbol
A.W9.	Characterises the genetic determinants of human blood groups and serological conflict in the Rh system.	*Written or oral colloquium*	W
A.W10.	Analyses the problems of genetically determined diseases.	*Written or oral colloquium*	W/BUNA

A.W11.	Discusses the structure of chromosomes and the molecular basis of mutagenesis.	*Written or oral colloquium*	W/BUNA
A.W12.	Analyses the principles of inheritance of different numbers of traits, inheritance of quantitative traits, independent inheritance of traits and inheritance of extra-nuclear genetic information.	*Written or oral colloquium*	W/BUNA
A.U3.	Estimates the risk of manifestation of a given disease based on the principles of inheritance and the influence of environmental factors	*Draft, oral response*	BUNA
A.U4.	Uses genetic disease determinants in disease prevention.	*Draft, oral response*	BUNA
O.K7.	Recognizes and acknowledges own limitations in knowledge, skills and social competences and makes self-assessments of deficits and learning needs.	*Observation, self-assessment*	W/BUNA

*****W-lecture; S-seminar; EL- e-learning; K -conversatories; Ć-exercises; ZP-practical classes; PZ-professional internships; BUNA-independent student work

EXAMPLES OF METHODS FOR THE VERIFICATION OF LEARNING OUTCOMES

in the field of knowledge (lectures/seminars): spoken exam (*non-standardized, standardized, traditional, problem*); written exam – the student generates / recognizes the answer (*essay, report; short structured questions /SSQ/; multiple-choice test /MCQ/; multiple-answer test /MRQ/; match test; T/N test; answer completion test*),

in terms of skills (exercises/seminars): Practical examination; Objective Structured Clinical Examination (OSCE); Mini-CEX (mini – clinical examination); Implementation of the commissioned task; Design, presentation

in the field of social competences: reflective essay; prolonged observation by the tutor / teacher of the teacher; 360° assessment (opinions of teachers, colleagues, patients, other colleagues); Self-assessment (including portfolio)

BUNA – the student's own work is verified by assessing the degree of implementation of the assumed learning outcomes: a test checking the student's knowledge of the subject specified in the syllabus, but also through final papers, projects, presentations and any other mid-term work.

TABLE OF PROGRAMME CONTENTS

Program content	**Number of hours**	**Reference of learning** outcomes **to CLASSES**
LECTURES, semester I		
1. Fundamentals of classical genetics. History of the discovery of the principles of inheritance, Mendel's laws. Molecular structure of DNA, RNA. Principles of gene function. The phenomenon of transcription and translation. Gene mutations and chromosomal aberrations their biological significance and clinical aspect..	7	A.W9. A.W11. O.K7.
2. Principles of inheritance of a different number of traits, inheritance of quantitative traits, independent inheritance of traits, and inheritance of extraterrestrial genetic information.	5	A.W12. O.K7.
3. Genetic diseases inherited autosomal recessively and dominantly. Neoplastic diseases with a genetic basis. Breast and colon cancer.	7	A.W10. A.W12. O.K7.
4. Prenatal diagnosis. Congenital malformations. Gene therapy.	5	A.W12. O.K7.
BUNA – independent student work, semester I		
1. Principles of genetic diagnosis.	4	U.S. A.U4. O.K7.
2. PCR technique in laboratory diagnostics.	3	A.U3. A.U4.
3. The use of genetic tests in medical diagnostics.	3	U.S. A.U4. O.K7.
4. Cell cloning rules.	3	A.U3. A.U4.

LIST OF LITERATURE

Basic literature:

1. Jorde L.B., Carey J.C., Bamshad M.J.: Medical *Genetics. 6th Edition*. Elsevier 2019.

Suplementary literature:

1. Killian D., Klug W., Palladino M., Cummings M., Spencer C., *Essentials of Genetics*, Global Edition, Pearson Education Limited, cop. 2020.

Forms of assessment and basic assessment criteria/examination requirements

Form of assesment

- Exam – lectures
- Credit without BUNA evaluation

Forms and criteria of obtaining credit

- CREDIT OF THE COURSE - THE COURSE ENDS WITH AN EXAM

Lecture:

The basis for obtaining a pass/fail is:

- 100% attendance; confirmed by an entry on the attendance register,
- possible 10% absence compensated in a way individually established with the lecturer,
- active participation in lectures (joining the discussion initiated by the lecturer, showing interest in the issues discussed during the lecture),

Test evaluation criteria

Assessment	Very good (5.0)	Good plus (4.5)	Good (4.0)	Sufficient plus (3.5)	Sufficient (3.0)	Insufficient (2.0)
% of correct answers	93-100%	85-92%	77-84%	69-76%	60-68%	59% and less

Evaluation criteria – oral answer

Project

BUNA evaluation criteria - independent student work

Evaluation criteria	**Assessment: zal/nzal**
Compliance of the content of the work with the subject of education	
Substantive assessment of work	
Evaluation of the selection and use of sources	
Assessment of the formal side of the work (footnotes, language)	
	**(recommendations for work)*
	(rating) *(signature)*

* if any of the criteria are not met, the work should be corrected according to the lecturer's recommendations

FINAL COURSE EXAM

- A prerequisite for passing the exam is a pass in the lectures and a pass in the BUNA (project).
- The exam is in the form of a written test, multiple-choice test /MCQ/ with one correct answer (each correct answer equals 1 point, no answer or incorrect answer equals 0 points, a minimum of 60% correct answers qualifies for a passing grade.

Conditions for making up classes missed for excused reasons:

Making up for abandoned classes is possible only in the case of a student's illness documented by sick leave or Making up missed classes is possible only in the case of a student's illness documented by a medical exemption or other fortuitous reasons. Excusing classes and passing the material covered during the period of absence is done by the lecturer conducting the classes. Both a student returning from dean's leave and a student repeating a year are obliged to attend all classes and to take examinations. Only if a grade of at least "pass" (3.0) is obtained in an examination in a given year may a student repeating a year because of another subject be exempted from the obligation to attend classes and to pass the subject.

Acceptance: Vice-Chancellor for Science and Educational Quality