

ACM 2021-2022 Student Chapter Excellence Awards Application

For Application Guidelines, see <https://www.acm.org/chapters/student-chapter-excellence-awards>

Award Category: Outstanding Community Service

Chapter Name: *

Universidad Panamericana ACM-W Student Chapter (185976) ▼

City: *

Mexico City

State/Province:

Mexico City

Country: *

Mexico ▼

Outstanding Community Service: Chapter Contact Information

Please provide all required information

URL for your Chapter homepage: *

For example, <https://www.acm.org>

<https://www.upacmw.com/>

Facebook:

@upacmw (<https://www.facebook.com/upacmw>)

Who is submitting this application? *

Enter Submitter's name

Estefanía Botello Ramírez

Submitter's Email: *

Enter Submitter's email

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Faculty Sponsor Name: *

María de Lourdes Martínez

Faculty Sponsor Email: *

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Outstanding Community Service: Chapter Achievements

Provide brief descriptions as requested, and stay within the character limit for each

Please provide a brief description of your chapter and school (1500 character maximum) *

Universidad Panamericana (UP), Mexico City (www.up.edu.mx/en)

UP was founded in 1967 as a business school. As a university, it now has 4 campuses with more than 12 thousand students. The first campus in Mexico City was established in 1968.

Almost 41 years after its foundation, the Engineering School of UP in Mexico City campus offers 6 undergraduate programs and 11 graduate programs. There are currently 1212 students enrolled in them, from which only 33% are women.

UP ACM-W Student Chapter members are female Engineering students of UP in Mexico City campus. Consolidated on September 14th, 2020, it became the first ACM-W student chapter in Mexico and Latinamerica. This has been a challenge that entails a lot of work and responsibility, but that we have enjoyed with great pride.

Our mission is to diffuse, celebrate and support the participation of UP women in Science, Computing and Engineering through opportunities that enrich their academic and professional careers, as well as their personal growth. Our vision is to use our enthusiasm for these areas to build an exemplary community for women by providing a space for learning, growth, expression and exchange.

Today UP ACM-W Student Chapter has 45 active members involved in more than 8 projects and 4 multidisciplinary teams. Having reached more than 70 female students with our events and social media, UP ACM-W is known by 33% of all female students (411) in the Engineering School of UP in Mexico City campus only in less than 7 months since our consolidation.

Outstanding Community Service Essay Guidelines (4000 character maximum) *

Tell us about each your chapter's community service project(s) - you may list a maximum of 4. Please ensure to enumerate each one and place in order from oldest to newest. Be sure to describe each project, including: the date (add end date if it was multiple days), who it served, how many people participated, and why was your chapter interested in these particular projects? If you have web pages for these projects, include the URLs. Please be sure to use your chapter's official name - do not refer to your chapter as 'ACM,' 'ACM-W' or 'WICS.' Please note, links to essays will not be accepted and will disqualify your chapter.

Justification

Between 2012 and 2021, the number of professional women that studied any STEM career went up by 42%, yet we are still a minority. Only 30% of the world's women study a career related to STEM, which pushed us to develop a project to give girls the opportunity to build a future.

In Mexico, only 3 out of 10 professionals in STEM are women, despite the test results made by Plan Nacional para la Evaluación de los Aprendizajes, where girls in elementary school (6-11 yrs.) scored higher than boys in Mathematics.

According to a study by UNESCO 'Cracking the code: girls' and 'women's education in science', we identified that only 3% of women are enrolled in the Technology field, so we decided to focus on programming, since girls do not choose STEM careers not because of a lack of knowledge or capabilities.

To increase the participation of women in STEM, it's necessary to create an impact in early stages, so girls build and sustain their dreams, wishes, hopes, trust, information and necessary competences to choose to study and have a professional career in it.

This is how EdTech was born in August 2021. Our goal is to inspire and empower Mexican teenagers, between 14 and 17 years old, interested in getting to know the STEM world, specifically through programming. This is being achieved by a 20 session online course with both, pre-recorded and live sessions, which give girls the basics to boost their life in STEM.

Development

The workshop disposes of different units, which increase in complexity as the user progresses, always keeping in mind that it is not a requirement to have prior programming knowledge.

Therefore, we decided that the remote workshop should take place over 4 months with 4 units of 5 sessions using Google Classroom, where pre-recorded sessions are uploaded; Slack and Zoom as a tool for counseling sessions.

We start with the unit of initial knowledge and background that guides to the following themes. It covers topics like the importance of programming, flowcharts and pseudocodes. Its aim is to start developing skills like computational thinking to understand programming with ease.

The second unit includes concepts such as numerical bases and conversions to numbering systems, data types and what they work for. The objective is to combine the knowledge acquired in the first unit and thus have a solid base that allows them to adapt to any programming language.

For the next unit, the MIT App Inventor is introduced, allowing students to interact with a block programming

language to develop an App. The objective is to prove that the acquired knowledge can be used in their daily lives, allowing them to create projects that can help different sectors of society.

Finally, we used GitHub to introduce girls to programming languages such as C, C#, and Python. Girls are given a final project, in which they choose a problem in their environment and provide a solution using programming. The aim is to provide students with essential tools for their beginnings in STEM careers, strengthening trust in their abilities.

Programming is now in our everyday lives. COVID accelerated the use of technology and has shown us the importance of having people prepared. Although our project is oriented to basics, we believe that having this approach will light up the curious spark of teenagers facing the challenge of choosing their career path.

The idea of building a project for girls is not only inviting them to STEM, but also to build a safe space where they can express their opinions and solve problems. Girls are part of a group that will not judge and will listen to their way of thinking. We live in a world that is fighting for women participation but has not quite reached equity.

This program is a way of being part of the solution and helping empower future generations that may not have other ways of getting to know STEM. We are looking to impact on the early stages for girls to have more choices to make in the future.

This form was created inside of Association for Computing Machinery.

Google Forms