

临床医学 学科博士研究生培养方案

Ph.D. Degree Program in Clinical Medicine

一级学科代码：1002

Discipline code: 1002

一、学科概况与研究方向

Discipline overview and research directions

(一) 学科概况

临床医学是研究疾病的流行、诊断、治疗和预防的一门科学，根据病人的临床表现，从整体出发，结合疾病的病因、发病机理和病理过程进行研究，进而确定诊断，通过治疗和预防以消除疾病，减轻病人痛苦，恢复病人健康和改善生活质量。临床医学学科建设日臻完善，学科分类日趋精细，逐渐形成了许多分科和专业，正走向预防性（Preventive）、预测性（Predictive）、个体化（Personalized）和参与性（Participatory）的“4P”医学模式。转化医学的发展也努力在基础研究与临床实践之间建立更直接的联系，进而促进基础医学研究成果的临床转化，为实现精准医疗提供新的动力。

本学科在多年建设与发展基础上，形成以临床检验诊断学为特色，以内科学、外科学、肿瘤学为主导，在干细胞与再生医学、白血病耐药机制、肿瘤分子诊疗、心血管疾病、创伤性疾病以及内分泌代谢性疾病等方面形成明显研究特色。本学科全世界 ESI 排名前 4.2%，拥有国家临床医学一级学科博士点、硕士点、博士后流动站，国家一流专业和特色专业、江苏省品牌专业，国家重点专科和一批省重点专科，现有省级人才团队 9 个，各类省级人才 60 余人，承担各类国家级及省部级项目 150 余项，获省部级以上科技奖 20 余项，授权国家发明专利 20 余项，发表论 SCI 检索论文 500 余篇，其中代表性论文发表在 PNAS、Gut、ACS Nano、Oncogene、Stem Cells、Diabetes Cares 等国际权威刊物上。

Discipline overview

Clinical medicine is a discipline focusing on the epidemiology, diagnosis, treatment and prevention of diseases. Combined with the study of etiology, pathogenesis and pathological process of diseases, clinical medicine prevents, diagnoses, treats and eradicates diseases, relieves the pain of patients, restores health and improve the life quality of the patients according to the clinical manifestations of the patients. The discipline construction of clinical medicine is becoming more and more refines, and the discipline classification of clinical medicine is

becoming more and more elaborate. Many branches and majors have been formed. Clinical medicine is developing towards the "4P" medical model: preventive, predictive, personalized, and participatory. The development of translational medicine also establishes a more direct link between basic medical research and traditional clinical practice, thereby promoting clinical translation of basic medical research advances and providing new driving force for achieving precision medicine.

On the basis of many years' construction and development, this discipline has formed its own featured research directions in stem cell and regenerative medicine, leukemia drug resistance, cancer molecular diagnosis and treatment, cardiovascular disease, traumatic disease and metabolic diseases. This discipline ranks top 4.2 ‰ in ESI global list, with national doctor and master programs and postdoctoral mobile station in clinical medicine, national first-class specialty and characteristic specialty, Jiangsu provincial brand specialty, national key specialty and a batch of provincial key specialties, 9 provincial talent teams, more than 60 provincial talents, more than 150 national and provincial projects, more than 20 provincial and ministerial level science and technology awards, more than 20 national authorized invention patents, and more than 500 published SCI papers with representative papers published in PNAS, Gut, ACS Nano, Oncogene, Stem Cells, Diabetes Care and other decent international journals.

(二) 研究方向

Research directions

(1) 内科学 (100201)

1. 呼吸系统疾病发病机理及治疗研究
2. 心血管疾病基础与临床研究
3. 消化系统疾病发病机理及治疗研究
4. 血液系统疾病发病机理及治疗研究
5. 内分泌疾病发病机理及治疗研究

(1) Internal medicine (100201)

1. Pathogenesis and treatment of respiratory system diseases
2. Pathogenesis and treatment of cardiovascular diseases
3. Pathogenesis and treatment of gastroenterological diseases
4. Pathogenesis and treatment of hematopoietic diseases

5. Pathogenesis and treatment of endocriological diseases

(2) 儿科学(100202)

1. 儿童疾病与免疫
2. 新生儿疾病的基础与临床研究
3. 小儿哮喘病的发病机制与防治研究
4. 儿童病毒感染研究

(2) Pediatrics (100202)

1. Children diseases and immunity
2. Basic and clinical study of neonatal diseases
3. Pathogenesis, prevention, and treatment of infantile asthma
4. Virus infection in children

(3) 神经病学(100204)

1. 神经系统疾病发病机理及治疗研究

(3) Neurology (100204)

1. Pathogenesis and treatment of nervous system diseases

(4) 精神病与精神卫生学(100205)

1. 精神药理学
2. 医学心理学与心理治疗

(4) Psychosis and mental hygiene (100205)

1. Psychopharmacology
2. Medical psychology and psychotherapy

(5) 皮肤病与性病学(100206)

1. 皮肤病与性病学研究

(5) Dermatology and Venereology (100206)

1. Study on dermatology and Venereology

(6) 影像医学与核医学(100207)

1. 现代影像诊断学
2. 分子影像学
3. 神经认知和神经功能学
4. 介入诊断与治疗学

(6) Imaging medicine and nuclear medicine (100207)

1. Modern imaging diagnostics
2. Molecular imaging
3. Neurocognitive and neurofunction
4. Interventional diagnosis and therapeutics

(7) 临床检验诊断学(100208)

1. 干细胞与血液病的检验基础与临床
2. 免疫性疾病的检验基础与临床
3. 感染性疾病的检验基础与临床
4. 肿瘤分子诊断
5. 其他重大疾病的检验基础与临床

(7) Clinical laboratory medicine (100208)

1. Basic and clinical study of stem cells and hematopoietic diseases
2. Basic and clinical study of immune diseases and diagnostics
3. Basic and clinical study of infectious diseases and diagnostics
4. Molecular diagnosis of tumor
5. Basic and clinical study of other major diseases and diagnostics

(8) 外科学(100209)

1. 肝胆胰疾病的基础与临床
2. 食管癌基础与临床
3. 骨组织工程
4. 泌尿系统肿瘤基础与临床
5. 脑胶质瘤基础与临床
6. 创伤基础与临床

(8) Surgery (100209)

1. Basic and clinical study of hepatobiliary and pancreatic diseases
2. Basic and clinical study of esophageal cancer
3. Bone tissue engineering
4. Basic and clinical study of urological tumors
5. Basic and clinical study of brain tumors
6. Basic and clinical study of trauma

(9) 妇产科学(100210)

1. 妇科肿瘤

(9) Obstetrics and gynecology (100210)

1. Gynecological tumor

(10) 耳鼻咽喉科学(100212)

1. 耳鼻咽喉疾病的基础与临床

(10) Otorhinolaryngology (100212)

1. Basic and clinical study of otorhinolaryngologic diseases

(11) 肿瘤学(100213)

1. 肿瘤综合治疗与分子靶向治疗

2. 肿瘤治疗耐药机理研究

(11) Oncology (100213)

1. Tumor comprehensive treatment and molecular targeted therapy

2. The mechanism of tumor therapy resistance

(12) 麻醉学(100216)

1. 疼痛的临床治疗和机理研究

2. 微麻醉期重要脏器保护和机理研究

(12) Anesthesiology (100216)

1. Clinical treatment and mechanism of pain

2. Protection and mechanism of important organs in the period of micro-anesthesia

二、培养目标

Training objectives

留学博士研究生培养基本要求如下：

(一) 应当具备包容、认知和适应文化多样性的意识、知识、态度和技能，能够在不同民族、社会和国家之间的相互尊重、理解和团结中发挥作用。

(二) 遵纪守法，学风严谨，具有强烈的事业心和献身科学的精神。掌握本学科坚实宽广的基础理论和系统深入的专门知识，具有独立从事临床诊疗和医学科学研究的能力，在科学或专门技术上做出创造性成果。

The basic requirements for Ph.D. students in Clinical Medicine are as follows:

(1) Ph.D. students should have the awareness, knowledge, attitude and skills of inclusiveness, cognition and adaptation to cultural diversity, and be able to play a role in mutual respect, understanding and solidarity among different nations, societies and countries.

(2) Ph.D. students should have a correct outlook on life, values and worldviews, be law-abiding, have good moral characters, have a rigorous study mode and a strong professionalism and enterprising spirit. The Ph.D. students should solidly master the basic theory of the discipline with systematic and in-depth expertise, have the abilities to perform clinical diagnosis and medical research independently, make creative achievements in medical science or specialized technology.

三、培养方式及学习年限

Training mode and the duration of study

(1) 学习年限

全日制博士研究生学习年限为 4-6 年。

The duration of study

The duration for Ph.D. in Clinical Medicine is 4-6 years.

(2) 培养方式

博士研究生培养实行导师领导下的指导小组负责制，指导博士研究生培养的全过程。

Training mode

An advisory committee led by the Ph.D. supervisor is responsible for the cultivation.

四、课程学分

Course credits

1、学分要求

Credit requirements

课程总学分不低于 15 学分，其中学位课不少于 10 学分，选修课不少于 5 学分。

The total credits of the course shall be no less than 15 credits, including no less than 10 credits for degree courses and no less than 5 credits for elective courses.

2、课程设置

Curriculum

Course Category 课程类别		Course Name 课程名称	Credit 学分	Term 学期 (Spring/ Autumn)	School by which Courses opened 开课学院	type of the course 课程性质	Remark 备注
Degree courses 学位课	Public degree course 公共学位课	Integrated Chinese 综合汉语	3	Autumn	Language & Culture Center 语言文化中心		Compulsory 必修

		Overview of China 中国概况	2	Autumn	OEC		
	Basic Theory Course 基础理论课	Medical molecular biology 医学分子生物学	2	Autumn	医学院 School of Medicine	全英文 English course	At least 2 credits 至少 2 学分
		Medical cell biology 医学细胞生物学	2	Autumn	医学院 School of Medicine	全英文 English course	
		Medical biochemistry 医学生物化学	2	Autumn	医学院 School of Medicine	全英文 English course	
	Core Specialized Degree Courses 核心专业学位课	Clinical Medicine 临床医学	3	Autumn	医学院 School of Medicine	全英文 English course	At least 3 credits 至少 3 学分
Non-degree course 非学位课	Specialized Elective Courses 专业选修课	Medical immunology techniques 医学免疫学技术	2	Autumn	医学院 School of Medicine	实验平台 Experimental course	At least 5 credits 至少 5 学分
		Stem cell biology and molecular hematology techniques 干细胞与分子血液学技术	2	Autumn	医学院 School of Medicine	实验平台 Experimental course	
		Translational medicine & Precision medicine 转化医学与精准医学	2	Autumn	医学院 School of Medicine	全英文前沿讲座 Cutting-edge lecture	
		Cell signaling transduction and cancer 细胞信号转导与肿瘤	2	Autumn	医学院 School of Medicine	全英文前沿讲座 Cutting-edge lecture	
		Paper writing and academic presentation 论文写作与学术报告	2	Autumn	医学院 School of Medicine	全英文 English course	

		Medical Research Design 医学科学研究设计	2	1 Autumn	医学院 School of Medicine	全英文 English course	
	Public Elective Courses 公共选修课	All graduate programs in all disciplines throughout the school 全校所有学科的全部研究生课程					Optional 任选

Note: Please specify the type of the course { English taught course, bilingual course, cutting-edge lecture or experimental course }
课程性质中请明确是全英文课程、双语课程、前沿讲座或实验平台课程等

五、拓展学分要求

Extended credit requirements

留学博士研究生在学期间必须参加一定量的素质提升活动，至少应获取 3 个拓展学分。

获取拓展学分的途径有：

- (1) 参加国家、省、学校和学科组织的各类学术论坛、学术竞赛并获得证书或奖励
- (2) 参加国家、省、学校和学科组织的各类社会公益或志愿服务活动
- (3) 参加江苏大学中外研究生学术论坛，并获优秀口头报告或优秀墙报奖
- (4) 赴境外进行科研学习交流（满一年）
- (5) 除培养计划要求外，另增加选修公共选修课或利用国内外优质慕课资源进行系统学习并且成绩合格。

注：国家级 3 个拓展学分、省级 2 个拓展学分、校级和院级 1 个拓展学分。

Doctor students need to take part in a certain amount of activities for personal quality improvement and obtain at least 3 credits.

The ways to obtain extended credits are as follows:

- (1) Participate in academic training and competitions organized by the state, province, school and discipline.
- (2) Participate in social public welfare or voluntary service activities organized by the state, province, school and discipline
- (3) Participated in the Sino-foreign graduate student academic forum of of Jiangsu University, and won the award of excellent oral report or excellent poster.
- (4) Overseas scientific research (1 year for doctor students).

(5) In addition to the requirements of curriculum, attend in public elective courses or self-learning of high-quality MOOC courses (with certificate)

Note: 3 extension credits for national level, 2 extension credits for provincial level, and 1 extension credit for university and school level.

六、实践学分要求

Practice credit requirements

留学博士研究生实践学分不少于 11 学分，其中学术活动不少于 2 学分，文献阅读 2 学分，专题研讨不少于 4 学分，实践环节 1 学分，博士生学科综合考核 2 学分。

The practice credits for doctor students should be no less than 11 credits: at least 2 credits for academic activities, 2 credits for literature reading, at least 4 credits for seminar, 1 credit for professional practical training, 2 credits for mid-term assessment.

(一) 学术活动（不少于 2 学分）

博士研究生在学期间须参加学校组织的“学术道德规范讲座”和国内外知名专家学者的专题讲座、学术报告、研究生论坛等学术研讨活动 15 次以上。鼓励博士研究生参加全国性高层次学术会议或国际会议（0.5 学分/全国性会议，1 学分/国际性会议）和进行研究报告（1 学分/全国性会议，2 学分/国际性会议）。

(1) Academic activities (no less than 2 credits)

Doctor students need to participate in the lectures on academic integrity, the special lectures given by distinguished experts and scholars (home and abroad), academic reports, Graduate Student Forum and other academic activities for more than 15 times. Doctor students are encouraged to participate in the national academic conference or international conference (0.5 credit/ domestic and 1 credit/international conference) and give oral presentation (1 credit/ domestic and 2 credits/international conference).

(二) 外文文献阅读（2 学分）

博士研究生须阅读一定数量的外文文献（具体数量和文献由指导小组确定），于学位论文开题前由学科组织专家统一考核，不合格者不得进入学位论文开题环节。

(2) Literature reading (2 credits);

Doctor students need to read a certain number of English literatures (the number of literatures are determined by the supervisor or the committee). The SOM will organize experts to assess and identify. The unqualified students will not be permitted to start their thesis study.

（三）专题研讨（不少于4学分）

博士研究生在学期间必须在学科范围内公开进行文献研读交流、学术研究进展汇报和专题研讨汇报（1学分/次），由导师负责审核认定。

(3) Seminar (no less than 4 credits)

Doctor students need to do literature reading, research progress reports and special research seminar (1 credit/time) in public. The tutor will be responsible for the assessment.

（四）实践环节（1学分）

博士研究生在校期间须进行不少于1个月的实践环节（包括教学和临床实践），由导师负责考核。

(4) Practice (1 credit)

Doctor students should perform at least 1 month of practice (including teaching assistance and clinical training), and the tutor will be responsible for the assessment.

（五）博士生学科综合考核（2学分）

学科综合考核是博士生进入学位论文阶段前的一次综合性考核，主要评估博士生的学术道德、理论基础知识和科研能力等，一般在第二学期结束前进行。博士生综合考核的“暂缓通过”比例不得少于实际考核人数的15%，招生人数少的学科实行考核末位淘汰制度，具体详见《江苏大学博士研究生学科综合考核实施细则（暂行）》（江大研字（2018）08号）。

(5) Comprehensive evaluation (2 credits)

Doctor student need to participate in a comprehensive mid-term assessment organized by SOM before they start thesis study (including the assessment of basic theory and academic research ability), generally before the end of the 2nd semester. The SOM will organize an assessment expert group (5 or more experts, at least 3 doctoral supervisors). The assessment results include excellent, qualified and unqualified (15%). The doctor students have two opportunities for comprehensive assessment. Those who fail for the first assessment can participate in the second one (with an interval of 6 months or more).

七、学位论文与学位授予

Dissertation and degree requirements

（一）论文开题

在导师指导下，比较全面地了解该学科的发展动态，对所研究方向的国内外现状有全面掌握，在此基础上设计或参与导师的研究课题，统一组织进行开题报告（一般在第二学期结束前进行）。博士研究生学位论文开题报告审核通过两年（至少 16 个月）后方可申请送审答辩。具体要求详见《江苏大学研究生学位论文选题与开题的要求及考核办法（暂行）》（江大研字（2018）09 号）。

(1) Thesis proposal

Based on a comprehensive understanding of the development of the discipline and a comprehensive grasp of the research progress worldwide, the doctor students design a research project or participate in the supervisor's research project. The SOM will organize a proposal defense (usually before the end of the second semester). The assessment team (composed of 5 or more experts) will help evaluate the doctoral research project and provide guidance. The doctor students who fail the assessment are allowed to do a second defense (with an interval of 3 months or more). If failed the second one, the doctor students could not move to the next stage of study. Only two years after the proposal defense (at least 16 months), can it apply for submission for thesis review and defense. Please refer to the requirements and assessment of proposal for graduate students' thesis of Jiangsu University (Provisional) (jdyz (2018) No.09).

（二）完成完整的科研训练与获得相应的科研成果

博士研究生在学期间必须参与完整的科研训练全过程，获取一定的科研成果，具体要求详见《江苏大学关于研究生在学期间必须完成完整的科研训练与获得相应科研成果的规定》

(2) Papers publication

Doctoral students should obtain achievements in certain research topic and are required to publish at least one research paper in a peer-reviewed international journal prior to being eligible to apply for dissertation defense. Refer to “Jiangsu University Graduate Student Academic Paper Publication Regulations” (2016-545) for specific requirements.

（三）学位论文撰写

博士研究生必须在导师指导下独立完成学位论文，论文要有创新性，在本领域具有理论和实际应用价值，论文格式参见《江苏大学研究生学位论文撰写格式要求》。

(3) Thesis writing

The doctoral thesis should have novelty and theoretical and practical value in this field. It

should reach the advanced level in the academic field. The dissertation must be completed independently by doctor students under the guidance of the supervisor. Refer to the “Jiangsu University graduate thesis format requirements” for the thesis format.

(四) 论文评阅与答辩

课程学分、拓展学分和实践学分均满足要求后方可进入学位论文送审、答辩环节，学位论文送审前还必须通过论文预审和预答辩环节。学位论文送审、答辩等要求详见《江苏大学学位授予工作实施细则》和《江苏大学研究生学位论文“盲审”工作办法》等相关规定。

(4) Thesis review and defense

Only after the course credits, extension credits and Practice Credits meet the requirements, can they enter the thesis submission and defense stage. Before the submission of thesis for external review, they must also pass the internal assessment. For the relevant requirements for thesis review and defense, refer to "Jiangsu University degree awarding work implementation rules" and "Jiangsu University Graduate Dissertation review work procedures".

八、其他要求

Other Requirements

其他要求详见《江苏大学博士研究生培养方案（总则）》及学校相关规定。

Refer to the Doctor program for postgraduate students of Jiangsu University and the relevant school regulations for other requirements.

附、需阅读的主要经典著作和专业学术期刊目录

Appendix: Catalogue of professional journals to be read

一、主要经典著作

Main Classic works

1. Shlomo Melmed, et al. Williams Textbook of Endocrinology (12th Edition). 2011
2. Lee Goldman, Andrew I Schafer. Goldman's Cecil Medicine (24th edition). 2011
3. Courtney M. Townsend, et al. Sabiston Textbook of Surgery (19th Edition). 2012.
4. Edward C. Halperin, et al. Principles and Practice of Radiation Oncology (6th Edition). 2013
5. Jatin Shah, et al. Jatin Shah's Head and Neck Surgery and Oncology (4th Edition). 2012
6. Kenneth Murphy, et al. Janeway's Immunobiology (8th edition). 2012
7. Betty A. Forbes, et al. Diagnostic Microbiology. 2007
8. Bruce Alberts, et al. Molecular Biology of the Cell (6th Edition). 2014.
9. James D. Watson, et al. Molecular Biology of the Gene (7th edition). 2013

二、主要外文专业学术期刊

Major foreign academic journals

1. Science
2. Nature
3. New England Journal of Medicine
4. Lancet
5. Cell
6. JAMA
7. Gastroenterology
8. Gut
9. Journal of Experimental Medicine
10. Journal of Immunology
11. Circulation
12. Journal of Clinical Oncology
13. Diabetes
14. Oncogene
15. Cancer Research
16. Blood
17. Leukemia
18. Journal of Biological Chemistry
19. Journal of Immunology
20. Journal of Virology
21. Stem Cells
22. Journal of Clinical Investigation
23. Journal of National Cancer Investigation
24. PNAS
25. Hepatology
26. J Hepatology
27. Molecular Cell

28. Cancer Cell
29. Nature Immunology
30. Nature Cell Biology
31. Nature Medicine
32. Cell Stem Cell
33. Circulation
34. Clinical Chemistry
35. Science Translational Medicine