



D-Lab



## D-LAB/MIT-BRAZIL EDUCATION & LEARNING PROJECT: SUMMER 2018

Partner: [Ensina Brasil](#)

Name of the Project: MIT Brazil - Teaching Lab in Public Schools

Area: STEM Teaching

**Duration / Location (if students decide to do fieldwork/ implement project during summer in Brazil):** 9 weeks: 6 weeks at Aracajú/SE (Sergipe) (workshops) + 3 weeks at Campo Grande/MS (Mato Grosso do Sul) (co-teaching). All costs are covered by the MISTI MIT-Brazil Program. This project is a great opportunity to have a real sense of Brazil, its beauty, and its contradictions.

---

### About MIT-Brazil and GTL

The MIT-Brazil Program connects MIT students and faculty with industry, research, and teaching partners in Brazil to develop innovative solutions to shared challenges through activities such as internships, teaching labs, startup labs and seed fund grants.

The Global Teaching Lab (GTL) is an experiential teaching program that offers a unique opportunity for MIT students to learn by teaching and share MIT's "mens et manus" approach with Brazilian students through STEM and entrepreneurship workshops. MIT students work with Brazilian high or middle school hosts for 3-4 weeks in January or in July/August, **mostly in private institutions.**

Students adapt material from online MIT resources like MITx and OpenCourseWare (OCW) to deliver tailored STEM workshops that complement a host school's curriculum.

### Partner Description

[Ensina Brasil](#) is part of the [Teach for All Network](#). It aims to develop the leadership capacity of its participants, alumni, and students to transform Brazil's education system and expand opportunities for every child in Brazil. Ensina Brasil recruits and develops outstanding graduates and professionals with diverse academic backgrounds to commit two years to teach in high need schools and communities. The selected teachers are called 'Ensinas.'

## Project Description and Goals

The MIT-Brazil GTL Program has worked mainly with private organizations in the past 3 years. There are some experiences that have involved public school students, but the program wants to expand its range to the communities that are in most need. In this way, MIT-Brazil Program found Ensina Brazil as a viable entrance to public schools, once their teachers worked exclusively for schools with low socioeconomic context. This pilot program will help GTL expand to these communities and, later, help other Brazilian organizations that work with public schools replicate the experience.

Moreover, the Brazilian Common Core Curriculum (BNCC) was just released, and, if there were not good materials before to follow the entire different curriculums from municipal and state level, only now they will start to develop materials for the BNCC abilities. **Thus, we need help from D-Lab students for two challenges in this project:**

1. How to create lesson plans, and all the support materials, to address competencies from STEM-related BNCC subjects (math, physics, biology, science and chemistry), using innovative methodologies of teaching (“Mens et Manus,” Creative Learning, Project Based, Inquiry Based, etc.) to have high levels of Brazilian student engagement and learning in a unit of 2 months?
2. What is the best place to publicize these lesson plans (and all the support materials) in order for any Brazilian teacher easily access, replicate, or “hack” the part(s) part she/he wants and needs?

Specific project goals are:

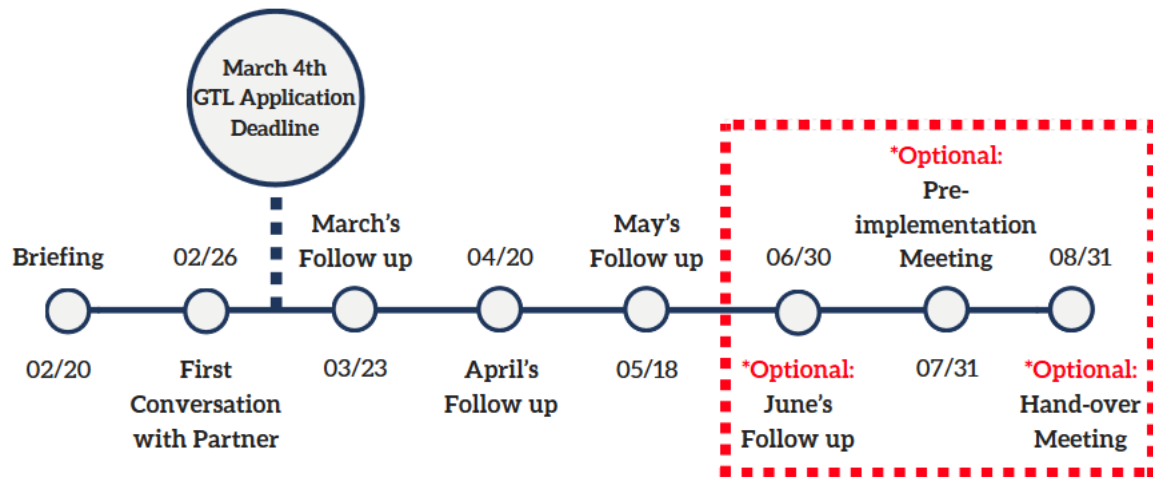
- To benchmark and organize the variety of MIT initiatives (and out there) that exist within the topic you choose to create the lesson plan;
- To elaborate creative lesson plans and support materials for a unit of 2 months (8 weeks<sup>1</sup>), defining ILOs (Intended Learning Outcomes) and their relationship with the Brazilian curriculum. The first three weeks should be more detailed because it will be implemented by an MIT student during the Global Teaching Lab in Summer. We suggest a lesson topic from the 1st or 2nd year high school Physics or 7th or 8th grade Math Brazilian curriculum, because our Partner Coordinator is a Brazilian public school teacher that will implement it in co-teaching with GTL MIT Student. *\*For 1st and 2nd years high school Physics, we have 2 classes per week. For 7th grade Math, we have 4 classes per week. For 8th grade Math, we have 6 classes per week;*
- To create evaluation rubrics to measure conceptual and applied student learning and engagement with pre- and post-evaluation by the end of the 3 weeks and again by the end of 8 weeks;
- To define the materials list necessary to implement the lesson plans;
- To benchmark best practices and collaborate with Webmaster’s Client to define the best model for a repository so that any Brazilian teacher easily access and replicate the lesson plan and materials created in D-Lab Education & Learning Course;

---

<sup>1</sup> The optional meetings are opportunities for D-Lab students that will not go to GTL in Brazil but want to follow the project through its implementation.

- To validate the lesson plans, and the support materials, with our partner; and
- To contribute to the implementation, analysis, and organization of lessons plans and their support materials in order to put them in a format that allows their replication by any other Brazilian teacher and to start a repository of validated and tested materials

## D-Lab Students Calendar with Partner



## Project Implementation

In the D-Lab Education & Learning Course, students will help solve the challenges for the MIT-Brazil Teaching Lab. Once D-Lab students have already produced lesson plans and their support materials, we believe that they are ideal people to implement the lesson plans in Brazil. So, we are offering this “teaching lab / internship” opportunity first to D-Lab students that want to embrace this challenge and, in parallel, we are also recruiting other MIT students interested in joining the program.

During the MIT-Brazil Teaching Lab, student(s) will travel to two regions of Brazil and will get to experience firsthand the diversity and cultural wealth of the country. We will cover all costs: airfares, visa, health insurance, vaccines, domestic transportation, food, housing, stipend for basic living expenses and the materials for the lessons and workshops. The skills that we are looking for are:

- If the MIT student is not from D-Lab Education & Learning Course, we need high level of commitment and collaboration with D-Lab students to validate the teaching methodology
- Presentation and facilitation skills
- Student learning analysis and documentation skills
- Portuguese is NOT required for most placements, but beginner Portuguese ability is valued
- GPA of 4.0 or better required
- Teaching experience is not required, but the ability to teach will be evaluated
- Strong interest in education

If the selected MIT students are not from D-Lab Education & Learning, they will co-create and keep up with the D-Lab students' materials validation. After that, they will go to Brazil for 6 weeks to participate in workshops implementation in Aracaju/SE and then 3 weeks implementation of the lesson plans in co-teaching with our partner.

D-Lab students that do not want to be part of the implementation will have the opportunity to participate in the optional meetings after the Education & Learning Course to contribute and see how all the ideas and materials will be implemented and participate in the analysis and documentation that will go into a "platform" where any Brazilian teacher can have open access to replicate or "hack" the experience.

### Implementation Calendar

JUNE						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Aracajú/SE

Campo Grande/MS