

**SCI BIOM 201**  
**Functional Anatomy [Fall 2019]**



**FUNCTIONAL**



## [SCI BIOM 201; Functional Anatomy]

[Spring 2019]

**Classroom no:** Franklin classroom 16  
**Class times:** Mondays 8:45-11:00, Thursdays 13:45-16:00

**Instructor:** Prof. Dr. Ir. Ger Rijkers  
**Email:** [g.rijkers@ucr.nl](mailto:g.rijkers@ucr.nl)  
**Tel:** 0118 655 516  
**Office & location:** Eleanor 1.12  
**Office hours:** by appointment but not on Wednesdays

### I. Track information

- a) Prerequisites for this course: none, but Introduction to Life Sciences is recommended
- b) This course is part of the Life Sciences Track and the PreMed Program
- c) Other courses which are relevant to this course – Human Physiology, Introduction Life Sciences.

For further information about the track, please see the track document available on the UCR intranet.

### II. Course description

The course gives an overview of important aspects of the **medical and functional anatomy and histology** (as well as embryology) of the walls and organs of especially the human trunk, including thorax, abdomen, and pelvis. The profoundness and extent of the subjects taught in this course will be at the level of the first and second year of the medical curricula at the Dutch Universities. For more detailed anatomy and histology (and also embryology) the student is referred to textbooks and scientific journals concerning special subjects of anatomy/histology and/or clinical disciplines.

Although the primary concern of anatomy is that of the structure, structure and function are always considered together. Moreover, by means of surface anatomy, endoscopic anatomy and radiological anatomy, emphasis is placed on the anatomy of the living body. Anatomy can be studied from dissection of dead corpses in the dissecting room (which is included at the end of the course). While this provides a good insight in the structural composition of the dead body, in the medical setting the knowledge about anatomy, obtained in the dissection room, should be extrapolated by the student to the living body of a patient. During the study of anatomy, the

student must develop the skills to look through the skin of a patient, knowing exactly what lies behind. In this context, anatomy means living anatomy.

### **III. Study Load**

This course earns students four credits (equivalent to 7.5 ECTS). The class meets twice a week for two hours. Preparation time is approximately 10 hours per week.

The course starts on August 27 and ends on December 13, 2019. In this period the student is expected to spend 210 hours to the study of this course. This study load comprises 60 hours of contact with the lecturer and 150 hours of self-study by the student. The lecture hours are used for:

- the presentation of specific organs and structures of the human body (see time-table and program schedule) by the lecturer
- the discussion between lecturer and students about revision questions raised from the various instructions; each set of revision questions refers to defined chapters/pages in the textbooks and forms the guideline for the student to his study of a special subject
- the poster presentation sessions on October 4 and 8 (see poster presentation session)
- the analysis of medical scans
- the final examination on December 13, 2019
- the presentation of the papers (see list of paper subjects), written by the students, on December 3, 2019.
- the presentation of a so-called micro-class: a 5 minute presentation on a specific learning objective for histology

The order of sequence of the subjects in this course will be: first the anatomy and histology of thoracic structures, then those of abdominal structures, and finally those of pelvic structures.

## Anatomy Dinner

The Anatomy Dinner as part of the course Functional Anatomy was started in the Fall of 2018. This semester we will continue with this relatively young tradition.

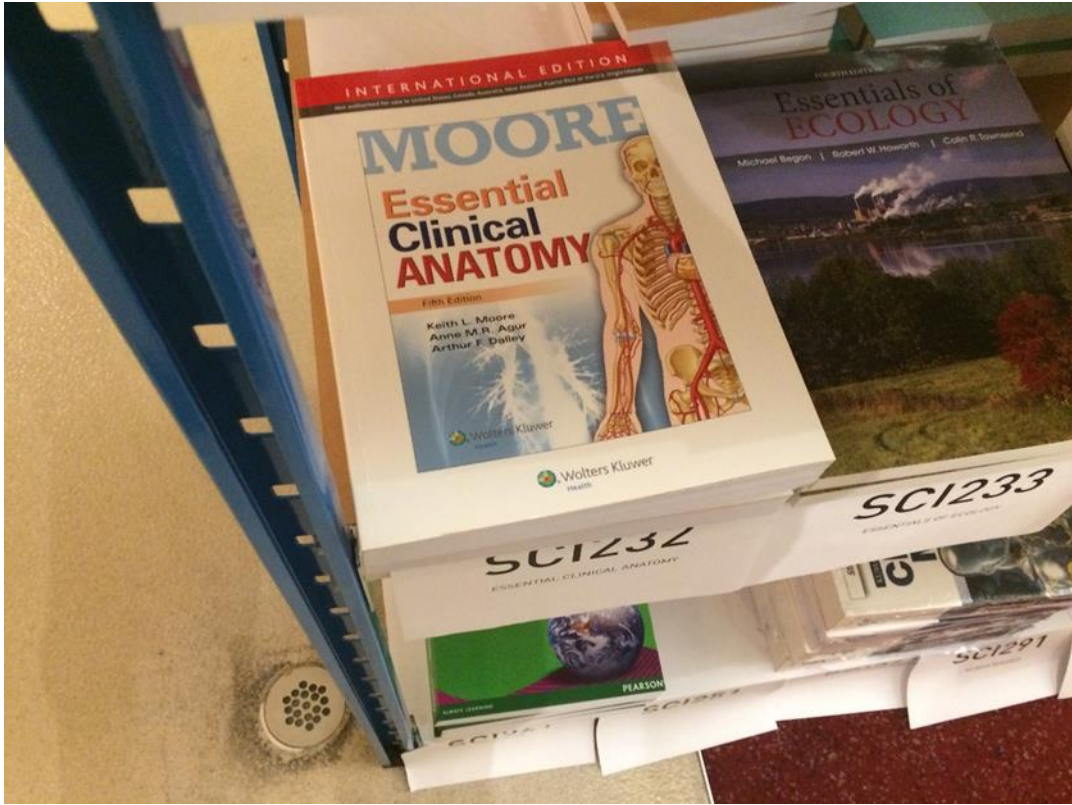


The Anatomy Dinner will be held in **week 9 on Tuesday evening October 29** (t.b.c.) in the Burgerzaal.

Prepare a dish that looks like an organ or cells. Drinkable body fluids (blood, lymph fluid, and cerebrospinal fluid) will be provided.

### IV. Course materials

- Moore, K.L., Essential Clinical Anatomy, Wolters Kluwer, 5<sup>th</sup> Edition, 2015
- Junqueira's Basic Histology :  
<http://accessmedicine.mhmedical.com.proxy.library.uu.nl/book.aspx?bookid=1687>
- Histology @ Yale: <http://medcell.med.yale.edu/histology/histology.php>
- All other course materials will be put on Moodle



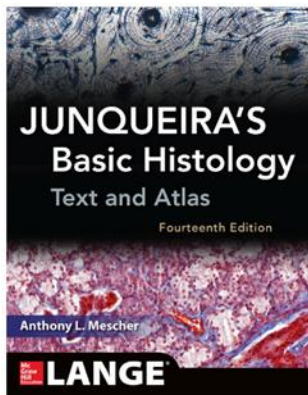
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## Junqueira's Basic Histology, 14e

Anthony L. Mescher

[Go to Review Questions](#)

[Chapter 1: Histology & Its Methods of Study](#)

[Chapter 2: The Cytoplasm](#)

[Chapter 3: The Nucleus](#)

[Chapter 4: Epithelial Tissue](#)

[Chapter 5: Connective Tissue](#)

[Chapter 6: Adipose Tissue](#)

## V. Course organization and requirements

- a) General format of class meetings. Class meetings will comprise interactive lectures, group presentations, discussions, group/ individual work. Field trips include a dissection class at the Department of Pathology of the UMC Utrecht and a visit to the Anatomical Museum (provisional date: Wednesday May 20, 2020, but this needs to be confirmed).
- b) It is essential that students do the group / individual work and are familiar with the assigned reading.
- c) Attendance: Attendance is mandatory. Students who must miss class due to extenuating circumstances must inform the instructor and their tutor of their absence and of the reason for their absence in advance whenever possible. Missing more than 4 classes will result in grade deduction. Students who miss more than 6 classes will receive an automatic F for the course.
- d) Deadlines: all revision questions must be handed in at the start of the class on the due date. All other writing assignments must be submitted via Moodle. Written work that is late loses 5 marks per day (e.g. a grade of 90 becomes an 85, an 85 becomes an 80, etc.). Late work will be accepted according to this policy up to a maximum of 5 working days after the due date. Any work submitted after this point will be capped at 50% (i.e. you will be graded on a scale where 50% represents the highest grade you can achieve, e.g. a paper that would normally achieve 50% on a normal 100-point scale will now only be worth 25%).
- e) Procedures for communication and use of Moodle. Submitting written work: Unless otherwise instructed, all written work must be submitted via Moodle. All written work submitted to Moodle will be automatically checked for plagiarism by Urkund©. Assignments which are not uploaded to Moodle will be considered not submitted and will not be graded. Any power point files used in presentations (including the poster presentations) must also be submitted to Moodle.
- f) Policy on phone use in class. Mobile phones and other devices which connect to the internet must not be used in class, only during the break.



- g) Course schedule: the schedule in this manual may need to be adjusted during the course of the semester to accommodate the schedules of guest lecturers, or in the case of

instructor illness or other unforeseen situations. The final schedule is the one on Moodle.

- h) Special needs: students with documented learning disabilities or special needs should make their needs known to the instructor at the start of the course.
- i) Plagiarism is a serious academic offence which carries heavy sanctions. Acquaint yourself with the UCR Plagiarism Policy (see your Student Handbook).
- j) Procedures for communication: email is the preferred method of communication outside of class hours.

This course is subject to UCR academic rules and procedures. Both students and instructors are required to know and follow these rules and procedures.

## **VI. Assessment**

- a) Revision questions: 20% (for all)
- b) Intermediate exam: 12.5%
- c) Micro-class: 5%
- d) Final exam: 20%
- e) Paper: 17.5 %
- f) Poster presentation (group): 7.5%
- g) Medical imaging paper: 10%
- h) Class participation: 7.5 %

Intermediate and final exams will consist of open questions. A number of questions will be taken from the revision questions. Scoring will take into account correctness/completeness of requested facts and conclusions/clarity of answers

## **VII. Course schedule (detailed schedule with full details of required preparation and assignments on Workspace)**

<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>

Week 1 Session 1 [ 27-Aug]	Introduction to Functional Anatomy		
Week 1 Session 2 [30-Aug]	Anatomical positions Introduction histology and epithelia		
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 2 Session 1 [3-Sep]	Revision questions histology Introduction skeleton	Moore pages 9-15 Yale Histology: bone Junquiera: Chapter 8	Hand in revision questions Histology
Week 2 Session 2 [6-Sep]	Practical work with human skeleton	Human skeleton	
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 3 Session 1 [10-Sep]	Revision questions bones Muscles and connective tissue  Micro-class 1: connective tissue (Yosun)	Moore pages 17-21 Yale Histology: Connective Tissue and Muscle Junquiera: chapters 5 and 10	Hand in revision questions Bones (plus drawings and measurements of 7 Sep)
Week 3 Session 2 [13-Sep]	Revision questions Muscle and connective tissue Cardiovascular (part 1) Micro-class blood vessels: 2 students	Moore pages 21-27; 76-110 Yale Histology: Blood vessels, Blood and Bone Marrow Junquiera: chapters 11 and 12	Hand in revision questions Muscles and connective tissue
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 4 Session 1 [17-Sep]	Revision questions Cardiovascular (part 1) Cardiovascular part 2 (the heart)		Hand in revision questions Cardiovascular (I)
Week 4 Session 2 [20-Sep]	Revision questions Cardiovascular part 2 Respiratory (part 1) Micro-class 2: respiratory (Petrouschka and Szymon)	Moore pages 64-76 Yale Histology: Respiratory Junquiera: chapter 17	Hand in revision questions Cardiovascular (I)  Bring your laptop!



	Imaging of the Lungs and the Heart	Moore pages 39-42	
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 5 Session 1 [24-Sept]	Revision questions Respiratory Respiratory (part II)	Moore pages 64-76 Yale Histology: Respiratory Junquiera: chapter 17	Hand in revision questions Respiratory
Week 5 Session 2 [27-sept]	Functional Anatomy of the Heart (including echo imaging)	Given by Dr. Ali Gulam.	Make a short report of the imaging session (as homework).
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 6 Session 1 [1-Oct]	Development (I) and (II)	Williams Obstetrics Chapter 7: Embryogenesis and Fetal Morphological Development <a href="http://www.3dembryoatlases.com/blank">http://www.3dembryoatlases.com/blank</a>	
Week 6 Session 2 [4-Oct]	Poster presentations (I) Poster 1: Smoking and lung disease (Anmol, Sam, Nada, Hassan) Poster 3: SVC Syndrome (Yosun-Amber, Gabriela)		
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 7 Session 1 [8-Oct]	Poster presentations (2) Poster 4: Carcinoma of the Breast (Szymon and Chris) Poster 5: Development of VSD (Petrouschka, Daan, Loise, Kaylin)		Hand in Revision questions Development
Week 7 Session 2 [11-Oct]	Intermediate Test		

14-18-Oct	Fall break; no classes, take time to relax, but watch your anatomy		
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 8 Session 1 [22-Oct]	No class		Rijkers in Singapore
Week 8 Session 2 [25-Oct]	Revision questions Development Digestive (part I) Intestines Micro-class 3: digestive (Nada and Hassan)	Moore pages 130-154 Yale Histology: GI-tract Junquiera: chapter 15 (introduction, general structure, stomach, small intestine, large intestine)	
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 9 Session 1 [29-Oct]	Revision questions GI-Tract Digestive (part II) Digestive Organs Micro-class 4: digestive organs (Kaylin and Anmol)	Moore pages 155-167 Yale Histology: Digestive organs Junquiera: chapter 16 (pancreas, liver, figure 16-9)	Hand in Revision questions GI-tract
Week 9 Extra Session [October 30]	Revision questions Digestive Organs Urinary and reproductive (1) Micro-class 5: urinary system (Loise)	Moore pages 167-174 Yale Histology: Urinary System Junquiera: chapter 19 (introduction, kidneys, figure 19-3, renal function (only renal corpuscles +collecting ducts), figure 19-16)	Hand in Revision questions Digestive part 2
Week 9 Session 2 [01-Nov]	Moderation; No class		
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>

Week 10 Session 1 [05-Nov]	Revision questions Urinary tract Urinary and reproductive (II) Micro-class 6: female reproductive system (Sam) Micro-class 7: male reproductive system (Gabriela and Chris)	Moore pages 214-236 Yale Histology: Male - and Female reproductive system Junquiera: chapters 21 (introduction, testes (until spermatogenesis), figure 21-13, figure 21-15, penis Chapter 22 (introduction, ovaries (until follicular atresia), figure 22-14	Hand in Revision questions Urinary tract
Week 10 Session 2 [08-Nov]	Demonstration echo-imaging upper and lower abdomen by Dr A. Gulam		Write a short paper on one of the organs imaged
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 11 Session 1 [12-Nov]	Revision questions Reproductive Nervous system (part I) Micro-class 8: nervous system (Daan)	Moore pages 27-39 Yale Histology: Nervous System Junquiera: chapter 9 (introduction, neurons, figure 9-9, central nervous system, figure 9-21, 9-23, 9-26)	Hand in Revision questions Reproductive
Week 11 Session 2 [15-Nov]	Revision questions Nervous System Nervous system (part II)	Moore pages 27-39 Yale Histology: Nervous System Junquiera: chapter 9	Hand in Revision questions Nervous System
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 12 Session 1 [19-Nov]	Integument and lymphatics	Moore pages 6-9; 25-27;52-57 Yale Histology: Immune System Junquiera: chapters 14 (introduction, thymus (until role of thymus in T-cell maturation), mucus-associated lymphoid	Imaging paper due

		tissue, lymph nodes, spleen Chapter 18 (introduction, epidermis, dermis)	
Week 12 Session 2 [22-Nov]	Tbd (Skeleton work?)		Draft paper
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 13 Session 1 [26-Nov]	Tbd: Sensory organs Micro-class sensory organs: tbd	Moore pages: tbd Junquiera: chapters tbd	Feedback draft paper
Week 13 Session 2 [29-Nov]	Revision questions integument The perfect body		Hand in Revision questions integument
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 14 Session 1 [3-Dec]	Presentations of papers		
Week 14 Session 3 [6-Dec]	Tbd		
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 15 Session 1 [10-Dec]	Remaining Questions and Evaluation		
Week 15 Session 2 [13-Dec]	Final exam		
<b>Time</b>	<b>Topics to be discussed</b>	<b>Course Material</b>	<b>Assignments and assessment</b>
Week 16 [16-Dec]	Project Day		
Sometime in May 2020	Field trip to the Department of Anatomy of the UMC Utrecht	Combined with the students of the Spring 2020 class.	

## VIII. Student learning outcomes

The course aims to reach the following objectives:

1. The student develops an attitude that is characterized by respect for the human body, and, moreover, characterized by careful and exact evaluation and judgment of all kind of conditions, manifestations, signs and symptoms of the human body.
2. The student is able to describe the morphology of the walls of the human trunk. He also knows the anatomical landmarks of the trunk and is able to outline the projections of several internal organs on the surface of the trunk, as far as is necessary to know for simple physical examination purposes.
3. The student can present a survey of normal morphology and the consequent function of organs and organ systems in the trunk. She/he is also able to describe the mutual topographic relations of these organs and organ system, as far as is necessary for the analysis and understanding of clinical problems.
4. The student knows which imaging techniques can be used to visualize internal organs of the trunk. She/he knows the basic principles of the interpretation of these images.

Measurable program outcomes	
1. Acquire knowledge/perspectives in relevant domains	X
2. Grasp relevant objectives, assumptions and values	X
3. Understand state-of-the-art knowledge	X
4. Critically review results, arguments, problem formulations	X
5. Adopt and exercise relevant academic attitudes.	X
6. Understand/apply domain knowledge in other contexts	
7. Grasp interdisciplinary issues within specialization	X
8. Develop and apply new knowledge, methods, skills and expertise.	X
9. Communicate at scholarly level	X
10. Reflect on personal/academic growth and development	
11. Master with autonomy a range of specialist topics in preparation for further academic or professional training .	
12. Function effectively in team-based projects or exercises (or individual 'command' decision exercises).	

## **IX. Appendices**

### **Poster presentation SCI BIOM 201 Functional Anatomy [7.5% of grade]**

The poster presentations by the students take place on October 1 and 4 2019. At each date, 2 posters will be presented. Each poster is prepared by a group of 2 students.

#### **List of topics for posters**

1. smoking and lung disease
2. asthmatic lung
3. superior vena cava syndrome
4. carcinoma of the breast
5. development of VSD
6. pulmonary heart disease

The poster is supposed to hang on the wall of class-room at the beginning of the class on October 1 and 4. First all students from class will have the opportunity to read (and admire) the displayed posters . Then, each student from the group will present one or more aspects of the poster and explain the contents to his/her fellow students during approximately 25 minutes in total, followed by an Q and A sessions of 5-10 minutes. Students should also prepare a short written summary (max 1 A4) of the poster to be handed as hardcopy in at the start of the presentation at the latest and also on Moodle.

Main criteria for presentation (and for the grading): ability to convey message, depth/breadth of presentation, interaction with class.

Practical instructions.

A poster is a large (about 100 - 150 cm with, or smaller) printed either as a single sheet of paper or several smaller (A3) sheets. The results are presented on the poster in an attractive, visual, lucid and compact way. A poster must arouse the attention of passing people. Moreover, it must provoke the interest of the spectator to look at and/or read the poster carefully. Finally a good poster must have a message that provokes a desire or action of the spectator.

Making your poster you should keep in mind that the group of people you want to reach is very small. Your poster is, therefore, not a colourful, sexy and advertising billboard with only a few slogans. The group of people to whom you are addressing the poster, are your fellow students. They have some knowledge about the subject of your poster. Your poster should therefore be an invitation to a conversation or an exchange of knowledge with your fellow students.

Place the title of your poster in large capitals on the top space, immediately followed by the names of authors in lower-case. A poster can be built up in the same way as a scientific article: introduction, material and methods, results, discussion and conclusion. It is very important to

present on the poster only the main outlines of the study. Do not try to mention all the details of your study in the poster. That causes too much written text with too small letter types. A poster must be easily readable from a distance of two meters. Use colour photographs, graphic illustrations and handmade diagrams, but do not make your poster too glossy. There should be a balance on your poster between the blocks with illustrations and blocks with text. Choose the lay-out in such a way that there is not too much background, but also not too few background visible between the text- and illustration blocks on your poster.

### **Paper (“ big paper”) [17.5% of grade]**

Write a 1500 to 2000 word paper on one of the subjects listed below. The paper carries the name of the writer and starts with a summary of about 300 words. Thereafter an ‘introduction’ is given about the subject of the paper, followed by a paragraph ‘materials and methods’, and a paragraph ‘results’, and finally by a paragraph ‘discussion’. The paper closes with a list of references.

The paper must be uploaded to Moodle on November 29 2019, 23:59 at the latest. Students will have the possibility to submit a draft version of their paper for comments and suggestions by the instructor. Deadline for submission of a draft version is November 22 2019, 23:59 hrs. Instructor will comment upon the draft version one time before November 26 23:59 hrs.

Failing to hand in your paper or scoring < 50 % on the final paper means failing the course. Missing the deadlines means grade deduction (2 % per day late). Main criteria for paper grading: structure / readability 30 %, knowledge of topic/ using of available literature 40 % and ability to express own opinion/ideas 30%. Hand in your draft version as well as your final version via Moodle (no paper version required).

Oral presentation of the paper is scheduled for December 3 2019. On that day the student will give in a 10 minutes presentation with a summary of his paper to all other students followed by a Q and A session of 2 minutes.

### **List of topics for anatomy paper**

1. Causes, signs and symptoms, and treatment of pneumothorax
2. Origin and treatment of esophageal atresia in a new born child
3. Abdominal aortic aneurysma: cause, signs and symptoms, and treatment
4. Highly selective vagotomy versus gastric surgery versus pharmaceutical therapy
5. Hemodynamics in portal hypertension: surgical shunts
6. Causes, signs and symptoms, and treatment of colonic polyposis
7. Causes and treatment of enlargement of the spleen
8. Indications, execution and results of endoscopic retrograde cholangiopancreatography (ERCP)
9. Extra-uterine pregnancy: cause, diagnosis and therapy
10. Radiology of abdominal lymph nodes: indications and procedures

11. Pulmonary hypertension: diagnosis and treatment
12. Stones in kidney, ureter and bladder: causes, signs and symptoms, and treatment
13. Angina pectoris: causes, signs and symptoms, treatment
14. Diaphragmatic hernia: types, signs and symptoms, and treatment
15. Description of the various surgical approaches to the kidney
16. Partial or complete situs inversus: causes it medical problems ?
17. Anatomical variations in the blood supply of the left kidney: do they cause medical problems ?
18. Hepatic cirrhosis: surgical possibilities
19. Anatomical variations of the extrahepatic bile ducts: do they cause surgical problems?
20. Coronary by-pass versus coronary angioplasty: merits and demerits
21. Anorectal malformations in new born children: genesis, and clinical problems
22. Acute abdominal pain: differential diagnosis and treatment
23. Various surgical approaches to the thoracic organs: an inventarisation
24. Thoracic endoscopy: indications and techniques
25. Pancreatitis: causes, signs and symptoms, and treatment
26. Pancoast tumor: causes, signs and symptoms, and treatment
27. Ring of Waldeyer
28. Other topic (to be approved)

### **Medical scans**

Imaging technology continues to advance the accuracy of diagnosis. These techniques make use of computers that have become vital tools for the radiological clinical practice. Nowadays there are many imaging techniques: ultrasonic techniques, angiographic techniques, (High-Resolution) Computed Tomography (CT), Magnetic Resonance Imaging (MRI), functional Magnetic Resonance Imaging (fMRI), Single Photon Emission Computed Tomography (SPECT), Positron Emission Tomography (PET), scintigraphic imaging. For each of these imaging techniques search for and make a concise overview of the essence of the technique, the resolution, and field of application in medicine.

During a session in class (so bring your laptop) or, if needed, the computer classroom (Franklin 17), the students will practice in Image Interpretation - Plain X-rays of the Adult Chest: Airspace Opacification

[http://exact.elfh.org.uk/exact/cppid/eXI\\_05\\_04\\_Opacification/last/d/ELFH\\_Session/7/overview.html](http://exact.elfh.org.uk/exact/cppid/eXI_05_04_Opacification/last/d/ELFH_Session/7/overview.html)

We will have a practical demonstration of echo-imaging during 2 separate sessions: one on September 28 (with focus on the heart) and one on November 8 on abdominal organs: liver, kidney, abdominal aorta, bladder, female reproductive organs.



### **Small paper on medical imaging [10% of grade]**

Write a short paper (1000 words max, excluding references) on one of the organs that you have observed during the imaging sessions. Describe what you have seen, and add an illustration. Then, for the organ you have chosen, select one (1) disease, and describe what kind of abnormalities you would see on an echo image (add illustrations). Discuss whether for your chosen disease, echo imaging would be sufficient to make the diagnosis, or if not, which other diagnostic procedures would have to be taken.

When searching for appropriate illustrations, use primary literature. Also include references to your illustrations and elsewhere when appropriate.

The paper must be uploaded to Moodle on November 19 2019, 23:59 at the latest. Students will have the possibility to submit a draft version of their paper for comments and suggestions by the instructor. Deadline for submission of a draft version is November 12 2019, 23:59 hrs. Instructor will comment upon the draft version one time before November 15 23:59 hrs. Hand in your draft version as well as final version via Moodle (no paper version required).

### **Micro-class [5% of grade]**

A micro-class involves a short presentation (5 minutes) on one of the learning objectives from a given class in the Yale Histology course. For instance, in the Connective Tissue Lab the learning objectives are:

- Describe the structural organization of the fibers in the extracellular matrix and the cells residing within connective tissue
- Distinguish loose and dense connective tissue using the light microscope
- Contrast white and brown adipose tissue
- Describe the structure and function of cartilage
- Identify a few key pathological examples involving connective tissue

In the micro-class, one of the learning objectives (e.g. the difference between white and brown adipose tissue) is dealt with. Make use of the available histological slides, as well as interactive slides.