

## Educational Plan for Academic Master Candidates

Specialty: Physiology

Specialty code: 071003

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Cardiovascular physiology
2. Stem cell research
3. Neurophysiology

### III. Educational Duration

The normative time for full-time academic Master students is 3 years.

### IV. Credits Requirement

Credits for Master students with Master degree  $\geq 36$ , including course credits  $\geq 24$ , and research credits  $\geq 12$ .

Total credits	$\geq 36$	
Courses credits	$\geq 24$ credits, including credits for all English courses $\geq 2$ , international courses $\geq 2$	Compulsory public courses $\geq 5$ credits: <ul style="list-style-type: none"> <li>✓ Study on theory and practice of <a href="#">Chinese characteristics</a>: 2 credits</li> <li>✓ Dialectics of Nature: 1 credit</li> <li>✓ Foreign language for postgraduate students: 2 credits</li> </ul> Optional public courses $\geq 1$ credit: <ul style="list-style-type: none"> <li>✓ Social science, science/engineering, or other: 1 credit</li> </ul>
		Discipline basic courses and professional courses $\geq 18$ credits: <ul style="list-style-type: none"> <li>✓ 1st-level discipline basic courses: 8 credits (compulsory)</li> <li>✓ 2nd-level discipline basic courses: 4 credits (restricted optional)</li> <li>✓ Professional courses for postgraduate students: 4 credits (optional)</li> <li>✓ Cross 1st-level discipline courses: 2 credits (optional)</li> </ul>
		No credit for make-up courses and other optional courses, grades only.
Research	$\geq 12$ credits	Literature review and thesis proposal: 1 credit
		Participation in academic conferences: 1 credit
		Master dissertation: 10 credits

## V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on theory and practice of <a href="#">Chinese characteristics</a>	36	2	Spring/Autumn	College of Marxism	
		411.500	Foreign language (English)	32	2	Autumn, Spring	School of foreign languages	
			Optional public courses		1			
	1st-level discipline basic courses	510.500	Medical Statistics	54	3	Autumn	School of Public Health	Compulsory ≥ 8 credits (at the postgraduate phase)
		510.512	Fundamental Immunology (All English course)	36	2	Autumn	School of Basic Medicine	
		510.509	Neural Damage, Regeneration and Repair (International course)	32	2	Autumn	School of Basic Medicine	
		510.520	Methods in Cardiovascular Pharmacology	72	4.5	Autumn	School of Basic Medicine	
		510.504	Medical Molecular Biology (First class international course)	40	2.5	Autumn	School of Basic Medicine	
	2nd-level discipline basic courses	510.536	Latest Methods and Techniques in Neuroscience (International course)	36	2	Spring	School of Basic Medicine	Restricted optional ≥ 4 credits (at the postgraduate phase)
		510.518	Experimental Techniques in Molecular Biology	40	2.5	Autumn	School of Basic Medicine	
		510.514	Modern Immunohistochemical Techniques (All English course)	32	2	Autumn	School of Basic Medicine	
		510.528	Fundamental Ultramicro Pathology (All English course)	20	1	Autumn	School of Basic Medicine	
	Optional professional	510.535	Guidance and Application of Bioinformatics	40	2	Spring	School of Basic	≥ 4 credits

	courses for postgraduate students						Medicine	
		510.502	Advances in Physiology (All English course)	36	2	Autumn	School of Basic Medicine	
		510.509	Neural Damage, Regeneration and Repair (All English course; International course)	32	2	Autumn	School of Basic Medicine	
	Cross 1st-level discipline courses	510.507	Preclinical and Clinical Evaluation of New Drug	16	1	Autumn	School of Basic Medicine	≥ 2 credits
		510.542	Principle of Viral Transgenic Techniques	32	2	Autumn	School of Basic Medicine	
Non-degree courses	Make-up courses	510.512	Fundamental Immunology (All English course)	36	2	Autumn	School of Basic Medicine	Compulsory for Non-Medicine major undergraduates
		510.504	Medical Molecular Biology (First class International course)	40	2.5	Autumn	School of Basic Medicine	
Research		650.501	Literature review and thesis proposal (Master)		1		School of Basic Medicine	
		650.502	Academic Report in academic conferences (Master)		1			
		650.503	Degree Dissertation (Master)		10			

## VI. Specific Requirements for Master Candidates Education

- The education mode for master postgraduate students employs the supervisor-responsible system, by establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the PhD candidates.
- Restriction of Cross 1st-level discipline courses:  
Cross 1st-level discipline courses refer to the other postgraduate courses in the same level. Students are required to attend class and take the examination of the course.
- Dissertation Proposal (1 credit) should include:  
The source and significance of the topic  
Literature review of the research at home and abroad regarding the topic;  
The research content, planned research method and technical skills;  
The anticipated innovative achievements in theoretical and practical aspects;  
Anticipated results;  
References
- Dissertation interim report  
PhD candidates are supposed to report to the instruction group or experts the research results

of the degree dissertation, and listen to advice and make revision. The dissertation shall not be started before acceptance of the innovative achievements of the research.

5. Application for doctoral dissertation defense and qualification review

The supervisor or the instruction group conducts doctoral dissertation qualification review.

Basic requirements of dissertation defense application:

- (1) get all the required credits;
- (2) complete the dissertation proposal;
- (3) complete the dissertation interim report;
- (4) complete the dissertation writing;
- (5) pass the experts review both inside and outside the university.

## Educational Plan for Academic PhD Candidates

Specialty: Physiology

Specialty code: 071003

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Stem cell research
2. Neurophysiology
3. Cardiovascular physiology

### III. Educational Duration

The normative time for full-time PhD students is 3-5 years. The duration for MD-PhD students is 4-6 years.

### IV. Credits Requirement

Credits for common PhD students with Master degree  $\geq 29$ . Credits for MD-PhD and direct PhD students  $\geq 53$ .

Category	MD-PhD and direct PhD students		Common PhD students	
Total credits	$\geq 53$		$\geq 29$	
Courses credits	$\geq 34$ credits, including credits for advanced international courses $\geq 6$ (all English courses $\geq 2$ , first class international courses $\geq 2$ )	Compulsory public courses $\geq 9$ credits: ✓ Study on theory and practice of Chinese characteristics: 2 credits ✓ Chinese Marxism: 2 credits ✓ Dialectics of Nature: 1 credit ✓ Foreign language for postgraduate students: 2 credits ✓ English thesis writing: 2 credits Optional public courses $\geq 1$ credit	$\geq 10$ credits (including credits for all English courses $\geq 2$ , or first class international courses $\geq 2$ )	Compulsory public courses $\geq 4$ credits: ✓ Chinese Marxism: 2 credits ✓ English thesis writing: 2 credits
		Discipline basic courses and professional courses $\geq 24$ credits: ✓ 1st-level discipline basic courses: 8 credits (compulsory) ✓ 2nd-level discipline basic courses: 4 credits (restricted optional) ✓ Professional courses for postgraduate students: 4 credits (optional)		✓ Cross 1st-level discipline courses: 2 credits (optional) ✓ Professional course for PhD students: 4 credits (optional)

		✓ Cross 1st-level discipline courses: 4 credits (optional) ✓ Professional course for PhD students: 4 credits (optional)		
No credit for make-up courses and other optional courses, grades only.				
Research	≥19 credits	Literature review and thesis proposal: 1 credit		Literature review and thesis proposal: 1 credit
		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit
		Dissertation interim progress report: 1 credit		Dissertation interim progress report: 1 credit
		Academic paper publication: 1 credit		Academic paper publication: 1 credit
		Doctoral dissertation: 15 credits		Doctoral dissertation: 15 credits

Remark: Education plan for students with an equivalent education level is in accordance with the education plan for MD-PhD and direct PhD students. Courses exemption will be granted upon finding conformity with the course exemption provision.

## V. Courses Curriculum and Credits Allotment

Courses	Course code	Course name	Hours	Credits	Season	Department	Notes	
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on theory and practice of Chinese characteristics	36	2	Spring/Autumn	College of Marxism	
		411.500	Foreign language (English)	32	2	Autumn, Spring	School of foreign languages	
			Optional public courses		1			
		408.810	Chinese Marxism	36	2	Autumn	College of Marxism	Compulsory for PhD students ≥ 4 credits
		411.800	English thesis writing	32	2	Autumn	School of foreign languages	

1st-level discipline basic courses	510.804	Advances in Medical Molecular Biology	80	4	Autumn	School of Basic Medicine	Compulsory $\geq 8$ credits (at the postgraduate phase)
	510.500	Medical Statistics	54	3	Autumn	School of Public Health	
	510.512	Fundamental Immunology (All English course)	36	2		School of Basic Medicine	
	510.509	Neural Damage, Regeneration and Repair (International course)	32	2		School of Basic Medicine	
2nd-level discipline basic courses	510.536	Latest Methods and Techniques in Neuroscience (International course)	36	2	Spring	School of Basic Medicine	Restricted optional $\geq 4$ credits (at the postgraduate phase)
	510.518	Experimental Techniques in Molecular Biology	40	2.5	Autumn	School of Basic Medicine	
	510.514	Modern Immunohistochemical Techniques (All English course)	32	2	Autumn	School of Basic Medicine	
	510.528	Fundamental Ultramicro Pathology (All English course)	20	1	Autumn	School of Basic Medicine	
Optional professional courses for postgraduate students	510.535	Guidance and Application of Bioinformatics	40	2	Spring	School of Basic Medicine	$\geq 4$ credits (at the postgraduate phase)
	510.502	Advances in Physiology (All English course)	36	2	Autumn	School of Basic Medicine	
	510.509	Neural Damage, Regeneration and Repair (All English course; International course)	32	2	Autumn	School of Basic Medicine	
Professional course for PhD students	510.817	Stem Cell Techniques and Applications	24	1.5	Autumn	School of Basic Medicine	$\geq 4$ credits
	510.809	Advanced Functional Analysis: Methods and Techniques	36	2	Autumn	School of Basic Medicine	

		510.806	Advanced Neurobiology	80	4	Autumn	School of Basic Medicine	
		510.515	Theory of Ion Channel and Patch Clamp Techniques	32	2	Autumn	School of Basic Medicine	
	Cross 1st-level discipline courses	510.805	Advanced Medical Genetics	80	5	Autumn	School of Basic Medicine	Compulsory for PhD students $\geq$ 2 credits
		510.533	Cardiovascular Pharmacology	32	2	Autumn	School of Basic Medicine	
		510.542	Principle of Viral Transgenic Techniques	32	2	Autumn	School of Basic Medicine	
Non-degree courses	Make-up courses	510.512	Fundamental Immunology (All English course)	36	2	Autumn	School of Basic Medicine	Compulsory for Non-Medicine major undergraduates
		510.504	Medical Molecular Biology (First class International course)	40	2.5	Autumn	School of Basic Medicine	
Research		650.801	Literature review and thesis proposal (PhD)		1		School of Basic Medicine	
		650.802	Participation in international academic conferences or international academic conference held in China, and paper submission (PhD)		1			
		650.803	Dissertation interim progress report (PhD)		1			
		650.804	Academic paper publication (PhD)		1			
		650.805	Doctoral dissertation (PhD)		15			
		650.501	Literature review and thesis proposal (MD)		1			
		650.502	Academic Report in academic conferences (MD)		1			
		650.503	Degree Dissertation (MD)		10			

Remark: please mark the advanced international courses after the course name.



## **VI. Specific Requirements for PhD Candidates Education**

1. The education mode for PhD students employs the supervisor-responsible system, by establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the PhD candidates.
2. Restriction of Cross 1st-level discipline courses
  - (1) Cross 1st-level discipline courses refer to the other postgraduate courses in the same level. Students are required to attend class and take the examination of the course.
  - (2) Cross 1st-level discipline courses selected should be different from the courses completed in the postgraduate phase.
3. Dissertation Proposal (1 credit) should include:
  - (1) The source and significance of the topic
  - (2) Literature review of the research at home and abroad regarding the topic;
  - (3) The research content, planned research method and technical skills;
  - (4) The anticipated innovative achievements in theoretical and practical aspects;
  - (5) Anticipated results;
  - (6) References
4. Dissertation interim report

PhD candidates are supposed to report to the instruction group or experts the research results of the degree dissertation, and listen to advice and make revision. The dissertation shall not be started before acceptance of the innovative achievements of the research.
5. Application for doctoral dissertation defense and qualification review

The supervisor or the instruction group conducts doctoral dissertation qualification review.

Basic requirements of dissertation defense application:

  - (1) get all the required credits;
  - (2) complete the dissertation proposal;
  - (3) complete the dissertation interim report;
  - (4) publish the required number of papers in journals;
  - (5) complete the dissertation writing;
  - (6) pass the experts review both inside and outside the university.

## Educational Plan for Academic Degree Postgraduates

Specialty: Neurobiology

Specialty code: 071006

### I. Objectives

a. Master the basic theories and systematic professional knowledge. Grasp one foreign language and be proficient in professional reading and basic academic writing.

b. Cultivate rigorous and practical scientific attitude. Grasp the basic methodology and technical skills of scientific research. Possess the ability to undertake scientific research in the specialty field.

c. Be qualified for teaching of the specialty or related specialties, or engineering work or related scientific managerial work.

### II. Research Field:

- |   |                                   |
|---|-----------------------------------|
| 1. Major Neurological Disease                 | 2. Neural Regulation of Sensation |
| 3. Molecular Mechanisms of Neural Development | 4. Pain and Analgesia             |

### III. Program Duration

The duration of full-time academic post-graduate students is 3 years (subject to the approval of the university)

### IV. Credits Requirements and Allotment

Total credits  $\geq 36$  (credits for Degree Courses  $\geq 24$ ; Credits for research  $\geq 12$ )

Total Credits	$\geq 36$ credits	
Degree Courses	$\geq 24$ credits (including credits for advanced international courses $\geq 4$ )	Compulsory public courses $\geq 5$ credits: ✓ Study on theory and practice of <a href="#">Chinese characteristics</a> : 2 credits ✓ Dialectics of Nature (science/engineering/medical science)/Marxism and social scientific methodology (liberal arts): 1 credit ✓ Foreign Language: 2 credits Optional public courses $\geq 1$ credit
		✓ 1st-level discipline basic courses : 8 credits (compulsory) ✓ 2nd-level discipline basic courses: 4 credits (restricted optional) ✓ Optional professional courses: 4 credits (optional) ✓ Cross 1-level discipline courses: 2 credits (optional)
		No credit for make-up courses or other optional courses, grades only.
Research	$\geq 12$ credits	Literature review and thesis proposal: 1 credit
		Participation in public academic lectures: 1 credit
		Academic Dissertation: 10 credits

### V. Course Curriculum and Credits Allotment

Courses	Course code	Course name	Hours	Credits	Season	Department	Notes
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Degree Courses	Compulsory public courses	408.602	Dialectics of nature	18	1	Spring/ Autumn	College of Marxism	Compulsory at the postgraduate phase $\geq 6$ credits
		408.601	Study on theory and practice of <a href="#">Chinese characteristics</a>	36	2	Spring/ Autumn	College of Marxism	
		411.500	Foreign language ( $\times \times$ )	32	2	Spring, Autumn	School of foreign languages	
			Optional public courses		1			
	1st-level discipline basic courses	513.500	Health Statistics	36	2	Spring, Autumn	college of Basic Medicine	compulsory $\geq 8$ credits
		510.504	Medical Molecular Biology (First-Class Course)	40	2.5	Autumn	college of Basic Medicine	
		510.508	Basic Theory of Neurobiology	32	2		college of Basic Medicine	
		510.521	Basic Technology and Method of Neurobiology	32	2		college of Basic Medicine	
		510.514	Modern Histochemical Techniques	32	2		college of Basic Medicine	
		510.518	Experimental Techniques of Molecular Biology (High level course)	40	2.5	Autumn	college of Basic Medicine	
		510.534	Molecular Immunology	36	2		college of Basic Medicine	
	2nd-level discipline basic courses	510.537	Skills on Research Design and Scientific Writings	32	2	Autumn	college of Basic Medicine	Restricted optional $\geq 4$ credits
		510.503	Medical Biochemistry (First-Class Course)	40	2.5		college of Basic Medicine	
		510.513	Medical Developmental Biology	32	2	Autumn	college of Basic Medicine	
		510.515	Ion Channel and Patch Clamp (English Course)	32	2		college of Basic Medicine	
510.523		Experimental Immunology	44	2.5		college of Basic		

							Medicine	
		510.526	Clinical pathophysiology	48	3	Spring	college of Basic Medicine	
	Optional professional courses	510.509	Neural Regeneration and Repair	32	2	Autumn	college of Basic Medicine	≥ 6 credits
		510.510	Advanced Functions of Nervous System (English and First-Class Course)	32	2	Autumn	college of Basic Medicine	
		510.525	Lectures of Advances in Neuroscience (First-Class Course)	32	2	Autumn	college of Basic Medicine	
		510.502	Progress in physiology	32	2	Autumn	college of Basic Medicine	
Non- degree courses	Make-up courses						college of xxx	Compulsory for non-xxx major undergraduates
							college of xxx	
		650.501	Literature review and thesis proposal		1			
		650.502	Academic report in academic lectures		1			
		650.503	Dissertation		10			

Remark: please mark the advanced international courses after the course name.

## VI. Research and Dissertation

Implement in accordance with the related regulations of Huazhong University of Science and Technology.

## Educational Plan for Academic PhD Candidates

Specialty: Neurobiology

Specialty code: 071003

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Major Neurological Disease
2. Neural Regulation of Sensation
3. Molecular Mechanisms of Neural Development
4. Pain and Analgesia

### III. Educational Duration

The normative time for full-time PhD students is 3-5 years. The duration for MD-PhD students is 4-6 years.

### IV. Credits Requirement

Credits for common PhD students with Master degree  $\geq 29$ . Credits for MD-PHD and direct PHD students  $\geq 53$ .

Category	MD-PhD and direct PhD students		Common PhD students	
Total credits	$\geq 53$		$\geq 29$	
Courses credits	$\geq 34$ credits, (including credits for advanced international courses $\geq 4$ )	Compulsory public courses $\geq 9$ credits: ✓ Study on theory and practice of <a href="#">Chinese characteristics</a> : 2 credits ✓ Chinese Marxism: 2 credits ✓ Dialectics of Nature (science/engineering/medical science)/Marxism and social scientific methodology (liberal arts): 1 credit ✓ Foreign language for postgraduate students: 2 credits ✓ English thesis writing: 2 credits Optional public courses $\geq 1$ credit	$\geq 10$ credits (including credits for advanced international courses $\geq 2$ )	Compulsory public courses $\geq 4$ credits: ✓ Chinese Marxism: 2 credits ✓ English thesis writing: 2 credits
		Discipline basic courses and professional courses $\geq 24$ credits: ✓ 1st-level discipline basic courses: 8 credits (compulsory) ✓ 2nd-level discipline basic courses: 4 credits (restricted optional)		✓ Cross 1st-level discipline courses: 2 credits (optional) ✓ Professional course for PhD

		<ul style="list-style-type: none"> <li>✓ Professional courses for postgraduate students: 4 credits (optional)</li> <li>✓ Cross 1st-level discipline courses: 4 credits (optional)</li> <li>✓ Professional course for PhD students: 4 credits (optional)</li> </ul>		students: 4 credits (optional)
		No credit for make-up courses and other optional courses, grades only.		
Research	≥19 credits	Literature review and thesis proposal: 1 credit		Literature review and thesis proposal: 1 credit
		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit
		Dissertation interim progress report: 1 credit		Dissertation interim progress report: 1 credit
		Academic paper publication: 1 credit		Academic paper publication: 1 credit
		Doctoral dissertation: 15 credits		Doctoral dissertation: 15 credits

Remark: Education plan for students with an equivalent education level is in accordance with the education plan for MD-PhD and direct PhD students. Courses exemption will be granted upon finding conformity with the course exemption provision.

## V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on theory and practice of <a href="#">Chinese characteristics</a>	36	2	Spring/Autumn	College of Marxism	
		411.500	Foreign language (English)	32	2	Autumn, Spring	School of foreign languages	
			Optional public courses		1			
		408.810	Chinese Marxism	36	2	Autumn	College of Marxism	Compulsory for PhD

		411.800	English thesis writing	32	2	Autumn	School of foreign languages	students $\geq 4$ credits
1st-level discipline basic courses		510.814	Advances in Immunology	80	5	Autumn	college of Basic Medicine	Restricted optional $\geq 12$ credits (at the postgraduate phase)
		510.804	Advances in medical molecular biology (English Course)	80	4	Autumn	college of Basic Medicine	
		510.803	Advanced Medical Biochemistry (English Course)	80	4	Autumn	college of Basic Medicine	
		510.805	Advanced Medical Genetics	32	2	Autumn	college of Basic Medicine	
		510.807	Advanced Pathophysiology	80	4	Autumn	college of Basic Medicine	
		510.816	Dysfunctions of Receptor and Ion Channels and Diseases	36	2	Autumn	college of Basic Medicine	
		510.508	Basic theory of Neurobiology	32	2	Autumn	college of Basic Medicine	
2nd-level discipline basic courses		510.514	Modern Histochemical Techniques	32	2	Autumn	college of Basic Medicine	
		510.515	Theory of Ion Channels and Patch Clamp (English Course)	32	2	Autumn	college of Basic Medicine	
		510.521	Basic technology and method of Neurobiology	32	2	Autumn	college of Basic Medicine	
		510.525	Lectures of Advances in Neuroscience (First-Class Course)	32	2	Autumn	college of Basic Medicine	
		510.509	Neural Regeneration and Repair ( First-Class Course)	32	2	Autumn	college of Basic Medicine	$\geq 4$ credits
Optional professional courses for postgraduate students		510.510	Advanced Functions of Nervous System (English and First-Class Course)	32	2	Autumn	college of Basic Medicine	
		510.515	Theory of Ion Channels and Patch Clamp	32	2	Autumn	college of Basic	

							Medicine	
		510.537	Skills on Research Design and Scientific Writings	32	2	Autumn	college of Basic Medicine	
	Professional course for PhD students	510.806	Advanced Neurobiology	80	4	Autumn	college of Basic Medicine	≥ 4 credits
	Cross 1st-level discipline courses							Compulsory for PhD students ≥ 2 credits
			Cross 1st-level discipline courses (PhD students may take courses of postgraduate students )					
Non-degree courses	Make-up courses							Compulsory for Non-medical major undergraduates
Research		650.801	Literature review and thesis proposal (PhD)		1		college of Basic Medicine	
		650.802	Participation in international academic conferences or international academic conference held in China, and paper submission (PhD)		1			
		650.803	Dissertation interim progress report (PhD)		1			
		650.804	Academic paper publication (PhD)		1			
		650.805	Doctoral dissertation (PhD)		15			
		650.501	Literature review and thesis proposal (MD)		1			
		650.502	Academic Report in academic conferences (MD)		1			
		650.503	Degree Dissertation (MD)		10			

Remark: please mark the advanced international courses after the course name.

## VI. Specific Requirements for PhD Candidates Education

1.The education mode for PhD students employs the supervisor-responsible system, by



establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the PhD candidates.

## 2. Restriction of Cross 1st-level discipline courses

(1) Cross 1st-level discipline courses refer to the other postgraduate courses in the same level. Students are required to attend class and take the examination of the course.

(2) Cross 1st-level discipline courses selected should be different from the courses completed in the postgraduate phase.

## 3. Dissertation Proposal (1 credit) should include:

- (3) The source and significance of the topic
- (4) Literature review of the research at home and abroad regarding the topic;
- (3) The research content, planned research method and technical skills;
- (4) The anticipated innovative achievements in theoretical and practical aspects;
- (5) Anticipated results;
- (6) References

## 4. Dissertation interim report

PhD candidates are supposed to report to the instruction group or experts the research results of the degree dissertation, and listen to advice and make revision. The dissertation shall not be started before acceptance of the innovative achievements of the research.

## 5. Application for doctoral dissertation defense and qualification review

The supervisor or the instruction group conducts doctoral dissertation qualification review.

Basic requirements of dissertation defense application:

- (1) get all the required credits;
- (2) complete the dissertation proposal;
- (3) complete the dissertation interim report;
- (4) publish the required number of papers in journals;
- (5) complete the dissertation writing;
- (6) pass the experts review both inside or outside the university.

## Educational Plan for Academic Master Student Candidates

Specialty: Genetics

Specialty code: 071007

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Molecular genetics and cytogenetics ;
2. Epigenetics;
3. Recycling endosomal trafficking in epithelia
4. Molecular basis of cancer metastasis
5. miRNA and hematonosis
6. Tissue engineering bladder;
7. Innate immune in inflammation;

### III. Educational Duration

The normative time for full-time master students is 3 years.

### IV. Credits Requirement

Credits for common postgraduate with Master Degree  $\geq 36$ .

Category	Common Master students		
Total credits	$\geq 36$		
Courses credits	$\geq 24$ credits,	Compulsory public courses $\geq 5$ credits: ✓ Study on theory and practice of Chinese characteristics: 2 credits ✓ Dialectics of Nature : 1 credit ✓ Master student foreign language: 2 credits ✓ The field of public elective courses: $\geq 1$ credit ✓ Humanities classes or class or other class of technology: 1credit	
		Discipline basic courses and professional courses $\geq 24$ credits: ✓ 1st-level discipline basic courses: 8 credits (compulsory) ✓ 2nd-level discipline basic courses: 4 credits (restricted optional) ✓ Professional courses for postgraduate students: 4 credits (optional) ✓ Cross 1st-level disciple courses: 2 credits (optional)	✓
		No credit for make-up courses and other optional courses, grades only.	
Research	$\geq 12$ credits	Literature review and thesis proposal: 1 credit	

		To attend public face-to-face academic report: 1 credit		
		Dissertation interim progress report: 1 credit		
		academic dissertation: 10 credits		

## V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on theory and practice of Chinese characteristics	36	2	Spring/Autumn	College of Marxism	
		411.500	Foreign language (English)	32	2	Autumn, Spring	School of foreign languages	
			Humanities classes or class or other class of technology		1			
	1st-level discipline basic courses	510.503	Medical biochemistry (international)	40	2.5	Autumn	college of basic medicine	Compulsory ≥8 credits (at the postgraduate phase)
		510.504	Medical molecular biology (international)	36	2	Autumn	college of basic medicine	
		510.517	Biochemical Experimental technology	40	2.5	Autumn	college of basic medicine	
		510.518	Experimental Techniques of Molecular Biology	40	2.5	Autumn	college of basic medicine	
		510.512	Basic Immunology	36	2	Autumn	college of basic medicine	
	2nd-level discipline basic courses	510.543	Advances in medical genetics (international)	32	2	Autumn	college of basic medicine	Restricted optional ≥ 4 credits (at the postgraduate phase)
		510.514	Modern histochemical techniques	32	2	Autumn	college of basic medicine	
		510.534	molecular immunology	36	2	Spring	college of basic medicine	

		510.506	medical genetics	32	2	Autumn	college of basic medicine	
	Optional professional courses for postgraduate students	510.525	Neuroscience introduction lecture (full English course)	32	2	Autumn	college of basic medicine	≥ 4 credits (at the postgraduate phase)
		510.535	Bioinformatics applications and guidelines	40	2	Spring	college of basic medicine	
		510.513	medical developmental biology	32	2	Autumn	college of basic medicine	
		510.526	Clinical pathophysiology	48	3	Spring	college of basic medicine	
								≥ 4 credits
	Cross 1st-level discipline courses	516.609	Medical information retrieval and utilization of resources	32	2	Autumn	Institute of medicine and health care management	≥ 2 credits
Non-degree courses	Make-up courses	513.500	health statistics	54	3	Autumn	school of public health	Compulsory for Non-xxx major undergraduates
		510.522	Modern pathology techniques	32	2	Autumn	college of basic medicine	
Research		650.501	Literature review and thesis proposal		1			
		650.502	In the academic as a academic report at the meeting		1			
		650.503	academic dissertation		10			

Remark: please mark the advanced international courses after the course name.

## VI. The link with the dissertation

1. Selection topic to the experiment of subject is in the third semester. Topic selection principle is:

- (1) According with the professional direction;
- (2) Agree with mentor research direction; also want to consider the background graduate student;
- (3) Moderate difficulty, can be completed within 1-2 years;

- (4) With Basic research conditions or graduate funds, can finish the work;
- (5) Under the guidance of tutor, can look up literature and formulate the research plan, according to research subject.

According to the research plan, process preparatory experiments; process opening report and literature review report, which organized by teacher. Basis of the above work, recompose research plan.

**2. Completion the experiment, in the third and fourth semester. Requirements are as follows:**

- (1) Regularly report experimental results to the supervisor (or steering group), the instructor (or steering group) need to guide and help to solve problems.
- (2) To report the research progress and own ideas and getting suggesting in order to timely to modify and supplement program.

**3. Dissertation defense, in fifth or sixth semester. Dissertation opened for only with dissertation defense eligible.**

**(1) Basic requirements of dissertation defense application:**

- a. Compulsory public courses and professional basic course assessment/exam eligible according to the rules.
- b. Specialized courses (medical genetics and professional elective courses), professional foreign language written test have passed.
- c. The eligible should finished the genetic counseling practice, exercise Class, medical genetics basic skills, the translation and review articles of evaluation.
- d. Pass the teaching practice.

Graduate students will be canceled or suspended the dissertation if the evaluation of ideology and morality and of medical ethics is unqualified; One or more each content not eligible (including unfinished, fail, or evaluate unqualified).

**(2) Dissertation defense**

Sorting and analyzing the experimental results, refer to the Chinese and foreign literature, put forward its own ideas, writing the first draft, preparing pro-dissertation defense in the teaching and research office and harvest the opinion. Under the guidance of a mentor, modified and complete the dissertation then apply for formal dissertation.

Dissertation work is an important part in systemic training graduate student's independent scientific research ability, so the whole process from select a topic to research should pay attention to comprehensive training of graduate students a variety of ability. Therefore, under the guidance of the mentor or guidance Group, all experimental work and should be dealt with by the graduate student completed. Other teachers and technicians can assist appropriately.

Specialty: Genetics  
 Specialty code: 071007

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Membrane protein trafficking in polarized cells
2. Epigenetics and cellular signal transduction
3. Molecular basis of cancer metastasis

### III. Educational Duration

The normative time for full-time PhD students is 3-5 years. The duration for MD-PhD students is 4-6 years.

### IV. Credits Requirement

Credits for common PhD students with Master degree  $\geq 29$ . Credits for MD-PHD and direct PHD students  $\geq 53$ .

Category	MD-PhD and direct PhD students		Common PhD students	
Total credits	$\geq 53$		$\geq 29$	
Courses credits	$\geq 34$ credits, (including credits for advanced international courses $\geq 4$ )	Compulsory public courses $\geq 9$ credits: ✓ Study on theory and practice of <a href="#">Chinese characteristics</a> : 2 credits ✓ Chinese Marxism: 2 credits ✓ Dialectics of Nature (science/engineering/medical science)/Marxism and social scientific methodology (liberal arts): 1 credit ✓ Foreign language for postgraduate students: 2 credits ✓ English thesis writing: 2 credits Optional public courses $\geq 1$ credit	$\geq 10$ credits (including credits for advanced international courses $\geq 2$ )	Compulsory public courses $\geq 4$ credits: ✓ Chinese Marxism: 2 credits ✓ English thesis writing: 2 credits
		Discipline basic courses and professional courses $\geq 24$ credits: ✓ 1st-level discipline basic courses: 8 credits (compulsory) ✓ 2nd-level discipline basic courses: 4 credits (restricted optional)		✓ Cross 1st-level discipline courses: 2 credits (optional) ✓ Professional course for PhD

		<ul style="list-style-type: none"> <li>✓ Professional courses for postgraduate students: 4 credits (optional)</li> <li>✓ Cross 1st-level discipline courses: 4 credits (optional)</li> <li>✓ Professional course for PhD students: 4 credits (optional)</li> </ul>		students: 4 credits (optional)
		No credit for make-up courses and other optional courses, grades only.		
Research	≥19 credits	Literature review and thesis proposal: 1 credit		Literature review and thesis proposal: 1 credit
		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit
		Dissertation interim progress report: 1 credit		Dissertation interim progress report: 1 credit
		Academic paper publication: 1 credit		Academic paper publication: 1 credit
		Doctoral dissertation: 15 credits		Doctoral dissertation: 15 credits

Remark: Education plan for students with an equivalent education level is in accordance with the education plan for MD-PhD and direct PhD students. Courses exemption will be granted upon finding conformity with the course exemption provision.

## V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on theory and practice of <a href="#">Chinese characteristics</a>	36	2	Spring/Autumn	College of Marxism	
		411.500	Foreign language (English)	32	2	Autumn, Spring	School of foreign languages	
			Optional public courses		1			
		408.810	Chinese Marxism	36	2	Autumn	College of Marxism	Compulsory for PhD

		411.800	English thesis writing	32	2	Autumn	School of foreign languages	students $\geq$ 4 credits
1st-level discipline basic courses		510.503	Medical biochemistry (international)	40	2.5	Autumn	college of basic medicine	Compulsory $\geq$ 8 credits (at the postgraduate phase)
		510.504	Medical molecular biology (international)	36	2	Autumn	college of basic medicine	
		510.517	Biochemical Experimental technology	40	2.5	Autumn	college of basic medicine	
		510.518	Experimental Techniques of Molecular Biology	40	2.5	Autumn	college of basic medicine	
		510.512	Basic Immunology	36	2	Autumn	college of basic medicine	
2nd-level discipline basic courses		510.543	Advances in medical genetics (international)	32	2	Autumn	college of basic medicine	Restricted optional $\geq$ 4 credits (at the postgraduate phase)
		510.514	Modern histochemical techniques	32	2	Autumn	college of basic medicine	
		510.534	molecular immunology	36	2	Spring	college of basic medicine	
		510.506	medical genetics	32	2	Autumn	college of basic medicine	
Optional professional courses for postgraduate students		510.525	Neuroscience introduction lecture (full English course)	32	2	Autumn	college of basic medicine	$\geq$ 4 credits (at the postgraduate phase)
		510.513	medical developmental biology	32	2	Autumn	college of basic medicine	
		510.535	Bioinformatics applications and guidelines	40	2	Spring	college of basic medicine	
		510.526	Clinical pathophysiology	48	3	Spring	college of basic medicine	



	Professional course for PhD students	510.803	Advances in medical biochemistry (international)	80	4	Autumn	college of basic medicine	≥ 4 credits
		510.804	Advances in medical molecular biology (international)	80	4	Autumn	college of basic medicine	
		510.805	Advanced medical genetics	80	5	Autumn	college of basic medicine	
	Cross 1st-level discipline courses							Compulsory for PhD students ≥ 2 credits
		516.609	Medical information retrieval and utilization of resources	32	2	Autumn	Institute of medicine and health care management	
Non-degree courses	Make-up courses	513.500	health statistics	54	3	Autumn	school of public health	Compulsory for Non-medicine major undergraduates
		510.522	Modern pathology techniques	32	2	Autumn	college of basic medicine	
Research		650.801	Literature review and thesis proposal (PhD)		1		college of basic medicine	
		650.802	Participation in international academic conferences or international academic conference held in China, and paper submission (PhD)		1			
		650.803	Dissertation interim progress report (PhD)		1			
		650.804	Academic paper publication (PhD)		1			
		650.805	Doctoral dissertation (PhD)		15			
		650.501	Literature review and thesis proposal (MD)		1			
		650.502	Academic Report in academic conferences (MD)		1			
		650.503	Degree Dissertation (MD)		10			

Remark: please mark the advanced international courses after the course name.

## VI. Specific Requirements for PhD Candidates Education

1.The education mode for PhD students employs the supervisor-responsible system, by establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the PhD candidates.

## 2.Restriction of Cross 1st-level discipline courses

(1)Cross 1st-level discipline courses refer to the other postgraduate courses in the same level. Students are required to attend class and take the examination of the course.

(2)Cross 1st-level discipline courses selected should be different from the courses completed in the postgraduate phase.

## 3.Dissertation Proposal (1 credit) should include:

- (5) The source and significance of the topic
- (6) Literature review of the research at home and abroad regarding the topic;
- (3) The research content, planned research method and technical skills;
- (4) The anticipated innovative achievements in theoretical and practical aspects;
- (5) Anticipated results;
- (6) References

## 4. Dissertation interim report

PhD candidates are supposed to report to the instruction group or experts the research results of the degree dissertation, and listen to advice and make revision. The dissertation shall not be started before acceptance of the innovative achievements of the research.

## 5.Application for doctoral dissertation defense and qualification review

The supervisor or the instruction group conducts doctoral dissertation qualification review.

### Basic requirements of dissertation defense application:

- (1) get all the required credits;
- (2) complete the dissertation proposal;
- (3) complete the dissertation interim report;
- (4) publish the required number of papers in journals;
- (5) complete the dissertation writing;
- (6) pass the experts review both inside or outside the university.

## Educational Plan for Academic MD Candidates

Specialty: Biochemistry and molecular biology

Specialty code: 071010

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Molecular immunology and molecular oncology
2. The molecular mechanism of the pathogenesis of atherosclerosis
3. Disease related gene and protein
4. Cell signal transduction and disease
5. Gene diagnosis and therapy

### III. Educational Duration

The normative time for full-time PhD students is 3-5 years. The duration for MD-PhD students is 4-6 years.

### IV. Credits Requirement

Credits for common PhD students with Master degree  $\geq 29$ . Credits for MD-PHD and direct PHD students  $\geq 53$ .

Category	MD-PhD and direct PhD students		Common PhD students	
Total credits	$\geq 53$		$\geq 29$	
Courses credits	$\geq 34$ credits, (including credits for advanced international courses $\geq 4$ )	Compulsory public courses $\geq 9$ credits:	$\geq 10$ credits (including credits for advanced international courses $\geq 2$ )	Compulsory public courses $\geq 4$ credits:
		<ul style="list-style-type: none"> <li>✓ Study on theory and practice of Chinese characteristics: 2 credits</li> <li>✓ Chinese Marxism: 2 credits</li> <li>✓ Dialectics of Nature (science/engineering/medical science)/Marxism and social scientific methodology (liberal arts): 1 credit</li> <li>✓ Foreign language for postgraduate students: 2 credits</li> <li>✓ English thesis writing: 2 credits</li> </ul> Optional public courses $\geq 1$ credit		<ul style="list-style-type: none"> <li>✓ Chinese Marxism: 2 credits</li> <li>✓ English thesis writing: 2 credits</li> </ul> Cross 1st-level discipline courses: 2
		Discipline basic courses and professional courses $\geq 24$ credits:		
		✓ 1st-level discipline basic		

		courses: 8 credits (compulsory) ✓ 2nd-level discipline basic courses: 4 credits (restricted optional) ✓ Professional courses for postgraduate students: 4 credits (optional) ✓ Cross 1st-level discipline courses: 4 credits (optional) ✓ Professional course for PhD students: 4 credits (optional)		credits (optional) ✓ Professional course for PhD students: 4 credits (optional)
No credit for make-up courses and other optional courses, grades only.				
Research	≥19 credits	Literature review and thesis proposal: 1 credit		Literature review and thesis proposal: 1 credit
		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit
		Dissertation interim progress report: 1 credit		Dissertation interim progress report: 1 credit
		Academic paper publication: 1 credit		Academic paper publication: 1 credit
		Doctoral dissertation: 15 credits		Doctoral dissertation: 15 credits

Remark: Education plan for students with an equivalent education level is in accordance with the education plan for MD-PhD and direct PhD students. Courses exemption will be granted upon finding conformity with the course exemption provision.

## V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on theory and practice of <a href="#">Chinese characteristics</a>	36	2	Spring/Autumn	College of Marxism	
		411.500	Foreign language (English)	32	2	Autumn, Spring	School of foreign	

							languages	
		Optional public courses		1				
	408.810	Chinese Marxism	36	2	Autumn	College of Marxism		Compulsory for PhD students $\geq 4$ credits
	411.800	English thesis writing	32	2	Autumn	School of foreign languages		
1st-level discipline basic courses	xxx	xxx(advanced international courses )				college of xxx		Compulsory $\geq 8$ credits (at the postgraduate phase)
	xxx					college of xxx		
	xxx					college of xxx		
	xxx					college of xxx		
	xxx					college of xxx		
	xxx					college of xxx		
	xxx					college of xxx		
2nd-level discipline basic courses	xxx					college of xxx		Restricted optional $\geq 4$ credits (at the postgraduate phase)
	xxx					college of xxx		
	xxx					college of xxx		
	xxx					college of xxx		
Optional professional courses for postgraduate students	xxx					college of xxx		$\geq 4$ credits (at the postgraduate phase)
	xxx					college of xxx		
	xxx					college of xxx		
	xxx					college of xxx		
Professional course for MD students	510.503	Medical biochemistry	40	2.5	Autumn	basic medical college		$\geq 4$ credits
	510.504	Medical molecular biology	36	2.5	Autumn	basic medical college		
	510.517	Biochemistry experiment	40	2.5	Autumn	basic		

			technology				medical college	
		510.518	Molecular biology experimental technology	40	2.5	Autumn	basic medical college	
	Cross 1st-level discipline courses							Compulsory for PhD students $\geq 2$ credits
Non-degree courses	Make-up courses						college of xxx	Compulsory for Non-xxx major undergraduates
		650.801	Literature review and thesis proposal (PhD)		1			
		650.802	Participation in international academic conferences or international academic conference held in China, and paper submission (PhD)		1			
		650.803	Dissertation interim progress report (PhD)		1		college of xxx	
		650.804	Academic paper publication (PhD)		1			
		650.805	Doctoral dissertation (PhD)		15			
		650.501	Literature review and thesis proposal (MD)		1			
		650.502	Academic Report in academic conferences (MD)		1			
		650.503	Degree Dissertation (MD)		10			

Remark: please mark the advanced international courses after the course name.

## VI. Specific Requirements for PhD Candidates Education

1.The education mode for PhD students employs the supervisor-responsible system, by establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the PhD candidates.

2.Restriction of Cross 1st-level discipline courses

(1)Cross 1st-level discipline courses refer to the other postgraduate courses in the same level. Students are required to attend class and take the examination of the course.

(2)Cross 1st-level discipline courses selected should be different from the courses completed

in the postgraduate phase.

3. Dissertation Proposal (1 credit) should include:

- (7) The source and significance of the topic
- (8) Literature review of the research at home and abroad regarding the topic;
- (3) The research content, planned research method and technical skills;
- (4) The anticipated innovative achievements in theoretical and practical aspects;
- (5) Anticipated results;
- (6) References

4. Dissertation interim report

PhD candidates are supposed to report to the instruction group or experts the research results of the degree dissertation, and listen to advice and make revision. The dissertation shall not be started before acceptance of the innovative achievements of the research.

5. Application for doctoral dissertation defense and qualification review

The supervisor or the instruction group conducts doctoral dissertation qualification review.

Basic requirements of dissertation defense application:

- (1) get all the required credits;
- (2) complete the dissertation proposal;
- (3) complete the dissertation interim report;
- (4) publish the required number of papers in journals;
- (5) complete the dissertation writing;
- (6) pass the experts review both inside or outside the university.

## Educational Plan for Academic PhD Candidates

Specialty: Biochemistry and molecular biology

Specialty code: 071010

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Molecular immunology and molecular oncology
2. The molecular mechanism of the pathogenesis of atherosclerosis
3. Disease related gene and protein
4. Cell signal transduction and disease
5. Gene diagnosis and therapy

### III. Educational Duration

The normative time for full-time PhD students is 3-5 years. The duration for MD-PhD students is 4-6 years.

### IV. Credits Requirement

Credits for common PhD students with Master degree  $\geq 29$ . Credits for MD-PHD and direct PHD students  $\geq 53$ .

Category	MD-PhD and direct PhD students		Common PhD students	
Total credits	$\geq 53$		$\geq 29$	
Courses credits	$\geq 34$ credits, (including credits for advanced international courses $\geq 4$ )	Compulsory public courses $\geq 9$ credits: ✓ Study on theory and practice of <a href="#">Chinese characteristics</a> : 2 credits ✓ Chinese Marxism: 2 credits ✓ Dialectics of Nature (science/engineering/medical science)/Marxism and social scientific methodology (liberal arts): 1 credit ✓ Foreign language for postgraduate students: 2 credits ✓ English thesis writing: 2 credits Optional public courses $\geq 1$ credit	$\geq 10$ credits (including credits for advanced international courses $\geq 2$ )	Compulsory public courses $\geq 4$ credits: ✓ Chinese Marxism: 2 credits ✓ English thesis writing: 2 credits
		Discipline basic courses and professional courses $\geq 24$ credits: ✓ 1st-level discipline basic courses: 8 credits (compulsory) ✓ 2nd-level discipline basic		✓ Cross 1st-level discipline courses: 2 credits (optional)



		courses: 4 credits (restricted optional) ✓ Professional courses for postgraduate students: 4 credits (optional) ✓ Cross 1st-level discipline courses: 4 credits (optional) ✓ Professional course for PhD students: 4 credits (optional)		✓ Professional course for PhD students: 4 credits (optional)
No credit for make-up courses and other optional courses, grades only.				
Research	≥19 credits	Literature review and thesis proposal: 1 credit		Literature review and thesis proposal: 1 credit
		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit
		Dissertation interim progress report: 1 credit		Dissertation interim progress report: 1 credit
		Academic paper publication: 1 credit		Academic paper publication: 1 credit
		Doctoral dissertation: 15 credits		Doctoral dissertation: 15 credits

Remark: Education plan for students with an equivalent education level is in accordance with the education plan for MD-PhD and direct PhD students. Courses exemption will be granted upon finding conformity with the course exemption provision.

## V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on theory and practice of <a href="#">Chinese characteristics</a>	36	2	Spring/Autumn	College of Marxism	
		411.500	Foreign language (English)	32	2	Autumn, Spring	School of foreign languages	
			Optional public courses		1			

		408.810	Chinese Marxism	36	2	Autumn	College of Marxism	Compulsory for PhD students $\geq 4$ credits
		411.800	English thesis writing	32	2	Autumn	School of foreign languages	
	1st-level discipline basic courses							Compulsory $\geq 8$ credits (at the postgraduate phase)
	2nd-level discipline basic courses	xxx					college of xxx	Restricted optional $\geq 4$ credits (at the postgraduate phase)
		xxx					college of xxx	
		xxx					college of xxx	
		xxx					college of xxx	
	Optional professional courses for postgraduate students	xxx					college of xxx	$\geq 4$ credits (at the postgraduate phase)
		510.503	Medical biochemistry	40	2.5	Autumn	basic medical college	
		510.504	Medical molecular biology	36	2.5	Autumn	basic medical college	
		510.517	Biochemistry experiment technology	40	2.5	Autumn	basic medical college	
		510.518	Molecular biology experimental technology	40	2.5	Autumn	basic medical college	
	Professional course for PhD students	510.803	Progress in medical biochemistry(all English courses)	80	4	Autumn	basic medical college	$\geq 8$ credits
		510.804	Progress in medical molecular biology	80	4	Autumn	basic medical college	
	Cross 1st-level discipline courses							Compulsory for PhD students $\geq 2$ credits

Non-degree courses	Make-up courses							Compulsory for Nonmedical major undergraduates
Research		650.801	Literature review and thesis proposal (PhD)		1			
		650.802	Participation in international academic conferences or international academic conference held in China, and paper submission (PhD)		1			
		650.803	Dissertation interim progress report (PhD)		1			
		650.804	Academic paper publication (PhD)		1			
		650.805	Doctoral dissertation (PhD)		15			
		650.501	Literature review and thesis proposal (MD)		1			
		650.502	Academic Report in academic conferences (MD)		1			
		650.503	Doctoral dissertation(MD)		10			

Remark: please mark the advanced international courses after the course name.

## VI. Specific Requirements for PhD Candidates Education

1. The education mode for PhD students employs the supervisor-responsible system, by establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the PhD candidates.

### 2. Restriction of Cross 1st-level discipline courses

(1) Cross 1st-level discipline courses refer to the other postgraduate courses in the same level. Students are required to attend class and take the examination of the course.

(2) Cross 1st-level discipline courses selected should be different from the courses completed in the postgraduate phase.

### 3. Dissertation Proposal (1 credit) should include:

- (9) The source and significance of the topic
- (10) Literature review of the research at home and abroad regarding the topic;
- (3) The research content, planned research method and technical skills;
- (4) The anticipated innovative achievements in theoretical and practical aspects;
- (5) Anticipated results;
- (6) References

#### 4. Dissertation interim report

PhD candidates are supposed to report to the instruction group or experts the research results of the degree dissertation, and listen to advice and make revision. The dissertation shall not be started before acceptance of the innovative achievements of the research.

#### 5. Application for doctoral dissertation defense and qualification review

The supervisor or the instruction group conducts doctoral dissertation qualification review.

Basic requirements of dissertation defense application:

- (1) get all the required credits;
- (2) complete the dissertation proposal;
- (3) complete the dissertation interim report;
- (4) publish the required number of papers in journals;
- (5) complete the dissertation writing;
- (6) pass the experts review both inside or outside the university.

## Educational Plan for Academic MD Candidates

Specialty: Human Anatomy, Histology and Embryology

Specialty code: 100101

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Pathogenesis and treatment of neurodegenerative diseases
2. Neural injury and regeneration
3. Neuroimmune mechanism and treatment of drug abuse
4. Development and diseases
5. Cellular and molecular mechanism of endocrine diseases
6. Cellular biology of tumor

### III. Educational Duration

The normative time for full-time MD students is 3years.

### IV. Credits Requirement

Total credits for common MD students  $\geq 36$ , include credits for degree courses  $\geq 24$  and credits for research  $\geq 12$ .

Total credits	$\geq 36$	
Courses credits	$\geq 24$ credits, (including English teaching courses and credits for advanced international courses $\geq 2$ )	Compulsory public courses $\geq 5$ credits: <ul style="list-style-type: none"> <li>✓ Study on theory and practice of <a href="#">Chinese characteristics</a>: 2 credits</li> <li>✓ Dialectics of Nature (science/engineering/medical science) /Marxism and social scientific methodology (liberal arts): 1 credit</li> <li>✓ Foreign language for postgraduate students: 2 credits</li> </ul> Optional public courses $\geq 1$ credit
		<ul style="list-style-type: none"> <li>✓ 1st-level discipline basic courses: 8 credits (compulsory)</li> <li>✓ 2nd-level discipline basic courses: 4 credits (restricted optional)</li> <li>✓ Professional courses for postgraduate students: 4 credits (optional)</li> <li>✓ Cross 1st-level discipline courses: 4 credits (optional)</li> </ul>
		No credit for make-up courses and other optional courses, grades only.
Research	$\geq 12$ credits	Literature review and thesis proposal: 1 credit
		Academic paper publication: 1 credit
		Master Dissertation: 10 credits

### V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree	Compulsory	408.602	Dialectics of Nature	18	1	Spring/A	College of	Compulsory

courses	public courses					utumn	Marxism	≥ 6 credits (at the postgraduate phase)
		408.601	Study on Theory and Practice of <a href="#">Chinese Characteristics</a>	36	2	Spring/Autumn	College of Marxism	
		411.500	First Foreign Language (English)	32	2	Autumn/Spring	School of Foreign Languages	
			Optional public courses		1			
	Discipline basic courses	510.530	Practical Technology of Cell Biology	36	2	Spring	School of Basic Medicine	≥ 16 credits ( according to the requirements of supervisor )
		510.514	Histochemical and Cytochemical Techniques	32	2	Autumn	School of Basic Medicine	
		510.513	Medical Developmental Biology	32	2	Autumn	School of Basic Medicine	
	Professional course for MD students	516.503	Medical Biochemistry (advanced international courses)	40	2.5	Autumn	School of Basic Medicine	
		510.504	Medical Molecular Biology (advanced international courses)	36	2	Autumn	School of Basic Medicine	
		510.511	Neuropathology (full English teaching courses)	32	2	Autumn	School of Basic Medicine	
		510.519	Neuroanatomy	33	2	Autumn	School of Basic Medicine	
		510.508	Neurobiological Basis	32	2	Autumn	School of Basic Medicine	
		510.515	Theory of Ion Channel and Patch Clamp Technique (full English teaching courses)	32	2	Autumn	School of Basic Medicine	
510.518		Experimental Technique of Molecular Biology	40	2.5	Autumn	School of Basic Medicine		
510.535		Practical Example and Guide of Bioinformatics	40	2	Spring	School of Basic Medicine		
510.516		Experimental Methodology of	36	2	Spring	School of Basic		

			Adenovirus Genetic Engineering				Medicine	
		510.507	Preclinical and Clinical Evaluation of New Drug	16	1	Autumn	School of Basic Medicine	
		513.500	Medical Statistics	54	3	Autumn	School of Public Health	
	Cross 1st-level discipline courses							
Non-degree courses	Make-up courses							According to the requirements of supervisor
	Research	650.501	Literature Review and Thesis Proposal (MD)		1			≥ 12 credits
		650.502	Academic Report in Academic Conferences (MD)		1			
		650.503	Degree Dissertation (MD)		10			

Remark: please mark the advanced international courses after the course name.

#### VI. Research and Degree Dissertation for MD Candidates

1. MD candidates should do literature searching at the first semester of October under the guidance of the supervisor and according to the topic, and should complete the topic selection and thesis proposal at the end of the first semester. MD candidates are assessed comprehensively according to the learning and research at the end of the first year.
2. The education mode for MD students employs the supervisor-responsible system, by establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the MD candidates.
3. The degree dissertation and degree-granting are executed according to the relevant provisions of school.

## Educational Plan for Academic PhD Candidates

Specialty: Human Anatomy, Histology and Embryology

Specialty code: 100101

### I. Objectives

- a. Possess sound professional ethics, strict, diligent, pragmatic and innovative scientific attitude, and possess the ability to undertake independent scientific research;
- b. Have a solid theory foundation and systematic and in-depth professional knowledge;
- c. Make innovative achievements in the specialty field or expertise.

### II. Main Research Fields:

1. Pathogenesis and treatment of neurodegenerative diseases
2. Neural injury and regeneration
3. Neuroimmune mechanism and treatment of drug abuse
4. Development and diseases
5. Cellular and molecular mechanism of endocrine diseases
6. Cellular biology of tumor

### III. Educational Duration

The normative time for full-time PhD students is 3-5 years. The duration for MD-PhD students is 4-6 years.

### IV. Credits Requirement

Credits for common PhD students with Master degree  $\geq 29$ . Credits for MD-PHD and direct PHD students  $\geq 53$ .

Category	MD-PhD and direct PhD students		Common PhD students	
Total credits	$\geq 53$		$\geq 29$	
Courses credits	$\geq 34$ credits, (including credits for advanced international courses $\geq 4$ )	Compulsory public courses $\geq 9$ credits: ✓ Study on theory and practice of Chinese characteristics: 2 credits ✓ Chinese Marxism: 2 credits ✓ Dialectics of Nature (science/engineering/medical science)/Marxism and social scientific methodology (liberal arts): 1 credit ✓ Foreign language for postgraduate students: 2 credits ✓ English thesis writing: 2 credits Optional public courses $\geq 1$ credit	$\geq 10$ credits (including credits for advanced international courses $\geq 2$ )	Compulsory public courses $\geq 4$ credits: ✓ Chinese Marxism: 2 credits ✓ English thesis writing: 2 credits
		Discipline basic courses and professional courses $\geq 24$ credits: ✓ 1st-level discipline basic		✓ Cross 1st-level discipline courses: 2



		courses: 8 credits (compulsory) ✓ 2nd-level discipline basic courses: 4 credits (restricted optional) ✓ Professional courses for postgraduate students: 4 credits (optional) ✓ Cross 1st-level discipline courses: 4 credits (optional) ✓ Professional course for PhD students: 4 credits (optional)		credits (optional) ✓ Professional course for PhD students: 4 credits (optional)
No credit for make-up courses and other optional courses, grades only.				
Research	≥19 credits	Literature review and thesis proposal: 1 credit		Literature review and thesis proposal: 1 credit
		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit		Participation in international academic conferences or international academic conference held in China, and paper submission: 1 credit
		Dissertation interim progress report: 1 credit		Dissertation interim progress report: 1 credit
		Academic paper publication: 1 credit		Academic paper publication: 1 credit
		Doctoral dissertation: 15 credits		Doctoral dissertation: 15 credits

Remark: Education plan for students with an equivalent education level is in accordance with the education plan for MD-PhD and direct PhD students. Courses exemption will be granted upon finding conformity with the course exemption provision.

## V. Courses Curriculum and Credits Allotment

Courses		Course code	Course name	Hours	Credits	Season	Department	Notes
Degree courses	Compulsory public courses	408.602	Dialectics of Nature	18	1	Spring/Autumn	College of Marxism	Compulsory ≥ 6 credits (at the postgraduate phase)
		408.601	Study on Theory and Practice of <a href="#">Chinese Characteristics</a>	36	2	Spring/Autumn	College of Marxism	
		411.500	First Foreign Language (English)	32	2	Autumn/Spring	School of Foreign	

							Languages	
			Optional public courses		1			
		408.810	Chinese Marxism	36	2	Autumn	College of Marxism	Compulsory for PhD students $\geq 4$ credits
		411.800	English Thesis Writing	32	2	Autumn	School of Foreign Languages	
	Discipline basic courses	510.814	Progress in Immunology (advanced international courses)	80	4	Autumn	School of Basic Medicine	
		510.805	Advanced Genetics in Medicine (full English teaching courses)	32	2	Autumn	School of Basic Medicine	
	Professional course for PhD students	510.803	Advanced Biochemistry in Medicine (full English teaching courses)	80	4	Autumn	School of Basic Medicine	$\geq 4$ credits
		510.804	Progress in Medical Molecular Biology (full English teaching courses)	80	4	Autumn	School of Basic Medicine	
		510.806	Advanced Neurobiology	80	4	Autumn	School of Basic Medicine	
	Cross 1st-level discipline courses							Compulsory for PhD students $\geq 2$ credits
Non-degree courses	Make-up courses							
Research		650.801	Literature Review and Thesis Proposal (PhD)		1		School of Basic Medicine	
		650.802	Participation in International Academic Conferences or International Academic Conference Held in China, and Paper Submission (PhD)		1			
		650.803	Dissertation Interim Progress Report (PhD)		1			
		650.804	Academic Paper Publication (PhD)		1			
		650.805	Doctoral Dissertation (PhD)		15			

	650.501	Literature review and thesis proposal (MD)		1			
	650.502	Academic Report in Academic Conferences (MD)		1			
	650.503	Degree Dissertation (MD)		10			

Remark: please mark the advanced international courses after the course name.

## VI. Specific Requirements for PhD Candidates Education

1.The education mode for PhD students employs the supervisor-responsible system, by establishing the supervisor-headed instruction group. The supervisor is responsible for the cultivation and assessment of the PhD candidates.

2.Restriction of Cross 1st-level discipline courses

(1)Cross 1st-level discipline courses refer to the other postgraduate courses in the same level. Students are required to attend class and take the examination of the course.

(2)Cross 1st-level discipline courses selected should be different from the courses completed in the postgraduate phase.

3.Dissertation Proposal (1 credit) should include:

- (1) The source and significance of the topic
- (2) Literature review of the research at home and abroad regarding the topic;
- (3) The research content, planned research method and technical skills;
- (4) The anticipated innovative achievements in theoretical and practical aspects;
- (5) Anticipated results;
- (6) References

4. Dissertation interim report

PhD candidates are supposed to report to the instruction group or experts the research results of the degree dissertation, and listen to advice and make revision. The dissertation shall not be started before acceptance of the innovative achievements of the research.

5.Application for doctoral dissertation defense and qualification review

The supervisor or the instruction group conducts doctoral dissertation qualification review.

Basic requirements of dissertation defense application:

- (1) get all the required credits;
- (2) complete the dissertation proposal;
- (3) complete the dissertation interim report;
- (4) publish the required number of papers in journals;
- (5) complete the dissertation writing;
- (6) pass the experts review both inside or outside the university.