

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 Course Title	医学影像学 Medical Imaging
2.	授课院系 Originating Department	医学院 School of Medicine
3.	课程编号 Course Code	MED311
4.	课程学分 Credit Value	1.5
5.	课程类别 Course Type	专业核心课/ Major Core Courses
6.	授课学期 Semester	春季/ Spring
7.	授课语言 Teaching Language	中英双语 English & Chinese
8.	授课教师、所属学系、联系方式 Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	徐坚民, 南方科技大学附属第一医院, 13600163204@163.com Jianmin Xu, 1st Affiliated Hospital of SUSTech, 13600163204@163.com
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	王博, 医学院, wangb7@sustech.edu.cn Bo Wang, School of Medicine, wangb7@sustech.edu.cn
10.	选课人数限额(可不填) Maximum Enrolment (Optional)	

11. 授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
学时数 Credit Hours	16		16		32
12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无/NA				
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	待定/To be determined				
14. 其它要求修读本课程的学系 Cross-listing Dept.	待定/To be determined				

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

掌握医学影像学的各种检查原理、方法和适应症；熟识常见疾病的影像学诊断；了解影像学新技术进展。
Master the principles, methods and indications of medical imaging. Familiar with imaging diagnosis of common diseases. Understand the progress of new imaging technology.

16. 预达学习成果 Learning Outcomes

本课程完成后，学生应掌握医学影像学的各种检查原理、方法和适应症；熟识常见疾病的影像学诊断。
After the course, students should master the principles, methods and indications of medical imaging, and familiar with imaging diagnosis of common diseases.

17. 课程内容及教学日历（如授课语言以英文为主，则课程内容介绍可以用英文；如团队教学或模块教学，教学日历须注明主讲人） Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

第一章 医学影像学总论

概述：医学影像学的范畴与检查

1. X线成像（原理、检查方法和适应症）
2. CT（原理、检查方法和适应症）
3. MRI（原理、检查方法和适应症）
4. 介入放射学基本概念
5. 超声基本概念
6. 核医学基本概念
7. 医学影像的存档与通讯系统

Chapter 1 Overview

Overview: Categories and examinations of medical imaging

1. X-ray imaging principle, examination methods and indications
2. CT (principle, examination method and indication)

3. MRI (principle, examination method and indications)
4. Basic concepts of interventional radiology
5. Basic concepts of ultrasound
6. Basic concepts of nuclear medicine
7. Medical image archiving and communication system

第二章 中枢神经系统

中枢神经系统的检查方法和影像学表现

1. 了解中枢神经系统的常用影像学检查方法
2. 掌握常见病 CT 或 MRI 表现

Chapter 2 Central nervous system

Methods and imaging findings of the central nervous system

1. Understand the commonly imaging examination methods of the central nervous system
2. Master CT or MRI manifestations of common diseases

第三章 呼吸系统及心脏大血管影像诊断

1. 呼吸系统影像诊断

了解呼吸系统的 X 线检查方法

掌握呼吸系统的正常 X 线表现

掌握呼吸系统基本病变的 X 线表现

掌握肺炎、肺脓肿、肺结核以及肺肿瘤的 X 线、CT 表现

了解纵隔的分区及常见病 X 线、CT 表现

2. 心脏大血管影像诊断

了解心脏大血管 X 线 , CT, MRI 检查方法及适应症

了解心脏大血管 X 线 , CT, MRI 正常表现

了解各房室增大的 X 线表现

了解心脏大血管基本疾病的影像表现

Chapter 3 Respiratory system and cardiac great vessels imaging diagnosis

1. respiratory imaging diagnosis

Understand the X-ray examination method of respiratory system

Master the normal X-ray manifestations of respiratory system

Master the X-ray manifestations of basic respiratory system lesions

Master the X-ray and CT manifestations of pneumonia, lung abscess, pulmonary tuberculosis and lung tumor

Understand the partition of mediastinum and X-ray and CT findings of common diseases

2. Imaging diagnosis of cardiac great vessels

Understand the X-ray, CT and MRI examination methods and indications of cardiac great vessels

Understand the normal performance of X-ray, CT and MRI of great vessels of heart

Understand the X-ray manifestations of atrioventricular enlargement

Understand the imaging manifestations of basic diseases of the great vessels of the heart

第四章 腹部

1. 了解腹部各种影像学检查方法

2. 掌握腹部平片的正常 X 线表现

3. 掌握常见急腹症的 X 线表现

Chapter 4 Abdomen

1. Understand various imaging methods of the abdomen

2. Master the normal X-ray findings of abdominal copies

3. Master the X-ray findings of common acute abdomen

第五章 骨骼与关节

1. 了解骨、关节的 X 线检查方法

2. 掌握骨、关节的正常 X 线表现

3. 掌握骨、关节基本病变的概念及其 X 线表现

4. 掌握骨关节外伤，化脓性骨髓性及关节炎、骨关节结核、退行性骨关节病以及良恶性骨肿瘤的 X 线表现

Chapter 5 Bone and Joint

1. Understand the X-ray examination methods of bones and joints

2. Master the normal X-ray findings of bones and joints

3. Master the concept of basic bone and joint lesions and their X-ray findings
4. Master the X-ray findings of bone and joint trauma, suppurative bone marrow and arthritis, bone and joint tuberculosis, degenerative osteoarthropathy and benign and malignant bone tumors

第六章 超声学总论及诊断

1. 掌握超声的临床应用
2. 熟悉超声诊断以及类型
3. 了解超声诊断的新进展

Chapter 6 General theory and diagnosis of ultrasound

1. Master the clinical application of ultrasound
2. Familiar with ultrasound diagnosis and type
3. Understand the new progress of ultrasound diagnosis

第七章 介入放射学总论

1. 掌握介入放射学的基本概念、介入最常见手术---经导管动脉栓塞术（TAE）的技术理念、操作方法以及栓塞剂种类和临床应用
2. 掌握进阶介入技术----经皮动脉成形术（PTA）的基本概念及技术方法以及了解介入诊疗技术在临床各学科中的应用

Chapter 7 General theory of interventional radiology

1. Master the basic concept of interventional radiology, the technical concept, operation method of transcatheter arterial embolization (TAE), and the type and clinical application of embolic agents
2. Master the basic concept and technical method of advanced interventional technique--arterioplasty (PTA) and understand the application of interventional diagnosis and treatment technology in various clinical disciplines

第八章 核医学

1. 核医学仪器的基本结构、常用仪器类型及用途
2. 标记免疫分析与防护
3. 常见检测原理
4. 核素治疗

Chapter 8 Nuclear Medicine

1. Basic structure, types and uses of commonly used instruments for nuclear medicine
2. Marker immunoassay and protection

3. Common detection principles

4. Nuclide therapy

章节 Section	教学内容 Teaching Contents	学时 Lecture Hours	教学方法 Teaching Methods	
			讲授 Lecture	实验 Lab
			1	医学影像学总论 Overview
2	中枢神经系统 I Central nervous system I	2	1	1
3	中枢神经系统 II Central nervous system II	2	1	1
4	呼吸系统及心脏大血管影像诊断 I Respiratory system and cardiac great vessels imaging diagnosis I	2	1	1
5	呼吸系统及心脏大血管影像诊断 II Respiratory system and cardiac great vessels imaging diagnosis II	2	1	1
6	腹部 I Abdomen I	2	1	1
7	腹部 II Abdomen II	2	1	1
8	骨骼与关节 I Bone and Joint I	2	1	1
9	骨骼与关节 II Bone and Joint II	2	1	1
10	超声学总论及诊断 I General theory and diagnosis of ultrasound I	2	1	1
11	超声学总论及诊断 II General theory and diagnosis of ultrasound II	2	1	1
12	介入放射学总论 I General theory of interventional radiology I	2	1	1
13	介入放射学总论 II General theory of interventional radiology II	2	1	1
14	核医学 I Nuclear Medicine I	2	1	1
15	核医学 II Nuclear Medicine II	2	1	1
16	复习 Review	2	1	1

18. 教材及其它参考资料 Textbook and Supplementary Readings

教材 **Textbook:** : 《医学影像学》徐克、龚启勇、韩萍 人民卫生出版社 第八版 2018

参考资料: Learning Radiology : Recognizing the Basics, Elsevier; 4 edition (May 9, 2019), Kindle Edition with Audio/Video by William Herring

课程评估 ASSESSMENT

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		10		
课堂表现 Class Performance				
小测验 Quiz				
课程项目 Projects				
平时作业 Assignments		30		
期中考试 Mid-Term Test				
期末考试 Final Exam		60		
期末报告 Final Presentation				
其它 (可根据需要 改写以上评估方 式) Others (The above may be modified as necessary)				

20. 记分方式 GRADING SYSTEM

- A. 十三级等级制 Letter Grading
 B. 二级记分制 (通过/不通过) Pass/Fail Grading

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过
 This Course has been approved by the following person or committee of authority

本课程已经医学院教学副院长张文勇教授审核通过。