



DISCIPLINE SHEET

1. Data about the programme

1.1.	“CAROL DAVILA” UNIVERSITY OF MEDICINE AND PHARMACY
1.2.	FACULTY OF MEDICINE
1.3.	DEPARTMENT
1.4.	DISCIPLINE
1.5.	DOMAIN OF STUDY: HEALTH – Sectorally regulated within the European Union
1.6.	STUDY CYCLE: LICENCE
1.7.	STUDY PROGRAME: MEDICINE – ENGLISH MODULE

2. 2. Data about discipline

2.1.	Name of the discipline in the educational plan: ANATOMY AND EMBRYOLOGY II				
2.2.	Discipline code: DFII1S3M/DFII1S4M				
2.3.	Discipline type (FD/SD/CD):FD				
2.4.	Discipline regimen (MD/OPD/):MD				
2.5.	The holder of the course activities Professor FLORIN FILIPOIU PhD.Diaconescu B Senior Lecturer PhD : Mihaela Banu, ,Tarta Eugen,Bulescu Ioan,Gheoca Mutu D				
2.6.	The holder of the seminar activities : Senior Lecturer PhD: Eugen Tarța-Arsene, Gheoca Mutu D As.Dr.Chirculescu Mihaela, As.Dr.Marinescu Tudor,SL.Dr. Bulescu Ioan, As.Dr.Ursuț Bogdan, As.Dr.Negoi Ruxandra, As.Dr. Stroica Laura, As.Dr.Bratu Matei, As.Dr.Breazu Alexandru, Baloiu A, As.Nitescu B.As.Dogaru A,As.Radu C,As Ion R,As.Ciupan M,As.Zamfir R,Petrescu A				
2.7. Year of study	II	2.8. Semester	III,IV	2.9. Type of evaluation E	Practical and multiple choice examination

3. Total estimated time (hours/semester of didactic activity an self preparation/study

I. Academic training (teaching, practical application, assessment)						
3.1. Nr hours/week	6-sem I 4-sem II	From which:	3.2. lecture	2 ore	3.3. seminary/ laboratory	4-sem I 2-sem II
3.4. Total hours of educational plan	140	From which:	3.5. lecture	56	3.6. seminary/ laboratory	84
Evaluation (nr. of hours) : 40						
II. Self preparation/study 28 weeks						
Time allocation						140 hours
Study of course materials, textbooks, books, study of the recommended minimal bibliography						45
Additional research in the library, research through the internet						20
Performing specific activities for preparing projects, laboratories, elaborating reviews or other tasks						30

Specific preparation activities for projects, laboratory work, assignments, and reports	10
Tutoring	3
Other activities	2
3.7. Total individual study hours	110
3.9. Total hours per semester (3.4.+ 3.7.)	250
3.10. Number of credits	10

4. Preconditions (where applicable)

4.1. of curriculum	Not applicable
4.2. of competences	Not applicable

5. Conditions (where applicable)

5.1. to conduct the lecture	PowerPoint presentations, use of multimedia systems, and projector
5.2. to conduct the seminar / laboratory	Equipped with the necessary apparatus for conducting practical activities

6. Learning outcomes

Knowledge	Skills	Responsibility and autonomy
. The student identifies, describe and explains fundamental concepts regarding the characteristic of the healthy human body, anatomical structures	• Structural and developmental description and recognition of representative human anatomical elements - bones, muscles, vessels, nerves-as guideline for clinical diagnosis • Application of techniques methods and acquired anatomical knowledge, in order to establish the diagnosis, to elaborate the scheme of treatment, to identify the most effective prevention measures for diseases • Elaboration of a research project for a given study subject, with the investigation and description of anatomical structures	The student integrates fundamental notions, formulates and assumes reasoned conclusions regarding the state of health or illness
	Identification of objectives wanted to be achieved, of available resources, of their terms of completion, of working steps and time, of their deadline and of the associated risks in various pathologies. • Identification of roles and responsibilities in a multidisciplinary team, applying of techniques for effective work and relationships in the team and in relation to the patient.	

	Effective use of information sources, of communication resources but also of the professional aided training resources (internet portals, specialized software applications, databases, on-line courses...) both in Romanian and international languages	
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7. Course objectives (aligned with the learning outcomes)

7.1. General objective	- Familiarization with the university studying by means of anatomy, as one of the first medical subjects that is studied. Progressive knowledge of the anatomical composition, by gradual learning of the human body systems. Observance of professional values and ethics
7.2. Specific objective	Apart from knowledge gaining about each anatomical element, the anatomy aims are to develop the spirit of observation, the capacity of analysis and synthesis, but also to initiate into clinical application of the acquired information. The anatomy is the first medical subject that the students come in contact with and it has an important role in training of a physician/doctor, irrespective of his future medical specialty

8. Contents

8.1. Lectures 2st year, 1st Semester	Teaching methods	Observations
1. Serous cavities of the body- Development, peritoneal cavity, omenta, mesenteries, the division of the abdominal cavity, the anatomo-clinical division of the abdominal wall, weak points of the abdominal wall. 2. Development of the digestive system. Evolution of the foregut, evolution of the primary intestinal loop, derivatives, physiological hernia. Evolution of the hindgut-derivatives. 3. Cloaca and its division. Development of the	Courses are taught in lecture halls (amphitheaters) and rooms that are technically equipped for this main purpose -laptop, projector. All lectures are updated, according to the reference books, journals, to books published by members of our discipline, but also to the new data online published- PowerPoint presentations, schemes, drawings. Our discipline has its own library to obtain medical information for useful university studying by means of anatomy.	2h/course

liver and congenital abnormalities. 4. Development of the pancreas, congenital abnormalities. 5. Portal vein, visceral and parietal anastomoses between the portal and systemic circulation. 6. Development of the urogenital system. Evolution of the pronephros, mesonephros and metanephros. Development of the ureter. Derivatives of the cloaca, development of the kidney. Congenital abnormalities of the urinary system. 7. Development of the genital system. Indifferent stage of the gonad. Development of the testis and of the male genital ducts. Development of the male external genitalia. Congenital abnormalities. 8. Development of the female genital system. Development of the ovary, of the uterus, of the uterine tube, of the vagina. Development of the female external genitalia. Congenital abnormalities. 9. Retroperitoneal space. Topography of the retroperitoneal		
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space. Renal fascia. Major retroperitoneal vessels. Thoracic duct. 10. Retroperitoneal autonomic plexuses. Lumbar part of the sympathetic trunk, pelvissubperitoneal space. 11. Perineum in male-topography, structure, fasciae 12. Perineum in female-topography, structure, fasciae 13. Perineal spaces, ischiorectal fossa, superficial perineal space, deep perineal space. pathways) 14. Radiology and cross sections.		
1. Receptors and their structure 2. General cutaneous sensory pathways (pain, temperature, touch, pressure and vibration pathways) 3. Proprioceptive pathways 4. Visual and gustatory pathways. 5. Auditory and vestibular pathways. 6. Reticular formation. 7. Structure of the cerebellum and its connections. 8. Thalamus: nuclei, connections. 9. Hypothalamus: nuclei, connections 10. Limbic system and its connections.	Courses are taught in lecture halls (amphitheaters) and rooms that are technically equipped for this main purpose -laptop, projector. All lectures are updated, according to the reference books, journals, to books published by members of our discipline, but also to the new data online published- PowerPoint presentations, schemes, drawings. Our discipline has its own library to obtain medical information for useful university studying by means of anatomy.	2h/course

11. Structure of the cerebral cortex 12. Pyramidal system 13. Extrapyramidal system 14. Blood vessels of the encephalon and vascular syndromes.		
8.1 Lectures 2 st year 2 st semester	Teaching methods	Observations
Recent bibliography Gray's Anatomy – pentru studenți, Coordonator F.Filipoiu, Editura Elsevier – Prior, București 2010 Atlas de anatomie – nomenclatura latină – Gilroy, Coordonator F.Filipoiu, Editura Prior, București 2010 Aparatul digestiv subdiafragmatic și splina – sub redacția Florin Filipoiu, Editura Universitară “Carol Davila” București 2010 Anatomia omului - Aparatul urinar, spatiul retroperitoneal, F. Filipoiu, C. Cristescu, D. Mihalea, Editura Universitară “Carol Davila”, București 2005 Anatomie – Pereții trunchiului – Lucrări practice sub redacția G. Lupu, Editura Universitară “Carol Davila” București 2010 Anatomia omului – Cap și Gât – Lucrări practice sub redacția G. Lupu, Editura Universitară “Carol Davila” București 2010 Anatomia omului – Aparatul digestiv – Lucrări practice sub redacția G.Lupu, Editura Universitară “Carol Davila” București 2010 Anatomie – Membrele sub redacția G. Lupu, Editura Universitară “Carol Davila” București Editura Universitară “Carol Davila” București sub redacția Al .T. Ispas Anatomia omului – Aparatul Genital 2010 Anatomia omului – Sistemul Nervos Central – Lucrări practice, sub redacția Al.T.Ispas, Editura Universitară “Carol Davila” București 2007 Sistemul nervos și organele de simț - Atlas color – Werner Kahle – Coordonator Prof. Al.T. Ispas, Editura Callisto București 2012 Anatomia funcțională a toracelui - Cezar Th. Niculescu, Bogdan Voiculescu, Romică Cergan, Mihaela Banu, Editura Universitară “Carol Davila” București 2001 Embriologie – Ghid de lucrări practice de microscopie An I – sub redacția Al. T. Ispas, Editura Universitară “Carol Davila” București 2014 Embriologie – Ghid de lucrări practice de microscopie An II – sub redacția Al. T. Ispas, Editura Universitară “Carol Davila” București 2014		
8.2. Laboratory/ practical lesson	Teaching methods	Observations
Laboratory 2st year, 1st Semester		4 hours
1. Abdominal wall: structure, rectus sheath, inguinal	The main purposes of teaching methods are	2h

canal. Limits of the abdomen anatomic-topographic regions of the abdomen. Surface anatomy of the abdominal wall: muscular relief, grooves, projection of the umbilicus, projection of the superficial and deep inguinal rings, projection of the inferior epigastric vessels, projection of the weak point of the abdominal wall. 2. Diaphragm: structure, apertures, blood supply, nerve supply. Surface projection of the diaphragm and its apertures. 3. Peritoneum: subdivision. Peritoneal folds- mesenteries, ligaments, omenta. Structure, vessels, nerves. Peritoneal cavity: subdivisions; supracolic and infracolic spaces; paracolic gutters, mesenterico-colic spaces. Vertical and horizontal disposal of the peritoneum. Abdominal esophagus: structure, relations, blood vessels, lymph vessels, nerve supply. 4. Stomach: configuration, structure, relations,	-recognition, but also structural and developmental description of the studied anatomical structures - understanding and development of skills in clinical using of acquired anatomical knowledge - development of logical , causal thinking in medical studying... The teaching methods for anatomical study: - dissections of human bodies, presentations on anatomical dissected parts, anatomical preparations, bones, sections; - microscopic examinations of histological sections- human embryos and fetuses- at practical sessions of embryology; radiological anatomy with examination of radiographies; - documentation in our discipline museum, study on cross-sections of human body, study on normal x-rays, CT and MRI	
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blood vessels, lymph vessels, nerve supply. Gastric ligaments. Surface anatomy: surface projection of the cardiac orifice and of the pylorus, gastric field- gastric projection at the level of the epigastric region, projection of the gastric fundus- space of Traube. Radiological anatomy. 5. Omental bursa: study of the omental bursa and its recesses; foramen epiploicum, foramen bursae omentale. Path of access into the omental bursa. Celiac region. Dissection of the celiac trunk and its branches, celiac plexus. 6. Duodenum: configuration, structure, relations, blood vessels, lymph vessels, nerve supply. Duodenal recesses. Surface anatomy: surface projection of D1, D2, D3 and of the duodenojejunal flexure on the abdominal wall. Radiological anatomy. 7. Pancreas: configuration, structure, relations, blood vessels, lymph vessels, nerve		
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supply. Surface anatomy: surface projection of the pancreas. 8. Liver: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Ligaments of the liver. Hepatic segmentation. Surface anatomy: surface projection of the liver – hepatic triangle of Labbe. 9. Biliary ducts: configuration, structure, relations, blood vessels, lymph vessels, nerve supply. Surface anatomy: projection of the biliary ducts, cystic point, Chauffard's region. Dissection of the hepatic pedicle. Radiological anatomy. 10. Spleen: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Ligaments of the spleen. Segments of the spleen. Surface anatomy: the projection of the spleen. 11. Jejunum and ileum: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Mesentery: configuration, relations. Dissection		
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of the superior mesenteric artery and its branches; dissection of the superior mesenteric vein. Surface anatomy: surface projection of the jejunoileal coils, of the ileocecal angle and of the mesentery. Radiological anatomy. 12. Caecum and vermiform appendix: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Caecal recesses. Surface anatomy: the surface projection of the caecum and of the appendix, painful points of the appendix. Radiological anatomy. 13. Colon: configuration, parts, relations- ascending colon, right colic flexure, transverse colon, left colic flexure, descending colon, sigmoid colon: structure, blood supply, lymph vessels, nerve supply. Dissection of the inferior mesenteric artery and its branches. Transverse mesocolon. Surface anatomy: surface projection of the colic		
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segments and flexures. Radiological anatomy. 14. Rectum: structure, relations, blood vessels, lymph vessels, nerve supply. Radiological anatomy. 15. Retroperitoneal space: delimitation, content, subdivisions. Kidney: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Renal segmentation. Dissection of the renal pedicle. Surface anatomy: surface projection of the kidney and of the renal pelvis. Radiological anatomy. Suprarenal glands: structure, relations, blood supply, lymph vessels, nerve supply. 16. Ureter: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Surface anatomy: surface projection of the ureter, painful points of the ureter. Radiological anatomy. 17. Urinary bladder: configuration, structure, relations, blood supply, lymph vessels,		
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nerve supply. Radiological anatomy. Male and female urethra: structure, relations, blood supply, lymph vessels, nerve supply. 18. Abdominal aorta: course, relations, branches. Dissection. External iliac artery: course, relations, branches. Internal iliac artery: course, relations, branches. Dissection. Autonomic plexuses in the abdomen and pelvis: superior mesenteric plexus, inferior mesenteric plexus, hypogastric plexuses. Inferior vena cava: origin, course, relations. 19. EXAMINATION- infracolic space and retroperitoneal space 20. Ovary: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Ligaments of the ovary. Ovarian fossa. Uterine tube: configuration, structure, relations, blood supply, lymph vessels, nerve supply. 21. Uterus: configuration, structure, relations, blood supply, lymph		
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vessels, nerve supply. Means of support and suspension. Surface anatomy: the surface projection of the pregnant uterus onto the abdominal wall. External and internal pelvimetry. 22. Vagina: structure, relations, blood supply, lymph vessels, nerve supply. External genitalia in female: configuration, structure, relations, blood supply, nerve supply. 23. Testis: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Dissection of the scrotum. Spermatic ducts: configuration, structure, relations, blood supply, lymph vessels, nerve supply. Spermatic cord: structure, dissection. Seminal vesicle: structure, relations, blood supply, lymph vessels, nerve supply. 24. Prostate: structure, relations, blood supply, lymph vessels, nerve supply. 25. Penis: configuration, structure, blood		
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supply, nerve supply. 26. Pelvic diaphragm: muscles, fasciae, vessels, nerves, dissection. Urogenital diaphragm: muscles, fasciae, vessels, nerves. 27. Anterior perineum in male Anterior perineum in female Posterior perineum. Pelvis-subperitoneal space: delimitation, subdivision, content. Perineal spaces- superficial perineal space, deep perineal space, ischiorectal fossa. 28. EXAMINATION- genital system		
Laboratory 2st year, 2st Semester	Teaching Methods	2h
1. External aspect of the spinal cord. Spinal nerve (structure). Reflex arch. Spinal meninges. 2. Gray matter of the spinal cord. White matter (ascending, descending and intersegmental tracts) 3. External aspect of the brainstem. Fourth ventricle: walls, communications. 4. Nuclei of the cranial nerves (equivalent nuclei of the brainstem) Proper nuclei of the brainstem	The main purposes of teaching methods are -recognition, but also structural and developmental description of the studied anatomical structures - understanding and development of skills in clinical using of acquired anatomical knowledge - development of logical , causal thinking in medical studying... The teaching methods for anatomical study: - dissections of human bodies, presentations on anatomical dissected parts, anatomical preparations, bones, sections; - microscopic examinations of histological sections- human embryos and fetuses- at practical	

5. Transverse section through the medulla oblongata, pons and midbrain 6. Cerebellum: lobes, structure. Connections: afferent and efferent fibres 7. Diencephalon-external aspect. Third ventricle: walls, recesses, and communications. 8. Surfaces of the cerebrum: gyri and fissures. Cerebral commissures. Lateral ventricles. 9. Basal ganglia. Connections: afferent and efferent fibres. Internal capsule. 10. Sagittal, horizontal and frontal sections through the cerebral hemispheres. 11. Cerebral meninges. Cerebrospinal fluid and its circulation. 12. Blood supply of the central nervous system. 13. Eyeball and accessory visual apparatus. Visual receptors. 14. Ear (external, middle, internal ear). Auditory and vestibular receptors	sessions of embryology; radiological anatomy with examination of radiographies; - documentation in our discipline museum, study on cross-sections of human body, study on normal x-rays, CT and MRI	
Recent bibliography Gray's Anatomy – for students, by Richard Drake, PhD and all , Elsevier Health 2010		

Gray's Anatomy – pentru studenți, Coordonator F.Filipoiu, Editura Elsevier – Prior, București 2010

Atlas de anatomie – nomenclatura latină – Gilroy, Coordonator F.Filipoiu, Editura Prior, București 2010

Aparatul digestiv subdiafragmatic și splina – sub redacția Florin Filipoiu, Editura Universitară “Carol Davila” București 2010

Anatomia omului - Aparatul urinar, spatiul retroperitoneal, F. Filipoiu, C. Cristescu, D. Mihalea, Editura Universitară “Carol Davila”, București 2005

Anatomie – Pereții trunchiului – Lucrări practice sub redacția G. Lupu, Editura Universitară “Carol Davila” București 2010

Anatomia omului – Cap și Gât – Lucrări practice sub redacția G. Lupu, Editura Universitară “Carol Davila” București 2010

Anatomia omului – Aparatul digestiv – Lucrări practice sub redacția G.Lupu, Editura Universitară “Carol Davila” București 2010

Anatomie – Membrele sub redacția G. Lupu, Editura Universitară “Carol Davila” București Editura Universitară “Carol Davila” București 2010 sub redacția Al .T. Ispas Anatomia omului

Anatomia omului – Sistemul Nervos Central – Lucrări practice, sub redacția Al.T.Ispas, Editura Universitară “Carol Davila” București 2007

Sistemul nervos și organele de simț - Atlas color – Werner Kahle – Coordonator Prof. Al.T. Ispas 2012

9. Evaluation

Activity type	9.1. Evaluation criteria	9.2. Evaluation methods	9.3. Percentage in the final grade
9.4. Lecture	Attendance at practical sessions/labs, at courses/lectures, at dissections on human bodies, presentations on anatomical dissected parts, on preparations, bones, sections and health issues, control tests.	Sem I The student receives a 30 MCQ test divided in 3 groups: I-lecture, II-upper limb, III-lower limb and abdominal wall. Each group must be passed with a minimum of 5 points each. Sem II The student receives a 30 MCQ test divided in 3 groups: I-lecture, II-anatomy of the head and neck, III-anatomy of the thoracic organs .Each group must be passed with a minimum of 5 points each	
9.5. Seminary/ practical activity		PRACTICAL EXAMINATION ORAL EXAMINATION	
9.6. Minimum performance standard			
Pass mark is 5. Failure of the practical ,the student being marked with grade 4			

Date of completion :

Signature of the course holder

**Signature of the laboratory
holder**

Professor Dr.Filipoiu Florin Mihail

**Date of approval by the
Department Council:**

Signature of the Department Director

Professor Dr. Costache Mariana