



Title: An introduction to STEM Education best practices and lesson design #3

Instructor: Dr. John Stiles, IPST

Date: 5-6 July 2018

Venue: ASTEP Training Suite, 1st floor, IPST main building

Audience: Teachers of science, technology and mathematics, professors of pre-service teacher courses, and STEM consultants.

Number of Audience: 24 (minimum number of 20 is required)

Evaluation: Participants are encouraged to teach their lesson and provide feedback and they need to submit their assignments within 1 month after the course.

Outcome: Participants will be able to:

1. Identify the features of the STEM engineering design model
2. Develop teaching strategies using the engineering design model
3. Plan a lesson based on best practice inquiry STEM models.
4. Use STEM lessons to develop 21st Century skills

Registration fee: 4,000 Baht

Registration deadline: 29 June 2018

Register here: <https://goo.gl/forms/A1V9fA1843PdQWaH3>

Contact: Academy for Science Mathematics and Technology Education Professionals
Institute for the Promotion of Teaching Science and Technology (IPST)

924 Sukhumvit Road, Phra Khanong Subdistrict, Klong Toei, Bangkok 10110

Tel. 0 2392 4021 ext. 1311 email: choru@ipst.ac.th (Khun Choke Ruangtrakool)

Office hours: 8.30-16.30 Monday to Friday

Summary:

This workshop is an introduction to STEM education lesson design, linked to research-based best practice teaching using inquiry as the approach. Participants in this interactive workshop learn about the research base for using inquiry STEM strategies, participate in modeled lessons, reflect on their learning and teaching in light of inquiry, view and discuss videos of exemplary teachers, and plan their own inquiry-based STEM lesson.

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Tentative Schedule:

Day	Workshop topics
5 July 2018: AM	<ul style="list-style-type: none">- Introductions / Ice breaker activity / What is STEM?- STEM as an evolution of science inquiry- A brief review of 21st Century skills- STEM lesson design using the engineering design model
5 July 2018: PM	<ul style="list-style-type: none">- STEM model lesson- Exemplary inquiry teacher video (HS or ES), link to STEM interdisciplinary features.- Why understanding student misconceptions is important (video and discussion)- John's education web site /Reflections
6 July 2018: AM	<ul style="list-style-type: none">- Review of STEM education and connections between the subject areas- 21st Century skills and STEM- Article review (sent prior to class meeting) / Q & A- STEM lesson descriptions and examples; share resources- Review of the Engineering design process- STEM engineering challenge
6 July 2018: PM	<ul style="list-style-type: none">- Grade level group work: Planning an inquiry STEM lesson- Sharing and critique / Reflections

Note: Workshop schedule is subject to change without prior notice.

During the day, coffee break is served twice ; 10.15-10.30 and 15.00-15.15.

About the Instructor:

Dr. John Stiles

The Institute for the Promotion of Teaching Science and Technology



Dr. John Stiles, a science educator for 45 years, has taught science and pushed for education reform at elementary, middle and high school levels in five countries, and science methods in the U.S. at the undergraduate and graduate levels. Author of numerous articles and book chapters, he has presented workshops and taught classes around the world. As a science consultant, he has worked with hundreds of teachers developing science STEM curricula and research-based best practice strategies. A long time advocate for classroom accessibility, he is a past president of Science Education for Students with Disabilities, and former editor of the SESD journal. Currently, he lives in Bangkok where he is a consultant for IPST, an agency of the Thai Ministry of Education, and editor in chief of IPST's international journal, *K-12 STEM Education*. He received his BA in Biology from Drake University, and MS and PhD in science education from The University of Iowa, USA.



สถาบันส่งเสริมการสอนวิทยาศาสตร์และเทคโนโลยี กระทรวงศึกษาธิการ
924 ถนนสุขุมวิท แขวงพระโขนง เขตคลองเตย กรุงเทพฯ 10110
โทร. 0 2392 4021 โทรสาร 0 2381 0750 <http://www.ipst.ac.th>

Ref. no. 5312/5033

1 June 2018

Dear Director/Headmaster

It is with great pleasure that we invite you and your staff to participate in “An Introduction to STEM Education best practices and lesson design # 3” workshop to be held in Bangkok during July 5th - 6th, 2018.

This workshop is aimed at enhancing learning ability for using research-based inquiry STEM strategies through modeled lessons. This course is particularly designed for teachers of science, technology and mathematics, professors of pre-service teachers and STEM consultants who are passionate about STEM education strategies essential for developing 21st century skills. This unique 2 day program will provide an important bridge to practical application in everyday life.

As space is limited, your confirmation of attendance and payment of THB 4,000 for workshop fee will be greatly appreciated. Please go to register at goo.gl/forms/A1V9fA1843PdQWaH3 and email the fee transferring evidence to choru@ipst.ac.th by 25th June 2018. A draft agenda can be found at bit.ly/2INrtmQ. If you have any questions about the workshop, please feel free to contact Mr. Choke Ruangtrakool at choru@ipst.ac.th.

I very much look forward to hearing from you and hope that you would be willing to accept our invitation to this very important event.

Sincerely,

K. Pollakrit

Assistant Professor Pollakrit Kritmaitree, Ph.D.
Senior Professional Expert
for Professor Dr. Sukit Limpijumnong, President

Enclosure: Workshop details and agenda