

# MIT pK-12 Learning Grant 2018

## Summary and Background

### Summary:

This summer, MIT's Office of Digital Learning and pK-12 Action Group will again be collaborating with the Chinese International School (CIS) in Hong Kong to present the MIT STEAM Camp. Held on the CIS campus, the two-week camp will be open to both CIS and non-CIS students in between the ages of 10 and 14. Educators from the surrounding Hong Kong area will also be able to both participate in the camp's activities and learn from professional development sessions facilitated by MIT's faculty, students, and staff.

In meeting the goal of bringing opportunities to the greater MIT K-12 community, the pK-12 Action Group is calling out for activities surrounding the camp's theme of ***Into The Water*** for both the younger and older attending students. Grants will be awarded to applicants for the development of curriculum and project materials that can be used at the summer camp.

### Background:

Established as a result of the 2014 Institute-wide [Task Force Report on the Future of MIT Education](#), the pK-12 Action Group brings MIT's unique "Mens et Manus," hands-on and minds-on, learning approach beyond the campus to pre-Kindergarten through grade 12 (pK-12) learners and educators around the world. The Action Group builds upon existing campus efforts and develops new ones, engaging MIT faculty, staff, students, and researchers. Learn more at the pK-12 Action Group website, [pk12.mit.edu](http://pk12.mit.edu).

### About the Chinese International School:

Since its founding in 1983 as Hong Kong's first school teaching an international curriculum in English and Mandarin, CIS has continually sought to lead and innovate in its approach to education. The MIT STEAM Camp is an outgrowth of CIS's "Connected Learning" program, which launched in 2015 to give CIS students the opportunity outside of the classroom to pursue and extend their interests in various areas of the sciences, technology, media, the arts, service and entrepreneurship. This will be the second year of the program.

## Program Description and Purpose

The MIT STEAM camp brings the MIT's *Mens et Manus* approach to learning to children and educators from CIS and other local schools. Students will work together, designing and building innovative projects that they can share with their communities and families in Hong Kong. During the camp, they will engage in hands-on activities and explore the use of digital technologies and tools (such as Scratch, App Inventor, and others) that promote creativity, invention, and collaboration. Drawing inspiration from the [UN Sustainable Development Goals](#), the central theme of this year's program is *Into The Water*, and students will receive enrichment in three ways:

1. Curated modules from MIT can cover key principles in subjects such as art, biology, mathematics, physics, chemistry, mechanical engineering, and programming among others.
2. Students will work with facilitators from MIT along with mentors from CIS who will help them with their projects.
3. The two-week camp will culminate with a community-wide open house that will give students the opportunity to share what they learned, from the formulation of ideas to the design, iteration, and construction of projects.

This program will also be a vehicle for hands-on educator professional development for both CIS and non-CIS educators who will work alongside MIT staff to both develop and facilitate camp activities. During the module development process, interested Hong Kong educators will collaborate remotely with grant awardees to lend insight about the region's educational standards and culture. The MIT facilitators who will be traveling during the summer for the camp will also run educator education workshops both before the camp takes place as well as during the half-day student camp. The goal is to allow Hong Kong-based educators to learn from the MIT community, while they also provide their own expertise about local learning conditions and areas of interest.

Functioning as a continuing pilot for future programming, the purpose of this camp is not only to serve as an excellent summer program for the children in the Hong Kong area, but also to offer greater opportunities for those in our MIT outreach community to work and have influence in new areas. We aim to bring both content and individuals abroad to demonstrate and educate about how MIT is expanding STEAM (science, technology, engineering, arts, and mathematics) learning experiences for K-12 students and learners of all ages.

## Dates

The program will take place this upcoming Summer 2018. The expected timeline for this program is:

December 22, 2017	Requests for Proposals Released
January 15-19, 2018	Applicant "Office Hours"
January 31, 2018	RFP Applications Due
February 2018	Projects Awardees Announced
March 2018	Project Content Developed with HK Educators and MIT Facilitators
April/May 2018	Camp Content Finalized and Playtested
May/June 2018	Camp Content Available to All Participating Educators
July 30 -August 10, 2018	Camp Takes Place at CIS, Hong Kong

## Request for Proposals

As stated above, the pK-12 Action Group is seeking programming surrounding the camp's theme of ***Into The Water*** for 10-14 year old students. Submissions must include a description of a complete module that includes both a lesson and an activity (2.5 hours cumulative time with a short break in between). Modules should be interactive and hands-on, with content relevant to the theme of ***Into The Water*** (example topics can include, but are not limited to, microbiology, underwater photography, climate change, fluid dynamics, and material sciences). Each module must be designed to accommodate two separate age groups (10-12 year olds and 13-14 year olds will be in different classrooms) with the potential to scale up to 50 participants each. These modules will take place during the first week of the program, leading up to week two where students will design and develop their own projects around challenges related to water around Hong Kong.

As part of the camp, MIT will be providing educator professional development opportunities for participating educators in Hong Kong. Please include a detailed educator education lesson and/or activity that will accompany your module, highlighting both the pedagogical approach and ways educators can integrate these activities into their regular school year curriculum.

Ideally, we would like to invite members of the MIT K-12 community to participate as facilitators at the camp, leading the lesson and educator professional development opportunities. These individuals may include MIT employees or students (both undergrad and graduate). Please indicate your availability to staff the CIS camp during July and August in your application. Spots are limited and dependent on availability. Staff availability will not determine accepted proposals, and modules can be led by other MIT affiliates.

## Awards

Up to \$50,000 in funding will be split among accepted modules. The pK-12 Action Group program anticipates accepting up to 4 proposals. Funding for this grant program is based on the expectation that the results of the projects will be made openly available via either open source or a Creative Commons license.

## Application Details

Ideal proposal details will include:

**Module description:** a full description of the module including the topic's lesson and activity, how it will differ for the younger and older age groups, and a write-up of intended learning goals for the students and thoughts about how to determine the success of the module (clarity about assessment welcomed). Proposals that make connections to MIT research will be given greater attention.

**Educator professional development:** a layout of the module's related session for participating educators along with the intended learning goals for educators to bring back to their own classrooms. Proposals that make connections to the latest drafts of the [Hong Kong STEM Curriculum Guides](#) will be given greater attention.

**Why is this relevant?:** an explanation to justify both why your proposal is uniquely appropriate for this program and why it is important for the pK-12 Action Group to sponsor it.

**Biographical profiles of team:** a list of the staff that are developing the module along with potential travel availability.

**Itemized budget and narrative:** a spreadsheet of development costs and the materials and supplies needed for the week along with a justification for all listed.

## Evaluation Criteria

A committee of faculty and staff affiliated with the MIT pK-12 Action Group will evaluate and consider the proposals based on the following criteria:

- Potential to significantly improve students' understanding of STEAM-based education
- Considerations for how lessons can be used in classrooms with limited resources
- Originality of ideas and approaches
- Clarity of module design, learning goals, and proposal
- Feasibility of resources to be sufficient for module implementation
- Expectations for measuring success for both immediate outcomes and long-term impact

After the review, the committee may request additional information or modifications to the proposal before funding decisions are made. All decisions by the committee are final.

## Who Can Apply

All MIT programs, faculty, students and staff are encouraged to apply.

## How To Apply

All MIT programs, faculty, students and staff are encouraged to apply. Proposals should be submitted at [mitpk12.submittable.com](http://mitpk12.submittable.com) by January 31, 2018 by 5:00 pm. Office hours will be held between January 15-19, 2018 in the Office of Open Learning (Building NE49, 600 Technology Square, Cambridge) for applicants to ask questions, discuss project ideas, and provide any clarification before submitting their proposals. Reserve a spot at [mitpk12.youcanbook.me](http://mitpk12.youcanbook.me). Applicants and awardees will be notified of the results by February 2018. Please contact [pk12-rfp@mit.edu](mailto:pk12-rfp@mit.edu) with any questions.