26800 - Anatomy and Histology

Información del Plan Docente

Academic Year	2017/18
Faculty / School	100 - Facultad de Ciencias
Degree	297 - Degree in Optics and Optometry
ECTS	9.0
Year	1
Semester	Annual
Subject Type	Basic Education
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The "Anatomy and Histology of the Sight Sense" aims the study of the main morphological features related to anatomy, composition and structure of the human visual system. It is a basic subject for the knowledge of the macroscopic and microscopic structure of the human body, with special mention of the visual system: eyeball and accessory visual structures (adnexa). It provides advanced knowledge on the morphology of the different tissues, systems and organs that constitute the human body. Mastering their terminology is essential to other biomedical subjects in Optical-Optometry Degree.

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This is a highly descriptive discipline, but contemplates form and function, in which a teaching methods combination is imposed.

In the teaching of Anatomy and Histology Ocular it has been implemented a blended learning methodological system (B-learning) Non-contact activitiesperforming both online and in-person learning experiences when teaching students.

5.2.Learning tasks

Classroom activities:

- Participatory Lectures (brainstorming, one minute paper, questions, doubts resolution, etc).
- Practical activities in the dissecting room/living microscopy. The whole group is divided into 10 teams. Students will assume different roles.
- Tutoring.

Non-contact activities:

In the teaching digital ring of the University of Zaragoza (ADD) (this page can be accessed) are left different materials that allow the following autonomous work:

- Periodical Auto-assessments.
- Participate in the discussion forum (cooperative group activity).
- Participate in team sessions (different cooperative learning activities: e.g. Problem-based learning, etc).
- Be informed at all times of the activities of the group.
- Participate by giving ideas.
- Reporting (field practice), papers, oral presentations, etc.

5.3.Syllabus

HISTOLGY

1. Morphology concept. Cell

2. Embryology: formation of the germinal layers

3. Fabrics. Classification

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4. Epithelial tissue

5. Connective tissue

6. Adipose tissue

7. Cartilaginous tissue

8. Bone tissue

9. Muscle tissue.

10. Nervous tissue I

11. Nervous tissue II.

12. Blood. Immune system

EMBRIOLOGY

13. Organogenesis.

14. Embryology of the head I. Development of Central Nervous System

15. Embryology of the head II. Development of the head as a whole

16. Craniofacial development

17. Development of sense organs

18. Development of sight sense

GENERAL ANATOMY

19. Introduction to Anatomy, planes and axes

20. Circulatory system I. Heart

21. Circulatory system II

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22. Respiratory

23. Digestive Tract

24. Locomotor system I. Neck, trunk

25. Locomotor system II. Upper and lower extremities

26. Endocrine system

27. Urinary system

28. Male genital system

29. Female genital system

30. Integument system

ANATOMY OF THE SIGHT SENSE

31. Skull Base

32. Calvaria

33. Viscerocranium

34. Eye socket

35. Introduction to the sight sense

36. Anatomy of the eyeball: cameras

37. Inner neural layer. Retina I

38. Inner neural layer. Retina II

39. Middle vascular layer (uvea): choroid.

40. Middle vascular layer (uvea): ciliary body.

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41. Middle vascular layer (uvea): iris.

42. Outer fibrous layer: sclera, cornea.

43. Outer fibrous layer: sclera, cornea. Angle of anterior chamber.

44. Refractive media: crystalline

45. Refractive media: aqueous humor, vitreous

46. External view of the eyeball. Eyebrow

47. Eyelids and conjunctiva

48. Lacrimal apparatus

49. Extrinsic muscles

50. Optic nerve

51. Sensory Innervation

52. Autonomic Innervation of vision apparatus and related organs

53. Arterial vascularization of the orbital cavity

54. Venous drainage of the orbital cavity

55. Content of the orbital cavity

56. Surface Anatomy of the sense of sight

57. Anatomy of the Central Nervous System. Spinal cord. Metameric reflex activity

58. Anatomy of the CNS. Spinal cord. Ascending and descending pathways

59. Anatomy of the CNS. Brainstem. Motor and sensory nuclei

60. Anatomy of the CNS. Brainstem. Reticular formation

61. Anatomy of the CNS. Cerebellum

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62. Anatomy of the CNS. Diencephalon. Thalamus and subthalamus

63. Anatomy of the CNS. Diencephalon. Hypothalamus, pituitary, epithalamus, epiphysis

64. Anatomy of the CNS. Cerebrum.

65. Anatomy of the CNS. Meninges, cerebrospinal fluid (CSF), arterial cerebral circulation and cerebral venous drainage

66. Visual pathways I

67. Visual pathways II

Practical sessions

- Use of the optical microscope
- Recognition of different histological tissue by light microscopy
- Recognition of the most important organs of the human body models and components of the sense of sight during embryonic development
- Recognition of the most important parts of the human body models and atlases
- Dissection of the heart
- Skeleton of the skull
- Skeleton of the eye socket
- Recognition of the components of the eyeball in atlas and models
- Recognition of the eye socket content
- Dissection of the eyeball
- Dissection of the orbit
- Recognition models and atlas of the main components of the SNC
- Recognition of the main components of the SNC in cadavers

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- Recognition models of the components of the visual pathway
- Recognition of the different parts of the visual pathway in cadavers

5.4.Course planning and calendar

Check on the subject website in the Digital Teaching Ring at the following address https://add2.unizar.es

5.5.Bibliography and recommended resources

THE UPDATED BIBLIOGRAPHY OF THE SUBJECT IS CONSULTED THROUGH THE LIBRARY WEB PAGE

http://psfunizar7.unizar.es/br13/eBuscar.php?tipo=a