



หลักสูตรประกาศนียบัตรฟิสิกส์บัณฑิตศึกษา  
(หลักสูตรนานาชาติ)

Certificate in Graduate Physics  
(International Program)

ศึกษาเพื่อการค้นคว้าขั้นก้าวหน้า  
ศูนย์ฟิสิกส์ทฤษฎีและปรัชญาธรรมชาตินครสวรรค์

พ.ศ. 2566

**Certificate in Graduate Physics  
(International Program B.E. 2566)**

NAS, Centre for Theoretical Physics and Natural Philosophy

**1. Curriculum Name**

**English** Certificate in Graduate Physics (International Program)

**Thai** ประกาศนียบัตรฟิสิกส์บัณฑิตศึกษา (หลักสูตรนานาชาติ)

**2. Names of Qualification and Majors**

2.1 Full Title English: **Certificate in Graduate Physics**

Abbreviation English: **Cert. Grad. Phys.**

Full Title Thai: **ประกาศนียบัตรฟิสิกส์บัณฑิตศึกษา**

Abbreviation Thai: **ไม่มี**

**3. Major Subjects (if any)**

none

**4. Required Credits**

none

**5. Curriculum Characteristics**

5.1 Curriculum type/model: Certificate

5.2 Language: English

5.3 Recruitment: Both Thai and international students

**6. Curriculum Status and Curriculum Approval**

6.1 Program new B.E. 2566

6.2 Starting in semester 1, academic year 2023 onwards

6.3 Approval by NAS faculty meeting on **October 4, 2023** (retroactive validation from 1 August 2023)

**7. Venue for Instruction**

Centre for Theoretical Physics and Natural Philosophy, Mahidol University, Nakhonsawan Campus

**8. Fee:** There is no fee for the qualification. Students, if they wish, may contribute by donation for supporting NAS operation works.

## 9. Curriculum and Graduation Requirements

Students are required to take and receive not lower than B grade in each selected subject for at least 12 credits of NWTP 5xx-level taught courses of Mahidol University's "current" Doctor of Philosophy curriculum in Theoretical Physics and Natural Philosophy.

The certificate is conferred upon a person only once.

The graduation requirement is to be judged by NAS faculty meeting which also has full right to withdraw the qualifications awarded.

### Eleven Courses (PhD 2566) eligible for the certificate

NWTP 511	Classical Dynamics	2 (2-0-4)
NWTP 512	Quantum Mechanics	2 (2-0-4)
NWTP 521	Equilibrium Thermodynamics and Phase Transitions	2 (2-0-4)
NWTP 531	Fluid Dynamics	2 (2-0-4)
NWTP 501	Mathematical Methods of Physics	2 (2-0-4)
NWTP 502	Green's Functions and Propagations	2 (2-0-4)
NWTP 503	Numerical Methods in Physics	2 (2-0-4)
NWTP 513	Classical Electrodynamics	2 (2-0-4)
NWTP 522	Equilibrium Statistical Mechanics and Kinetic Theory	2 (2-0-4)
NWTP 532	Vibrations and Waves	2 (2-0-4)
NWTP 551	Special Relativity	2 (2-0-4)

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(Professor Burin Gumjudpai, Ph.D.)

NAS Acting Director

On behalf of the NAS Faculty Meeting on the 4<sup>th</sup> October 2023