Universitat Autònoma de Barcelona

2019/2020

Human Anatomy: Splanchnology

Code: 103593
ECTS Credits: 6

Degree	Type	Year	Semester
2502442 Medicine	FB	2	1

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Teachers

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Prerequisites

It is recommended that the student had acquired the basic knowledge and skills from the subjects of Human Anatomy taught in the first year of the degree of Medicine, as well as the basic competences for self-learning and group work.

Objectives and Contextualisation

The Human Anatomy course: Splanchnology is a subject that is taught in the 1st semester of the 2nd year of the Degree in Medicine and is focused on respiratory, urogenital and digestive systems and other related organs such as adrenal glands, thyroid, parathyroid, thymus and spleen.

The objectives of the subject are that students:

- Learn their basic embryology, anatomical organization and descriptive anatomy, as well as the topographic anatomy of the main human body regions.
- Apply acquired knowledge of embryology and anatomy to the pathogenesis and symptomatology of congenital and / or acquired pathologies.
- Learn and use correctly, the anatomical nomenclature.
- Identify the different anatomical structures.
- Get practical skills.

Competences

- Convey knowledge and techniques to professionals working in other fields.

- Critically assess and use clinical and biomedical information sources to obtain, organise, interpret and present information on science and health.
- Demonstrate a sufficient command of English, both oral and written, for effective scientific and professional communication.
- Demonstrate basic research skills.
- Demonstrate knowledge and understanding of descriptive and functional anatomy, both macro- and microscopic, of different body systems, and topographic anatomy, its correlation with basic complementary examinations and its developmental mechanisms.
- Demonstrate understanding of the basic sciences and the principles underpinning them.
- Demonstrate understanding of the causal agents and the risk factors that determine states of health and the progression of illnesses.
- Demonstrate understanding of the structure and function of the body systems of the normal human organism at different stages in life and in both sexes.
- Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- Maintain and sharpen one's professional competence, in particular by independently learning new material and techniques and by focusing on quality.
- Organise and plan time and workload in professional activity.
- Recognise the professional values of excellence, altruism, sense of duty, compassion, empathy, honesty, integrity and commitment to scientific methods.

Learning Outcomes

1. Apply knowledge of anatomy to the production of structured review texts.
2. Convey knowledge and techniques to professionals working in other fields.
3. Demonstrate a sufficient command of English, both oral and written, for effective scientific and professional communication.
4. Demonstrate basic research skills.
5. Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
6. Describe anatomical structures through inspection, palpation and/or different diagnostic imaging techniques.
7. Describe the anatomical structures, the organisation and the morphogenesis of the musculoskeletal system, respiratory system, digestive system, and urogenital system.
8. Describe the factors that determine the form, general aspect and proportions of the human body in health at different stages in life and in both sexes.
9. Describe the fundamental scientific principles of human anatomy.
10. Describe the general anatomical organisation of the systems of the human body in health.
11. Explain the formation of the embryonic disc and its principal derivatives.
12. Identify the anatomical structures that constitute the different body systems in good health in the major stages of the life cycle and in both sexes.
13. Identify the anatomical structures that make up the different body systems in health, through inspection, palpation and / or different macroscopic methods and different diagnostic imaging techniques.
14. Identify the main techniques used in a human anatomy laboratory.
15. Identify the morphogenetic mechanisms of the main alterations to the development of the musculoskeletal system, respiratory system, digestive system, and urogenital system.
16. Identify, at a basic level, the donation system and the protocols for the use of bodies in the medicine faculty.
17. Know and make correct use of the international anatomical nomenclature.
18. Maintain and sharpen one's professional competence, in particular by independently learning new material and techniques and by focusing on quality.
19. Organise and plan time and workload in professional activity.

Content

SECTION 1- RESPIRATORY SYSTEM
Overview of the development of the respiratory system. Nose, nasal cavity and paranasal sinuses. Larynx.

Trachea and bronchi. Lungs. Pleura and pleural cavities. Mediastinum. Innervation, vascular supply and lymphatic drainage of the respiratory system. Topographic, clinical and radiological anatomy of the respiratory system.

- *Lectures*: 10 hours.
- Practical Lab in the dissection room (PLAB 1): 2 hours.
- Embryology seminar (SEM 1): 1 hour.

SECTION 2- UROGENITAL SYSTEM
Overview of the development of the urogenital system. Topographic, clinical and radiological anatomy of the urogenital system.
Urinary system: kidneys, ureter, bladder, male and female urethra. Vascularization and innervation of the urinary system.
Male reproductive system: Testes and epididymes, vas deferens and ejaculatory ducts. Spermatic cords. Accessory glandular structures: prostate, seminal vesicles, and bulbourethral glands. Scrotum, Penis. Innervation, vascular supply and lymphatic drainage of the male reproductive system.
Female reproductive system: Ovaries, uterine tubes, uterus, vagina and female external genital organs. Mama. Vascularization and innervation of the female reproductive system.

- Lectures: 9 hours.
- Practical Lab in the dissection room (PLAB 2): 2 hours.
- Embryology seminar (SEM 2): 2 hours.

SECTION 3- DIGESTIVE SYSTEM
Overview of the development of the digestive apparatus. Oral cavity: cheeks, lips, oral vestibule, mouth, palate, tongue, teeth and salivary glands. Thyroid, parathyroid and thymus glands. Pharynx. Oesophagus. Stomach. Peritoneum and peritoneal cavity. Small intestine: duodenum, jejunum and ileum. Large intestine: caecum, vermiform appendix, colon (ascending, transverse, descending and sigmoid), rectum and anal canal. Hepatobiliary system: liver, gallbladder and biliary tree. Pancreas, spleen and suprarenal gland. Vascularization and innervation of the digestive system. Topographic, clinical and radiological anatomy of the digestive tract.

- Lectures: 17 hours.
- Practical Labs in the dissection room (PLAB 3, 4): 4 hours (2 hours each).
- Seminars (SEM 3, 4): 4 hours (2 hours each).

Methodology

In accordance with the objectives of the subject, the teaching methodology of the course is based on the following activities:

DIRECTED ACTIVITIES

- *Lectures (37 hours)*: Systematic exhibition of the subject, giving relevance to the most important concepts. The student acquires basic knowledge of the subject attending master classes and complementing them with personal study of the topics explained.
- Seminars (7 hours): Sessions with a smaller number of students. Five hours of embryology seminars are scheduled where aspects of embryology and teratogenesis of respiratory, urogenital and digestive systems are studied. Two hours of clinical seminar are programmed where students apply the knowledge acquired to solve clinical cases.
- Practical Labs (8 hours): The students attend in small groups to the dissection room to study the different thematic contents of the subject in their respective sections. Students identify different anatomical structures in dissections, prosections and imaging techniques (radiology, computerized tomography, magnetic resonance imaging, ultrasound, etc.). The objective is to consolidate the knowledge acquired in lectures, tutorials and the autonomous activities.

SUPERVISED ACTIVITIES

Tutorials: The tutorials will be made in a personalized way in the teacher's office (hours to be arranged). The aim of the tutorials is to clarify concepts, establish the knowledge acquired and facilitate the study by the students. They can also be used to solve doubts that the students have about the preparation of the seminars.

AUTONOMOUS ACTIVITIES

Comprehensive reading of texts and articles. Personal study, schemes and summaries preparation. Conceptual assimilation of the contents of the subject.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	37	1.48	17, 9, 10, 6, 7, 11, 15, 13, 12, 14
Practical Labs	8	0.32	17, 3, 2, 15, 13, 12, 14, 16
Seminars	7	0.28	17, 3, 4, 5, 2, 11, 15, 18, 19
Type: Supervised			
Tutorials	16	0.64	1, 17, 3, 4, 5, 9, 10, 6, 7, 2, 11, 15, 13, 12, 14, 16, 18, 19
Type: Autonomous			
Comprenhensive reading of texts and articles/Personal study/summaries preparation	74	2.96	1, 17, 3, 4, 5, 9, 10, 6, 7, 2, 11, 15, 13, 12, 14, 16, 18, 19

Assessment

The competences of the subject are evaluated through two partial exams, each with a weight of 50% to the final grade of the subject. The subject of each partial exam can be eliminatory if the students reach a minimum grade of 5.00, both the theory exam as well as the practical. All students will have two opportunities to pass the two parts of the subject: partial exam (during the semester) and retrieval exam (at the end of the semester).

PARTIAL EXAMS:

In order to take these exams, it is mandatory for the student attend all practical labs and seminars programmed for each partial. Only 1 absence in each partial will be allowed without justification.

The subject will program 2 partial exams with a weight of 50% each.

- *First partial*: This partial exam will focus on the contents of the respiratory and the urogenital systems. Lectures of section 1, 2 + PLAB 1, 2 + SEM 1, 2.
- *Second partial*: It will focus on the contents of digestive system. Lectures of section 3 + PLAB 3, 4 + SEM 3, 4.

Each partial will consist of: written evaluations: objective tests based in lectures, SEM and PLAB contents.

- Theoretical evaluation - Multiple-choice questions: test with 5 answers, only 1 true and with a penalty of 0.25 points for incorrect answer. This test represents 70% of the partial mark.
- Practical evaluation - Restricted questions raised on preparations or anatomical images. Wrong or blank answers are not penalized. This test represents 30% of the partial mark.

The mark of each partial = theoretical evaluation (70%) + practical evaluation (30%). Provided that it fulfils with the two premises to eliminate partial matter.

To eliminate matter of a partial, it is necessary to fulfil the two premises:

1. Theoretical evaluation: minimum mark 5.00
2. Practical evaluation: minimum mark 5.00

In the event that a student has a good grade in one of the exams but in the other has a grade below 5.00, the student will NOT have eliminated partial matter (regardless of whether the weighted sum of the two types of exams are greater than or equal to 5.00). In these cases, the student will have to submit to the examination of recovery of the partial not eliminated.

RECOVERY EXAM:

The students who have eliminated subject in the partial evaluations will not be obligated to make the final evaluation or recovery.
The subject will schedule a final assessment, in accordance with the Faculty's teaching calendar. All those students enrolled in the subject can be presented, although they have not attend any of teaching activity programmed during the semester.

Students with the following criteria have to attend the final evaluation:

- Students who have not eliminated material in 1 or 2 partials (students who do not meet the two premises to eliminate matter of the partial).
- Students who have not submitted to any of the partial exams.
- Students who have eliminated material but want to upgrade of one or both partial exams. In these cases:
  a) An email must be sent to the coordinator of the subject at least 1 week before the recovery exam.
  b) The student will have to submit to the theoretical + practical evaluation of the partial (s) that wishes to upgrademark
  c) Although the student presents to the recovery exam to upgrade, it is mandatory to have a minimum grade of 5.0 on the theoretical examination and a minimum grade of 5.0 on practical examination of the recovery exam. Otherwise, the student will have suspended the subject.
  d) Once the student has a minimum grade of 5.0 in both exams (theoretical and practical) of the recovery evaluation, the final grade will be calculated, using the highest score obtained by the student (between the partial and recovery exam).

The recovery exam of each partial will consist of written evaluations: objective tests based in lectures, SEM and PLAB contents.

- Theoretical evaluation - Multiple-choice questions: test with 5 answers, only 1 true and with a penalty of 0.25 points for incorrect answer. This test represents 70% of the partial mark.
- Practical evaluation - Restricted questions raised on preparations or anatomical images. Wrong or blank answers are not penalized. This test represents 30% of the partial mark.

The student who has to recover the 2 partials, will recover the 1st part (theoretical and practical) + the 2nd part (theoretical and practical). It will have, then, a partial note of recovery of the 1st part and another of the 2nd part.

To pass the recovery exam, it is necessary to fulfil these two premises for each partial:

1. Theoretical evaluation: minimum mark 5.0
2. Practical evaluation: minimum mark of 5.0

In case the student has a good grade in one part of the exam but the other does not have a minimum grade of 5.0, the student will NOT have approved the partial recovery exam and therefore the student will havesuspended the subject.

STUDENTS REGISTERED MORE THAN ONCE (REPEATERS):

Students enrolled two or more times in the subject and have not eliminated the entire subject in the partial exams, can ask the coordinator (through email) for an essay test (instead of a multiple-choice test), at least 1 week before the recovery exam. The practical exam in the dissection room will be the same as the rest of the students enrolled in the subject.

GRADE OF THE SUBJECT:

Students will be penalized with 0.1 points in the final mark of the subject for each practice and / or seminar that has been reserved in the PSG and has not attended. Students, who do not attend the practice and/or seminar and are not included in the PSG at the time when the lists are printed, will not be penalized with 0.1 points. The lists are printed the same day as the teaching activity, 3 hours before the first practice and seminar of the day.

Grade of the subject = Respiratory and urogenital system (50%) + digestive system (50%).

The final grade of the subject will have a numerical expression, with a decimal on the scale of 0-10 and with the qualitative equivalence in accordance with the criteria of the UAB, of "suspens" (0-4.9), "aprovat" (5.0-6.9), "notable" (7.0 -8.9) and "excellent" (9.0-10.0). Following indications of the UAB will be rounded off to the nearest whole number when it is one tenth of a value that entails a qualitative change of qualification. The honour distinction will be among students who have achieved an excellent qualification. The number of license plates awarded may not exceed 5% as established by the academic regulations of the UAB.

To pass the subject it is necessary to obtain a minimum grade of 5.0 in each part (respiratory and urogenital system + digestive system). In case that a part has a good mark but in the other part the mark isless than 5.0, the student's mark will be 4.8 points maximum, although the weighted sum of the two parts is greater than or equal to 5.0. The mark of each part is that obtained in the partial exams or in the recovery exam.

It is considered non-evaluable student, who has NOT performed a minimum of two written assessments.

ANNOUNCEMENTS, REVISIONS:
Exams (day, hour, classroom ...) and revision of the marks will be announced through the UAB moodle. The procedure for reviewing marks will be in accordance with the current regulations of the UAB and in any case be individually.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
A) Theoretical evaluation nº 1	35%	2	0.08	1, 17, 8, 9, 10, 6, 7, 11, 15, 13, 12, 14, 16
B) Practical evaluation nº 1	15%	2	0.08	1, 17, 8, 9, 10, 6, 7, 11, 15, 13, 12, 14, 16
C) Theoretical evaluation nº 2	35%	2	0.08	1, 17, 3, 4, 5, 8, 9, 10, 6, 7, 2, 11, 15, 13, 12, 14, 16, 18, 19
D) Practical evaluation nº 2	15%	2	0.08	1, 17, 3, 4, 5, 8, 9, 10, 6, 7, 2, 11, 15, 13, 12, 14, 16, 18, 19

Bibliography

TEXT BOOKS:

- Drake RL, Vogl W, Mitchell AW (2015). Gray- Anatomia para estudiantes. 3ª ed. Ed. Elsevier Science, Madrid. Garcia-Porrero JA, Hurlé JM (2015). Anatomia Humana. Ed. Mc Graw Hill.
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- Moore KL, Dailey AF, Agur AMR (2018). Moore Anatomía con orientación clínica. 8ª ed. Ed. Woltrs-Kluwer-Lippincott-Williams. Barcelona.
- Sadler TW (2012). Langman Embriologia Médica. 12ª ed. Ed. Wolters Kluwer, Madrid

ATLAS OF ANATOMY:

- Gilroy AM et al. PROMETHEUS Atlas de Anatomía (2013). 2ª ed. Ed. Panamericana: Buenos Aires. Format e-book a la UAB
- Rohen JW, Yokochi C, Lütjen-Drecoll E (2011). Atlas de Anatomía Humana. 8ª ed. Ed. Elsevier Science, Madrid