

Academic Year/course: 2022/23

26768 - Physiology IV

Syllabus Information

Academic Year: 2022/23

Subject: 26768 - Physiology IV

Faculty / School: 104 - Facultad de Medicina

229 - Facultad de Ciencias de la Salud y del Deporte

Degree: 304 - Degree in Medicine

305 - Degree in Medicine

ECTS: 9.0

Year: 2

Semester: Second semester

Subject Type: Compulsory

Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. It favors the acquisition of knowledge related to Physiology. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, and assignments.

Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials.

Further information regarding the course will be provided on the first day of class.

4.2. Learning tasks

The course includes 9 ECTS organized according to:

- Lectures (2,4 ECTS): 60 hours.
- Practice sessions (0,92 ECTS): 23 hours.
- Assignments (0,32 ECTS): 8 hours.
- Autonomous work (5,12 ECTS): 128 hours.
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4.3. Syllabus

The course will address the following topics:

Endocrine and reproductive systems

1. Introduction to the endocrine system.
2. Hypothalamic-posterior pituitary axis. ADH and oxytocin.
3. Hypothalamic-anterior pituitary axis.
4. Growth Hormone. Other hormones of the anterior pituitary.
5. Thyroid function.
6. Endocrine pancreas.
7. Endocrine regulation of adipose tissue
8. Control of calcium-phosphorus balance. Bone physiology.
9. Physiology of the adrenal cortex.
10. Endocrine functions of the male gonads.
11. Endocrine functions of the female gonads. Gonadotropins. Menstrual cycle.
12. Reproductive functions of man.
13. Reproductive functions of women.
14. Childbirth and Breastfeeding

Nervous system

1. Functional organization of the nervous system.
 1. Neurons and neuroglia. Neuronal association
 2. Cerebral circulation. Cerebrospinal fluid. blood brain barrier.
 3. Sensory nervous system functions. Receptor properties. Modalities of sensation.
 4. Somatic sensitivity. Skin sensitivity. Sensitivity to pain.
 5. Visual sensitivity.
 6. Chemical Senses.
 7. Hearing sensitivity.
 8. Equilibrium
 9. Properties and classification of reflexes
 10. Spinal reflexes. Somatic reflexes.
 11. Motor control
 12. Autonomic nervous system
 13. Thermoregulation.
 14. Sleep and wakefulness. Cerebral electrical activity
 15. Emotions and motivation
 16. Memory and learning. Higher functions of the nervous system.
 17. Nervous system and aging

Practical program (Faculty of Medicine)

1. Thyroid functional evaluation.
2. Functional problem: hyperthyroidism
 1. Blood glucose curve
 2. Functional problem: hyperglycemia
 3. Functional problem: amenorrhea
 4. Functional exploration of sensibility and chemical senses.
 5. Functional exploration of vision.
 6. Physiology of optics and refraction.
 7. Functional exploration of hearing.
 8. Functional exploration of reflexes, balance and gait
 9. Functional exploration of sleep
 10. Functional problem: Cerebral circulation.
 11. Functional problem: Basal ganglia.

Practical program (Faculty of Health and Sport Sciences)

1. Functional problem: Hyperthyroidism
2. Functional problem: hyperglycemia
3. Blood glucose curve
4. Functional problem: Adrenal gland

5. Functional problem: Hypercalcemia
6. Functional problem: Amenorrhea
7. Functional exploration of sensitivity and chemical senses
8. Functional exploration of vision
9. Functional exploration of hearing and balance
10. Functional exploration of reflexes
11. Functional exploration of coordination and walking
12. Exploring Higher Functions of the Nervous System
13. Functional problem: basal ganglia
14. Functional problem: termoregulation
15. Functional problem: cellular excitability

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the "Facultad de Medicina" website and the Degree website <http://medicina.unizar.es/segundo-curso>

Huesca Degree website: <https://fccsyd.unizar.es/horarios-y-calendarios-medicina>

4.5. Bibliography and recommended resources

The updated bibliography of the subject is consulted through the library web page:

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26768>