

Doctoral Program in Optical Engineering

1. Introduction

The Optical Engineering discipline at the Nanjing University of Science and Technology was developed from the Artillery Command System major at the PLA Military Engineering Institute that was founded in 1953. In 1986, it was qualified as a doctoral program; in 1998, it was awarded for Post-Doctoral Mobile Station as well as "Yangtze River Scholar" Scheme by the State Education Commission; in 2002, it was established as the key discipline by both the National Defense Division and Jiangsu province; in 2005, it was approved as the national key discipline cultivation base at Jiangsu province; in 2007, it was established as a first-rate national key discipline as well as national defense characteristic discipline; in 2010, it was rated as the Jiangsu province superior discipline; in 2012, it was approved as the key discipline by the Ministry of Industry and Information Technology. In the 2013 national academic evaluation, it was rated as the 8th best national program in its category, elevated from the previous 9th finish, and it was among the top 1% of the ESI international disciplines.

2. Research Directions

- (1) Optoelectronic information detection and image processing
- (2) Optical testing and intelligent optoelectronic instruments
- (3) Laser physics and application technology
- (4) Optoelectronic physics and technology
- (5) Bio-medical photonics
- (6) Micro- and nano-optoelectronic devices and applications
- (7) Optical fiber technology and applications

3. Duration of studies

Full time PhD students are expected to complete their studies and earn their degrees in 4 to 8 years, and they will be disqualified from the program after 8 years.

4. Credits requirements

Students are required to complete at least 18 degree credits from courses in Section 5 with a minimum of 16 coursework credits and 2 obligatory courses.

5. Curriculum Provision

Course No.	Course Name	Semester	Credits
<i>I. Fundamental Courses</i>			4
L371A002	Chinese	Fall	2
L371A003	Introduction to Chinese Classics	Fall	2
<i>II. Core Courses</i>			6+
L113A014	Wavelet Analysis	Fall	3
L113A008	Stochastic Mathematics	Spring	3
L113A010	Matrix Analysis and Computation	Fall	3

B104B001	Principle of Optics	Spring	3
L104B008	Modern Photonics	Spring	3
L104B009	Quantum Optics	Spring	3
III. Major Electives			4+
L104C015	Progresses in Modern Optical Information Technology	Spring	2
L104C016	Progresses in Modern Optical Testing	Spring	2
L104C014	Progresses in Laser Physics	Spring	2
L104C017	Progresses in Optoelectronic Physics Technology	Spring	2
L104C012	Progresses in Micro-and Nano-optoelectronic Devices And Applications	Spring	2
L104C013	Progresses in Biophotonics	Spring	2
IV. Thesis Credits			
L0000003	Dissertation Proposal II	Fall	2
L0000004	Academic Activities II	Spring	
Total Credits Required			18+
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. PhD Dissertation Topic and Research Proposal

PhD dissertation proposal should be no less than 10000 words long and has at least 80 references, half of which must be published in the recent 5 years. A PhD student should choose a research topic for the PhD dissertation and spend no less than 2 years on the dissertation research and writing, all under an advisor's guidance.

Detailed regulations and requirements on PhD dissertation are documented in the "*NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations*". The PhD dissertation research proposal writing and defense should be completed in no later than the second academic year of the program.

7. Publication

To meet the degree requirements, a PhD student is required to have a certain number of academic publications related to the dissertation research. Detailed requirements are documented in "*NUST regulations on a postgraduate's publications of their research work*".

8. PhD Dissertation Requirements

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