



Information about the subject

Degree: Bachelor of Science Degree in Nursing

Faculty: Faculty of Medicine and Health Sciences

Code: 1211203 **Name:** Physiopathology

Credits: 6,00 **ECTS Year:** 2 **Semester:** 1

Module: Common basic training

Subject Matter: Physiology **Type:** Basic Formation

Field of knowledge: Health sciences

Department: -

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

| | | |
|-------|---|------------------------|
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Module organization

Common basic training

| Subject Matter | ECTS | Subject | ECTS | Year/semester |
|----------------|-------|--|------|---------------|
| Anatomy | 6,00 | Human and Functional Anatomy | 6,00 | 1/1 |
| Physiology | 12,00 | Human Physiology | 6,00 | 1/2 |
| | | Physiopathology | 6,00 | 2/1 |
| Biochemistry | 6,00 | Clinical Biochemistry | 6,00 | 1/1 |
| Biostatistic | 6,00 | Biostatistics and Research Methodology | 6,00 | 1/2 |
| Psychology | 6,00 | Psychology of Care | 6,00 | 1/1 |
| Pharmacology | 6,00 | Pharmacology | 6,00 | 2/1 |
| Nutrition | 6,00 | Nutrition and Dietetics | 6,00 | 2/1 |
| ICT | 6,00 | ICT | 6,00 | 3/1 |
| English | 6,00 | English | 6,00 | 1/2 |
| Life support | 6,00 | Emergency Care and Life Support | 6,00 | 4/1 |

Recommended knowledge

No required



Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 That students are able to base nursing interventions on scientific evidence and available means.
- R2 That students are able to promote healthy lifestyles, self-care, supporting the maintenance of preventive and therapeutic behaviors.
- R3 Students understand the molecular and physiological basis of cells and tissues.
- R4 That students know the physiopathological processes and their manifestations and the risk factors that determine the states of health and disease in the different stages of the life cycle.



Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

| BASIC | | Weighting | | | |
|----------|--|-----------|---|---|---|
| | | 1 | 2 | 3 | 4 |
| CB1 | Students have demonstrated possession and understanding of knowledge in an area of study that is at the core of general secondary education, and is often at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study. | | | X | |
| CB2 | Students are able to apply their knowledge to their work or vocation in a professional way and possess the skills usually demonstrated by developing and defending arguments and solving problems within their area of study. | | | | X |
| CB3 | Students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant social, scientific or ethical issues. | | | | X |
| CB4 | That students can convey information, ideas, problems and solutions to both specialized and non-specialized audiences. | X | | | |
| CB5 | Students have developed those learning skills necessary to undertake further study with a high degree of autonomy. | | | X | |
| GENERAL | | Weighting | | | |
| | | 1 | 2 | 3 | 4 |
| CG0 | Good Public Speaking. | X | | | |
| SPECIFIC | | Weighting | | | |
| | | 1 | 2 | 3 | 4 |
| 1b | To know and identify the structure and function of the human body. | X | | | |



| | | | | | |
|-----|---|---|--|--|---|
| 2b | To understand the molecular and physiological basis of cells and tissues. | | | | X |
| 10b | To know pathophysiological processes and their manifestations and the risk factors that determine the health and disease states in the different stages of their vital cycle. | | | | X |
| 15b | To know and identify physiological and physical problems derived from gender violence and to train the students in prevention, early detection, assistance, and rehabilitation of victims of this form of violence. | X | | | |

TRANSVERSAL

Weighting

| | | 1 | 2 | 3 | 4 |
|----|--|---|---|---|---|
| 6 | To base interventions in nursing on scientific evidence and on the available means. | | | X | |
| 9 | To promote healthy life spans, to promote taking care of each person by themselves and support the maintenance of preventive and therapeutic measures. | | | X | |
| 16 | To understand the systems of information related to health. | X | | | |



Assessment system for the acquisition of competencies and grading system

| Assessed learning outcomes | Granted percentage | Assessment method |
|----------------------------|--------------------|-------------------------------------|
| R1, R2, R4 | 75,00% | Theoretical written exams |
| R1, R2, R4 | 25,00% | Practical tests and works |
| | 0,00% | Attendance and active participation |

Observations

To pass the course, it will be a necessary but not sufficient condition to have obtained 50% of the possible score in the final exam.

* A total of 6 jobs will be requested throughout the semester. They will not be compulsory although the student must pass the theoretical part (3/6) and have a final score in the course of 5/10 to pass the course.

Criteria for awarding the Honor Roll: T

In order to obtain an Honors Degree, it will be necessary to obtain a minimum of 90% of the total evaluation, at the discretion of the professor of the subject and in accordance with the legal percentages. In second and subsequent calls, only the honors that may remain after the first call may be awarded.

1.- Final theoretical evaluation (70%):

The theoretical evaluation will be carried out at the end of the course, through a final theoretical test and may consist of:

- Multiple-choice objective questions, with four answers to choose one (multiple choice). The wrong answers penalize according to the formula $A - (E / n - 1)$. Where A: number of correct answers, E: number of errors, n: number of answer options
- Clinical cases. Practical cases in which the student must identify issues related to the aspects that have been seen in the different topics.

The minimum grade to pass the written test will be 5 out of 10.

2 - Practical tests and assignments (20%)

Throughout the course, activities on each topic will be carried out with reference to the attention and understanding of the topic and the retention capacity of each student, through oral and / or written questions in class and activities aimed at the student's autonomous work outside the classroom. These are activities requested by the teacher through the platform or in the classroom and whose performance is NOT essential in order to be evaluated.

3.- Partial exam (10%)



It will be done to check the student's learning pace. This tests will be part of the evaluation.

Comments regarding the evaluation of the subject:

- The mark that appears in the minutes of the suspended students is the exam mark of 10. For example, a student who has a 2 in the written test and is above 6, the mark that must appear in the minutes is a 3, 3.
- Students who have passed the exam, but have not passed any of the remaining assessment tools, will be given 4.5. In the second call they will only have to carry out the assignments, seminars, etc. who have pending to pass the subject.
- The student has the right to know the grades of all the assessment tools included in the teaching guide at least one week before the written test and not on the date of the test review.
- For second or successive enrollment students, attendance at tutorials or teaching sessions **is not mandatory**.

• DEVELOPMENT OF THE SUBJECT IN SECOND AND SUBSEQUENT ENROLLMENTS:

The professor responsible for the suspended group (second and subsequent registration), will contact the students through the virtual campus, which will indicate the days and hours of the corresponding tutorials.

There will be a specific group for students who are not first enrollment and a teacher in charge of that group.

The professor in charge of this group will contact the students through the virtual campus, through which he / she will indicate the days and hours of the corresponding tutorials. There will be 6 monitoring and tutoring sessions of 2 hours each. In each session the subject will be developed in such a way that the work of the competences that each student needs to be able to pass the subject will be reinforced. In the event that group S is greater than 40 students, 2 sessions per week of 2 hours will be established.

The content evaluation will take place in the exam set in the official calendar for this subject. These sessions are available on the specific schedule. The assessment instruments for the subject are detailed below:

1.- Final theoretical evaluation (75%):

The theoretical evaluation will be carried out at the end of the course, through a **final theoretical test** and may consist of:

- Multiple-choice objective questions, with four answers to choose one (multiple choice). The wrong answers penalize according to the formula $A - (E / n - 1)$. Where A: number of correct answers, E: number of errors, n: number of answer options.
- Clinical cases. Practical cases in which the student must identify issues related to the aspects that have been seen in the different topics.

The minimum grade to pass the written test will be 5 out of 10.

2.- Practical tests and assignments (25%)

Throughout the course, activities on each topic will be carried out with reference to the attention and understanding of the topic and the retention capacity of each student, through oral and / or written questions in class and activities aimed at the student's autonomous work outside the classroom.



These are activities requested by the teacher through the platform or in the classroom and whose performance is NOT essential in order to be evaluated.

The content blocks and tasks to be developed in each session will be the following:

TEMPORARY ORGANIZATION OF LEARNING (Second or subsequent enrollment students):

CONTENT BLOCK / DIDACTIC UNIT NUMBER OF SESSIONS

BLOCKS I -III --- **NUMBER OF SESSIONS 3**

BLOCK IV-VI --- **NUMBER OF SESSIONS 2**

BLOCK VII-IX --- **NUMBER OF SESSIONS 1**

• DEVELOPMENT OF THE SUBJECT FOR INTERNATIONAL MOBILITY STUDENTS:

The international mobility student must contact the professor responsible for the subject to inform him of this circumstance at the beginning and at the end of the subject. The content evaluation will take place in the exam set in the official calendar for this subject.

These sessions are available on the specific schedule.

1.- Theoretical evaluation (75%):

The theoretical evaluation will be carried out at the end of the course, through a **final theoretical test** and may consist of:

- Objective questions with multiple answers, with four answers to choose one (multiple choice). The wrong answers penalize according to the formula $A - (E / n - 1)$. Where A: number of correct answers, E: number of errors, n: number of answer options
- Clinical cases). Practical cases in which the student must identify issues related to the aspects that have been seen in the different topics. The minimum grade to pass the written test will be 5 out of 10.

2.- Practical tests and assignments (25%)

The supervised works that the subject consists of will be provided to the student so that they can work on them autonomously and can be delivered through the ucv platform in the space provided for it and within the established deadlines. This in NO CASE is a substitute for the final written evaluation test.

MENTION OF DISTINCTION:

According to Article 22 of the Regulations governing the Evaluation and Qualification of UCV Courses, the mention of "Distinction of Honor" may be awarded by the professor responsible for the course to students who have obtained, at least, the qualification of 9 over 10 ("Sobresaliente"). The number of "Distinction of Honor" mentions that may be awarded may not exceed five percent of the number of students included in the same official record, unless this number is lower than 20, in which case only one "Distinction of Honor" may be awarded.



Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1 Exposition of contents by the teacher, analysis of competencies, explanation and demonstration of abilities, skills and knowledge in the classroom.
- M2 Group work sessions supervised by the teacher. Case study, diagnostic analysis, problems, field study, computer room, visits, data search, libraries, network, Internet, etc. Significant construction of knowledge through student interaction and activity.
- M3 Supervised monographic sessions with shared participation.
- M4 Application of interdisciplinary knowledge.
- M5 Activities developed in spaces and with specialized equipment.
- M6 Personalized attention and in small groups. Period of instruction and/or orientation carried out by a tutor with the objective of reviewing and discussing the materials and topics presented in the classes, seminars, readings, completion of assignments, etc.
- M7 Set of oral and/or written tests used in the initial, formative or summative evaluation of the student.
- M8 Student study: Individual preparation of readings, essays, problem solving, seminars, papers, memoirs, etc. To expose or deliver in the theoretical classes, practical classes and/or small group tutorials. Work done on the university platform (www.plataforma.ucv.es).
- M9 Group preparation of readings, essays, problem solving, papers, memoirs, etc. To present or deliver in the theoretical classes, practical classes, seminars and/or small group tutorials. Work done on the university platform (www.plataforma.ucv.es).



IN-CLASS LEARNING ACTIVITIES

| | LEARNING OUTCOMES | HOURS | ECTS |
|--|-------------------|--------------|-------------|
| Face-to-face class M1, M2, M4, M7, M8 | R1, R2, R3, R4 | 40,00 | 1,60 |
| Practice Classes M2, M5 | R3, R4 | 12,00 | 0,48 |
| Laboratory M5, M6, M7, M8, M9 | R4 | 4,00 | 0,16 |
| Tutorial M1, M6 | R1, R2, R3, R4 | 2,00 | 0,08 |
| Evaluation M5, M7 | R3, R4 | 2,00 | 0,08 |
| TOTAL | | 60,00 | 2,40 |

LEARNING ACTIVITIES OF AUTONOMOUS WORK

| | LEARNING OUTCOMES | HOURS | ECTS |
|---------------------------------|-------------------|--------------|-------------|
| Student's self-employment M8 | R3, R4 | 60,00 | 2,40 |
| Group work M9 | R3, R4 | 30,00 | 1,20 |
| TOTAL | | 90,00 | 3,60 |



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

| Content block | Contents |
|--|---|
| DIDACTIC UNIT I. INTRODUCTION TO PATHOPHYSIOLOGY. ALTERATION OF HOMEOSTASIA UNIT | <p>UNIT 1. Introduction to pathophysiology. Alteration of homeostasis.</p> <p>UNIT 2. Physiopathology of the hydroelectrolyte and acid base balance.</p> <p>UNIT 3. Immune system. Pathophysiology of infections.</p> |
| DIDACTIC UNIT II. CARDIOVASCULAR AND HEMATOLOGICAL PATHOPHYSIOLOGY. | <p>UNIT 4. Cardiac pathophysiology. Coronary ischemia: angina pectoris and acute coronary syndrome. Circulatory failure: Heart failure and shock. Valvular pathology. Cardiac automatism disorders. Pathology related to blood pressure.</p> <p>UNIT 5. Vascular pathophysiology. Acute and chronic arterial insufficiency. Arterial ischemia syndrome. Venous insufficiency and valve disease. Thromboembolic phenomena. Lymphatic drainage disorders</p> <p>UNIT 6. Hematological pathophysiology. Erythrocyte, leukocyte and platelet pathology.</p> <p>CLINICAL CASES</p> |
| DIDACTIC UNIT III. RESPIRATORY PHYSIOPATHOLOGY | <p>UNIT 7. Semiology of respiratory pathology. Restrictive and obstructive ventilatory disorders. Respiratory insufficiency. Pathology of the parenchyma, pleura, mediastinum and pulmonary circulation.</p> <p>CLINICAL CASES</p> |
| DIDACTIC UNIT IV. RENAL AND UROLOGICAL PATHOPHYSIOLOGY | <p>UNIT 8. Semiology of renal pathology. Abnormalities in kidney function: Renal failure. Glomerular, tubular and tubulo-interstitial pathology. Pathology of the urinary tract.</p> <p>CLINICAL CASES</p> |



DIDACTIC UNIT V. DIGESTIVE PATHOPHYSIOLOGY

UNIT 9. Semiology of digestive pathology. Motility and secretion disorders. Diseases of the esophagus, stomach and intestines. Alterations in digestion and absorption.

UNIT 10. Hepatobiliary and pancreatic pathology.

UNIT 11. Vascular pathology of the digestive system. Pathology of the peritoneum.

CLINICAL CASES

DIDACTIC UNIT VI. METABOLIC AND ENDOCRINE PATHOPHYSIOLOGY

UNIT 12. Physiopathology of endocrine disorders.

Pathology of the hypothalamic-pituitary axis. Thyroid disease. Adrenal pathology. Gonadal pathology.

UNIT 13. Disorders in the metabolism of carbohydrates, proteins and lipids.

CLINICAL CASES

DIDACTIC UNIT VII. NEUROLOGICAL PATHOPHYSIOLOGY. PATHOPHYSIOLOGY OF THE SENSE ORGANS (OR SYNESTHETIC FP)

UNIT 14. General pathology of the nervous system.

Pathology of motor coordination. Pathology of the extrapyramidal system. Pathology of sma and snp. Spinal cord pathology. Pathology of the cerebral cortex. Pathology of the state of consciousness. CSF pathology. Neurovascular pathology.

UNIT 15. Pathology of sensitivity

CLINICAL CASES

DIDACTIC UNIT VIII. RHEUMATOLOGICAL PATHOPHYSIOLOGY

UNIT 16. Pathology of rheumatological diseases.

DIDACTIC UNIT IX. ONCOLOGICAL PATHOPHYSIOLOGY

UNIT 17. Generalities on oncological pathology



Temporary organization of learning:

| Block of content | Number of sessions | Hours |
|--|--------------------|-------|
| DIDACTIC UNIT I. INTRODUCTION TO PATHOPHYSIOLOGY. ALTERATION OF HOMEOSTASIA UNIT | 4,00 | 8,00 |
| DIDACTIC UNIT II. CARDIOVASCULAR AND HEMATOLOGICAL PATHOPHYSIOLOGY. | 4,00 | 8,00 |
| DIDACTIC UNIT III. RESPIRATORY PHYSIOPATHOLOGY | 4,00 | 8,00 |
| DIDACTIC UNIT IV. RENAL AND UROLOGICAL PATHOPHYSIOLOGY | 3,00 | 6,00 |
| DIDACTIC UNIT V. DIGESTIVE PATHOPHYSIOLOGY | 3,00 | 6,00 |
| DIDACTIC UNIT VI. METABOLIC AND ENDOCRINE PATHOPHYSIOLOGY | 3,00 | 6,00 |
| DIDACTIC UNIT VII. NEUROLOGICAL PATHOPHYSIOLOGY. PATHOPHYSIOLOGY OF THE SENSE ORGANS (OR SYNESTHETIC FP) | 3,00 | 6,00 |
| DIDACTIC UNIT VIII. RHEUMATOLOGICAL PATHOPHYSIOLOGY | 3,00 | 6,00 |
| DIDACTIC UNIT IX. ONCOLOGICAL PATHOPHYSIOLOGY | 3,00 | 6,00 |



References

BASIC BIBLIOGRAPHY:

- Fisiopatología: salud-enfermedad: un enfoque conceptual Carol Mattson Porth .
-Buenos Aires: Médica Panamericana, 2010
- De Castro S. Manual de Patología General. 6ª edición. Masson. 2006

COMPLEMENTARY BIBLIOGRAPHY:

- Harrison. Principios de Medicina Interna. 16ª ed. McGraw Hill 2006
- Rozman C. Farreras/Rozman: Medicina Interna. 16ª ed. Barcelona
- Robbins. Patología humana. Elsevier. Masson. España



Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

☒ Microsoft Teams

☒ Kaltura



Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

☒ Microsoft Teams

☒ Kaltura

Explanation about the practical sessions:



2. System for Assessing the Acquisition of the competences and Assessment System

ONSITE WORK

Regarding the Assessment Tools:

☒ The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

☐ The following changes will be made to adapt the subject's assessment to the online teaching.

| Course guide | | Adaptation | |
|-----------------|----------------------|--------------------------------------|---------------------|
| Assessment tool | Allocated percentage | Description of the suggested changes | Platform to be used |

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System:

Assessment will be done online if there is a situation of lockdown. Percentages will not change.