EDU

STEAM

Power Your Skill - STEAM Up

Stay Online

From April 22nd, 2020

COURSE NAME

Power Your Skill-STEAM Up

12 Hours

April 22th ~ June 1st

1 Hour * 2 days * 6 weeks

Who can participate:

◆ K12 teachers, school

staffs, school managers.

◆ STEAM Distributors

◆ Individual Educators

Teachers:

◆ Taiwan STEAM and CT Experts

WHAT IS STEAM?

STEAM is an educational approach to learning that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking.
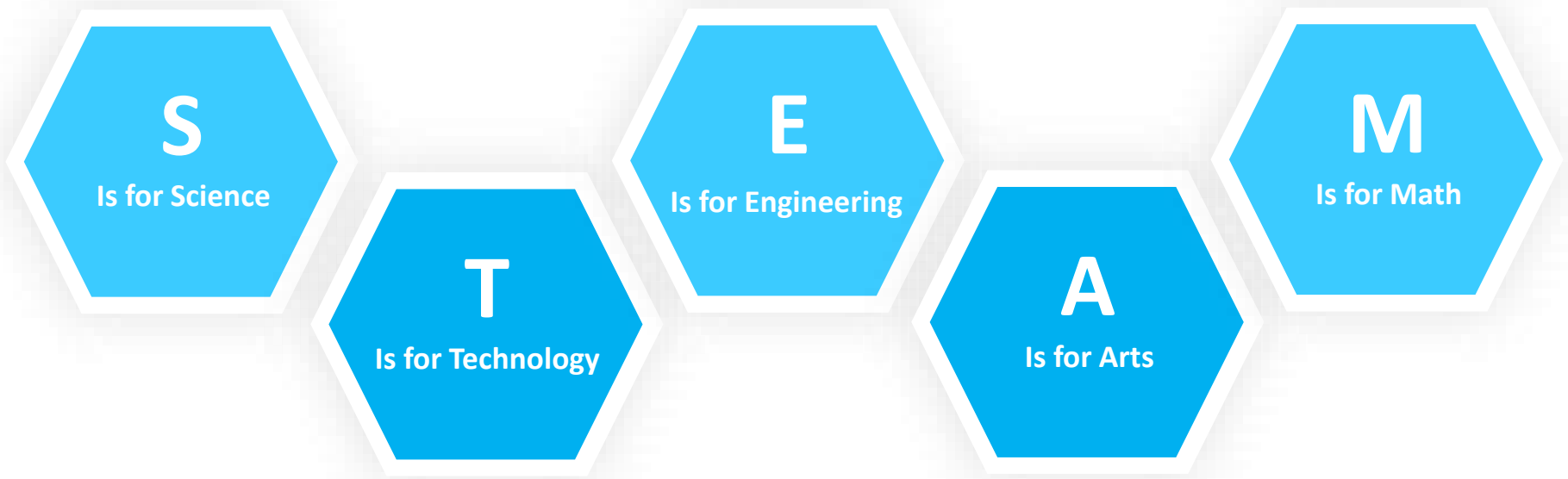
"Susan Riley"

WHAT IS CT?

Computational thinking (CT) allows us to take a complex problem, understand what the problem is and develop possible solutions. We can then present these solutions in a way that a computer, a human, or both, can understand.

"BBC"

WHAT IS STEAM?

S Is for Science

T Is for Technology

E Is for Engineering

A Is for Arts

M Is for Math

Naturally building skills

Naturally building theories
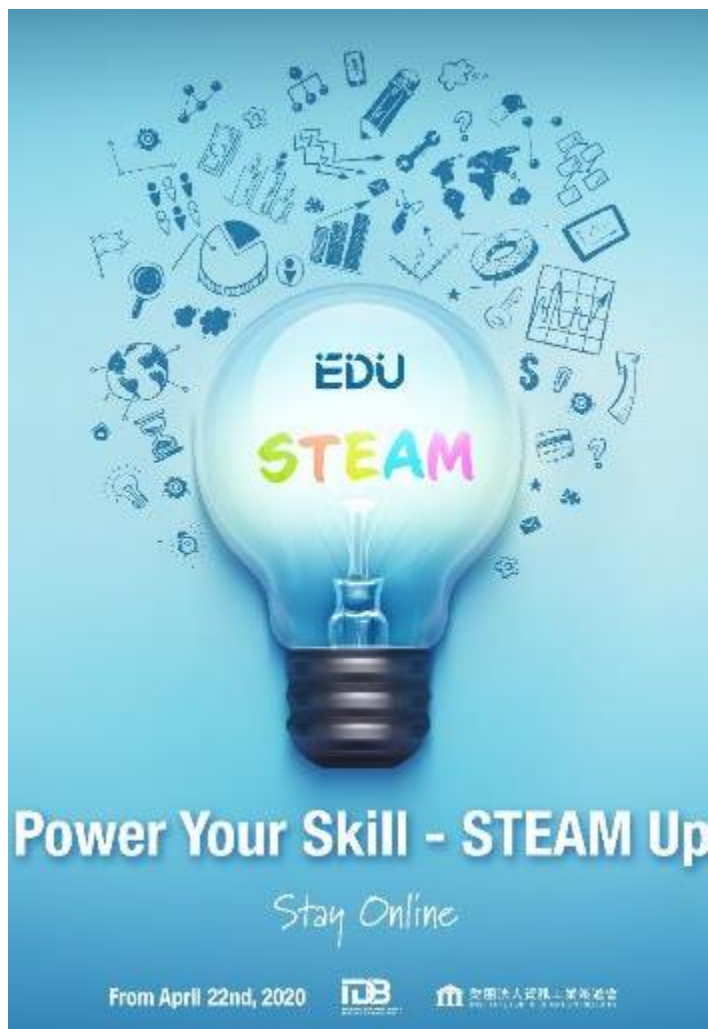
HOW WE CAN SUPPORT STEAM LEARNING

Speaking the language

Problem solving

Math concepts

Creativity

Individualizing Instruction

6 STEPS

01 FOCUS

04 APPLICATION

02 DETAIL

05 PRESENTATION

03 DISCOVERY

06 LINK

TO CREATE STEAM CENTERED CLASSROOM
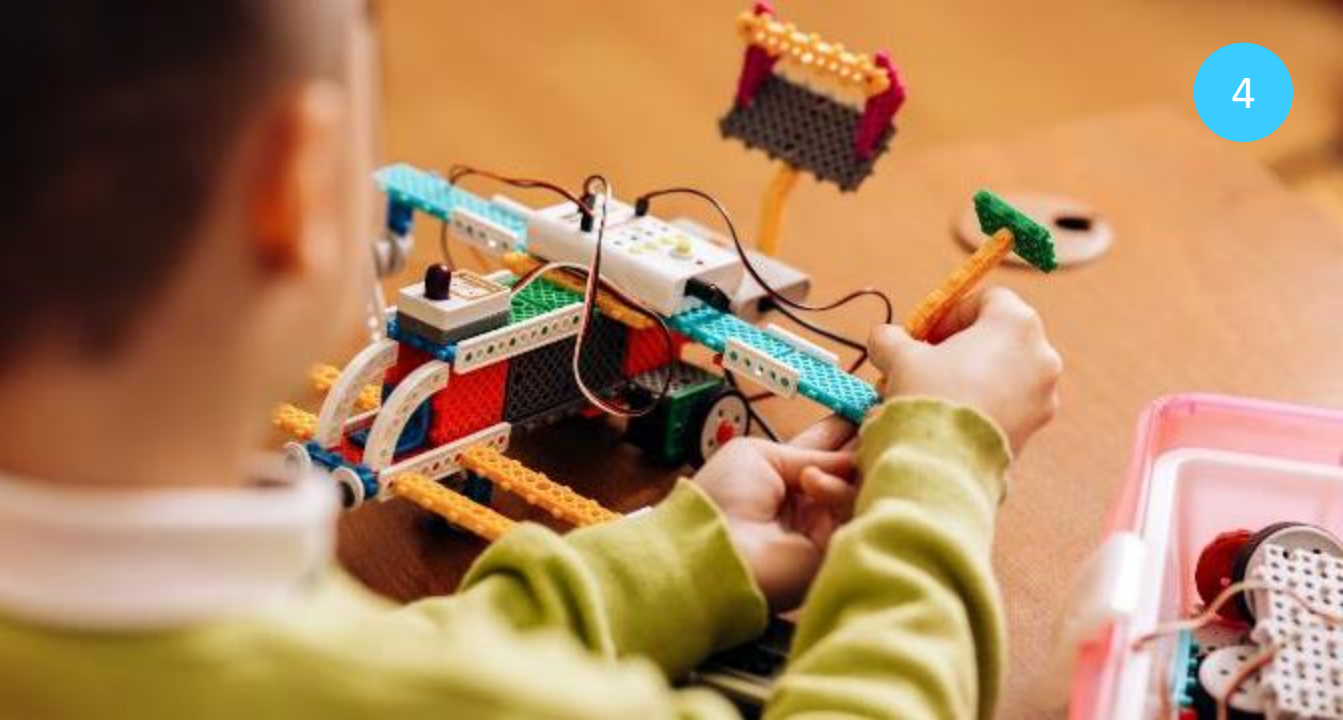
INTRODUCTION TO STEAM PROGRAM
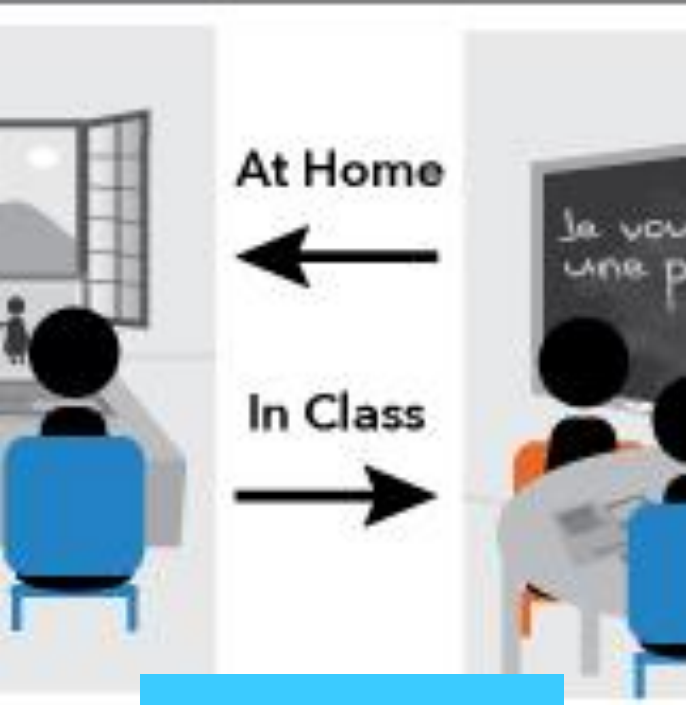
In this course you will learn:

01 Introduction to STEAM framework, theory and program.

02 Integrate STEAM into your teaching: you will get advice from experts about how it works, how it affects you, your school and your community.

COURSE METHOD

Live Broadcasting

◆ 2 in 1 Instructor and Facilitator

◆ International Webinar

◆ Real-time Q&A

Edutainment Program

◆ Rundown Design

◆ Online Teaching Assistant

◆ Variety Topics

Hands-on Practice

◆ Computational Thinking

◆ Assessment & Discussion

◆ Real Cases Practices

International Certificate

COURSE OVERVIEW

01 Designed to STEAM explores the natural connections between Science, Technology, Engineering, the Arts, and Mathematics.

02 Amid the outbreak of COVID-19, how can we fight the virus using STEAM education and computational thinking?

03 Join our course consisted of 10 different lessons, including DIY, science, technology, and many more. Learn how to implement STEAM and computational thinking into your classroom. Our course is suitable for K12 Teachers, School Staffs, School Managers, STEAM Distributors & Individual Educators.

Science

Technology

Engineering

Arts

Math

COURSE OUTLINE

No.	Date	Topic	Title	Course Description	STEAM Skill & CT Core Competence	Hour
1	4/22 (Wed)	Course Orientation	Global STEAM Program Launching Ceremony	We would like to welcome you to enter the world of STEAM education! During the COVID-19 outbreak, you can stay at home and keep up to all the trends about STEAM and explore computational thinking without going out. You will be certified with our International E-Certificate once you finish the course. Don't miss out this great opportunity!	STEAM, Computational Thinking, Future Literacy	1 Hr
2	4/27 (Mon)	**Topic 1:** Stay Home for Aesthetic Education	**1-1** Finding Inspiration from the Macro Virus World	Have you ever taken a close look at the virus? Everything in our world has its own color and appearance. In this course, Petite Mode Studio will introduce you to the macro virus world and allow you to inspire your creativity. This lesson will combine computing thinking and aesthetic education! Let's discover the fun of design in the beautiful macro virus world.	STEAM, Computational Thinking, Design, Art	1 Hr
3	4/29 (Wed)		**1-2** Bubble Ninja gives you the power to fight the virus.	It is crucial to learn how to correctly wash your hands and maintain positive energy during this pandemic. Allow us to introduce you "The Bubble Ninja"! Bubble Ninja likes to wash his hands and has super power to fight the virus! Decorate Bubble Ninja's super-hero outfit with your creativity and imagination.	IoT, Programming, Sensor, Arduino, Computational Thinking	1 Hr

No.	Date	Topic	Title	Course Description	STEAM Skill & CT Core Competence	Hour
4	5/4 (Mon)	**Topic 2:** Keep Learning during Social Distance	**2-1** Cloud Based IoT Learning Part.1	**Part 1: Basics on Webduino bit and cloud control.** Webduino bit = Web x Arduino x Micro bit. This course will explain the basic concepts of IoT by using simple graphic objects on the Webduino platform. Have fun by easily stacking up different function modules and create your very own computer to complete designated tasks such as cloud controlling, big data gathering, and IoT implementation.	E-Learning, Computational Thinking, IoT, Arduino, Micro bit	1 Hr
5	5/6 (Wed)		**2-2** Cloud Based IoT Learning Part.2	**Part 2: LINE messaging app, big data collection and hands-on demonstration.** "Webduino bit = Web x Arduino X Micro bit" Use Webduino bit to easily begin the first step into IoT! Use the graphical online program editing tool from **Part 1** to explore AI and collect big data. Teachers can easily guide their students to design their own games, cloud controlling and help them develop computational thinking.	E-Learning, Computational Thinking, IoT, Arduino, Micro bit, AI, Big Data	1 Hr

No.	Date	Topic	Title	Course Description	STEAM Skill & CT Core Competence	Hour
6	5/11 (Mon)	**Topic 3:** Protect Yourself from Virus Disease	**3-1** 3D Printing your Protective Face Shield	Feeling un-safe only wearing face masks? Print out your own face shield using 3D Printing technology. These extra-precautions are just the right thing you need to give yourself a little more physical protection from the virus.	3D Printing, Maker	1 Hr
7	5/13 (Wed)		**3-2** Non-Programmable Robotic Hand Sanitizer	COVID-19 has increased interest in robots, drones, and artificial intelligence. We don't know the long-term effects yet, but here are some DIY tech ideas on how robotics is addressing the challenges posed by the pandemic. Let's fight COVID-19 together starting from making a household robotic hand sanitizer!	Robotic, Maker, Sensor	1 Hr

No.	Date	Topic	Title	Course Description	STEAM Skill & CT Core Competence	Hour
8	5/18 (Mon)	**Topic 4:** Making Connections to The World	**4-1** DIY an autonomous vehicle to Deliver Food to You	Are you worried about close contact with other people during this quarantine period? Do you want to know how an autonomous vehicle can help deliver food to patients in the hospital? Or to send important necessities to your family members? Let's learn together to DIY an autonomous vehicle to help reduce the risk of close contact and maintain a safe distance with other people.	Robotic, AI, Remote Control	1 Hr
9	5/20 (Wed)		**4-2** Keep Learning When You Are Quarantined at Home	As long as you have an electronic device and internet access, you can easily explore online teaching resources everywhere. In this lesson you can discover important tools for designing and developing STEAM courses whether it is for self-learning or teaching.	International Online Learning Resources	1 Hr

No.	Date	Topic	Title	Course Description	STEAM Skill & CT Core Competence	Hour
10	5/25 (Mon)	**Topic 5:** Support Frontier by Creative Thinking	**5-1** SCRATCH your creativity!	This lesson will allow you to explore the programming language easily and quickly by using the popular MIT Scratch 3.0 Programming Software, Scratch Video Sensing and also Cloud Translation targeted for elementary and middle school students. Learn how to program your own interactive stories, games, and animations and share your creation with the community.	Programming, Scratch	1 Hr
11	5/27 (Wed)		**5-2** Motivational LED Display Board for COVID-19 Fighters!	Do you have family members or close friends that are working at the front line? You can make your own LED display board to convey your messages to encourage them to stay strong during the pandemic crisis. This lesson will teach you the principles of computational thinking, programming and combining multi-language cloud translation, to deliver your encouragement to the remote LED display board, and cheer for the workers at the front line.	LED, Arduino, Coding, Computational Thinking	1 Hr
12	6/1 (Mon)	Showcase & Evaluation	Showcase What You Have Learned	Learners may showcase their learning achievement in various forms such as: Presentations, Photos, Videos, Oral Presentation, Reflection Sharing or in your own individual ways. Afterwards, our instructors will give some notes and feedbacks to you. Take a group picture with your fellow online students to share the memories and receive an International graduate e-certificate once you meet the qualification. We thank you for your time and hope you have learned valuable knowledge from us to implement at your own institutions. Once again, congratulations and see you in the world of STEAM education!	STEAM, Computational Thinking, Global Certificate	1 Hr

COURSE TOOL-- CORELAB

Simple   Interactive   Real Time

◆ Individual session for each class & marked by class dates.

◆ Class materials:
  - ✓ Class materials including lecturers' presentation file, hands-on instruction and supplementary document.
  - ✓ Video clips and comment board

| Pop-up quiz | Practice |

Corelab

HOW TO GET COURSE CERTIFICATE

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Pass standard

This 12 hours course includes Orientation, 5 major topics in 10 lessons and Showcase. Participants are required to complete more than 10 Lesson of this course to get your e-certificate.

Deadline

June 8th

HOW TO CONFIRM THE UNIT IS FINISHED

If you **read the course material, play the video, finish the pop quiz (correct answer),** you can see a check mark.

Register for the webinar

Don't miss this great opportunity to learn virtually and gain some insane knowledge in the comfort of your working from home setup.

Limited Registration