

SCIENCE  
TECHNOLOGY  
ENGINEERING  
MATHEMATICS

# TEACHER EDUCATION IN THAILAND

## AT A GLANCE

POP. TOTAL  
69,040,000

POP. CHILDREN  
0-15 YEARS  
7,100,000

2015 PISA RANK  
FOR SCIENCE  
**55<sup>th</sup>**

## THE CURRICULUM (AGES 13-15 YEARS)

### REVISIONS IN THE LAST 25 YEARS:

- In 2017, MOE have revised the Basic Core Curriculum and IPST was responsible to revise Science Curriculum which more focuses on the integration of STEM disciplines

### IMPLEMENTATION OF THE CURRICULUM

MOE and IPST have run many projects to support teachers' understanding and teaching of STEM and most of the projects are

- Workshop
- Professional Learning Community
- Online training

### FRAMING OF SCIENCE – WHY IS IT IMPORTANT?

- STEM has become priority since the government launched Thailand 4.0.
- Thailand will be a self-inventor country for well-being.

### APPROACHES TO TEACHING

- Most of the approaches suggested to teachers are Engineering Design Process and 5-Es Inquiry.

### TEACHING LEARNING OUTCOMES

21st century skills are the main learning outcomes;

- Creativity
- Critical thinking
- Problem-solving
- Computational thinking

### TEACHER RESOURCES FOR ASSESSMENT

- Teachers are encouraged to use both summative and formative assessment. The framework for assessment is broadly addressed but resources or guidelines for assessment are not provided for the teachers.

### SCIENTIFIC PRACTICES

- Science process skills (focused more on PISA scientific literacy)
- Applying scientific knowledge in daily lives

## STEM/SCIENCE TEACHER EDUCATION

YEARS REQUIRED PRE  
UNIVERSITY

**12**

REQUIREMENTS TO  
BECOME A SCIENCE  
TEACHER

- High school Grade 12 for 5 year program
- 4 year B.Sc. for 2 year master degree program

EDUCATION LENGTH  
(YEARS)

**5 or 2**

### EXAMPLE COURSE

A 5-years B.Ed. program

- General education courses
- Content courses (e.g. General Chemistry)\*
- Pedagogy courses (e.g. Curriculum & Pedagogy)
- PCK courses (e.g. Science Methods course)
- 1-year Internship + Classroom action research

\*Not integrated STEM course

A 2-years M.Ed. Program\*

- 2 Content courses (e.g. Advanced Organic Chemistry)
- PCK courses (e.g. Chemistry Methods course)
- 1-year Internship + Classroom action research

\*More PCK oriented-program

## GOV'T PROMOTION OF STEM

### MINISTRY OF EDUCATION

- STEM education policy is launched by the government which is called 'Thailand 4.0'. Example of this policy is evidenced by the speech of Minister of Education, Thailand to Her Royal Highness Sirindhorn.

"For fifteen years of the Project, Thailand and the United States of America have agreed to alternately host the Roundtables. This time, it is Thailand's turn to host under the topic of "STEM Education: Learning Culture of the 21<sup>st</sup> C Workforce". This is to commemorate the auspicious occasion of Your Royal Highness's 60th Birthday Anniversary, April 2, 2015. Thai people keep waiting cheerfully to celebrate Your Royal Highness's 61st Birthday Anniversary. May Your Royal Highness enjoy the best of health, happiness and prosperity for years to come" (Ratanasuwan, 2016).

- There are so many projects to promote STEM by IPST <http://www.ipst.ac.th/index.php>

