**GLOBAL SHARED LEARNING: CLASSROOM**

**COLLABORATION PLAN**

Fall 2022

*Section to share basic information about the courses, contact information, course calendars, special dates, and possible dates for the collaboration between the students.*

*Fill out the following table with your contact details and information about your course. If you already have an international partner, you can also add their details.*

*\* The CRN of your course may be pending at the moment.*

| **Institution** | **Location** | **Course** | **Class Size** | **Class Meets** | **Professor** |
| --- | --- | --- | --- | --- | --- |
| **Tec de Monterrey** | **CDMX** | **Course ID: TC1004B**  **Course Name: Implementación de internet de las cosas** | **Group 531: 31**  **Group 532: 32** | **Group 531**  Tuesday (9 AM - 11AM)  Friday (9 AM - 1 PM)  **Group 532**  Monday (9 AM - 1 PM)  Thursday (9 AM - 11 AM) | **Alexandre de Barros Barreto**  **barretoabb@tec.mx**  **+55 12 991310880** |
| **Partner University name:**  **Instituto Tecnológico de Aeronáutica (ITA)** | **São José dos Campos - SP - Brazil** | **Course ID: CES 35**  **Course Name: Redes de Computadores e Internet** | **30** | **Monday**  **(08 AM - 11:50 AM)** | **Cesar A. C. Marcondes**  [**cmarcondes@ita.br**](mailto:cmarcondes@ita.br)  **+55 16 99719-3230** |

| **Calendar** | **Tec de Monterrey** | **Partner University** |
| --- | --- | --- |
| **Course calendar**  **(*stars - ends*)** | Sept 2022 - Dec 2022 |  |
| **Special dates**  **(*Holidays or time-off*)** | Non-academic activities: Oct. 24 - 28 Semana I; Nov. 15 Holiday |  |
| **Possible dates of collaboration** | Oct. 31 – Dec. 2 |  |

**BASIC INFORMATION TO START YOUR COLLABORATION**

*In this section we recommend you to share information that could be useful to you when planning the collaboration.*

| **Calendar** | **Tec de Monterrey** | **Partner University** |
| --- | --- | --- |
| **Language for collaboration**  *In what language will the communication with your international partner be? Will it be the same language in which the students will carry out their interaction?* | English | English |
| **Preferred days and times for synchronous meetings**  *What are the most convenient days and times to work with your international partner in planning and designing the collaboration?* | During the collaboration, via slack and Zoom for 2 hour weekly. | During the collaboration, via slack and Zoom for 2 hour weekly. |
| **Follow-up frequency**  *How often would you like to have a synchronous follow-up meeting with your partner?* | During the collaboration, Tuesdays and Fridays are better, from 11:30 am to 2:00 pm (CDT) or from 4:00 to 6:30 pm | I agree to share same time, Tuesdays and Fridays, from 11:30 am to 2:00 pm or from 4:00 to 6:30 pm (CDT) or +2 hours Brazil |
| **Communication tools**  *Which tools do you prefer to use to keep in touch with your international partner?* | Zoom, Slack and e-mail. | Zoom, Slack and e-mail. |
| **Time difference**  *Is there a time difference between your partner's location and yours?* | I am in Central Daylight Time (CDT) | I am in Brasília Standard time, BRT (UTC−03:00) or CDT+2 |
| **Culture details**  *Share details of your group that you consider relevant to comment with your international partner so that their students have a little knowledge about who their collaboration partners will be.* | My students are from Computer Engineering program. | ITA students are mix of military and civil students, they work towards same computer engineering |

**PACING GUIDE**

1 Define the objectives

*Describe the main learning objectives and the impact the collaboration will have on the chosen SDG.*

*Describe de manera general los objetivos de aprendizaje principales y el impacto que la colaboración tendrá en el SDG seleccionado.*

| **Activity** | **Description** |
| --- | --- |
| **Main Objectives** | The collaboration focuses on developing the students the sense of cooperation needed to solve a complex problem. The problem to be answered is how to provide an efficient and secure environment to send a distress message when a natural disaster occurs (earthquake, flood, etc.). The sustainable development goal is the “Industry, Innovation, and Infrastructure” and “Sustainable Cities and Communities,” where the group will work to build a resilient infrastructure when there is a natural hazard. |
| **SDG’s goals** | Goal 9. Industry, Innovation, and Infrastructure  Goal 11. Sustainable Cities and Communities |

2 Schedule your calendar

*Schedule your calendar for the collaboration including dates, evaluation plan, delivery method, and method evidence (or product) that the students will generate.*

*The information displayed in the table below is only an example.\**

| **WHEN** | | **WHAT** | | **HOW** |  |
| --- | --- | --- | --- | --- | --- |
| **Week** | **Date** | **Activity** | **Evidence/Product** | **Delivery method** | **Percentage** |
| 1 | *31 Oct*  *-*  *4 Nov* | **Icebreaker** | *STEP 1: 1-3 min video*  *STEP 2: replies to peers* | *Padlet* | 10% |
| 2 | *7 - 25 Nov* | **Teamwork** | *Start communicating and vía Slack schedule a Zoom call to get to know each other* | *Slack, Zoom, GitHub* | 30% |
| 3 | *14 - 18 Nov* |
| 4 | *21 - 25 Nov* |
| 5 | *28 - 2 Dez* | **Teamwork**  **sharing** | *Final presentation & Project Demo* | *GitHub, Slack, Zoom, Youtube* | 50% |
| **Final Reflection** | *1-3 min video commenting on the reflection questions.* | *Padlet* | 10% |

3 Describe the activities

*Include the FULL description for each of the activities included in the table above. This information will be useful either to build the website or any other resource to share with students the specific instructions on what they need to do , and submit.*

## **Icebreaker**

*Icebreaker is an activity through which the participating students initiate the exchange and interaction with their classmates in an informal way to begin to generate a sense of confidence in communication and the use of technology applied. An icebreaker is an activity or game designed to welcome attendees and warm up the conversation among participants in a meeting, training class, team building session, or other activity. Any event that requires people to interact with each other comfortably and a facilitator is an opportunity to use an icebreaker.*

| **STEP 1: ICEBREAKER VIDEO** **DUE DATE: 3/11/2022**  **WEIGHT: 5%** Each student will make a video introducing yourself (1-3 minutes) where you tell us about yourself, who you are, where you are from, what you like to do in your free time, what are some of your interests or passions, and your plans. The idea is to focus more on what the international peers (you suppose) do not know about you, your city, your country, and your school.Try to get the group’s attention and remember that this is your opportunity to meet interesting people worldwide. Feel free to express yourself; this is a safe place we all respect.After you generate the video, assign this space in [Padlet](https://globalclassroom.padlet.org/barretoabb/4jnahbgrbv979pu7); here, you will start a new post with your information as the title following this format: **Institution.FirstName.Lastname (ex.: TEC.Alexandre.Barreto).** **STEP 2: REPLY TO YOUR PEERS**  **DUE DATE: 4/11/2022**  **WEIGHT: 5%**  Once you have posted your message, reply to at least two other students (from the other country) that you don't know, and comment on what you find interesting about their post. The follow-up posts should consist of one well-crafted paragraph, including an introductory sentence and finishing a section with a concluding statement or question.  Did you find something interesting in your peer's post? Do you observe any differences or similarities with your peers? Do you have any advice for them?  After someone comments on your post, reply or react to the observations received.  **You can be as creative as you want; we only ask you to keep an attitude of respect and be careful with any content that might be considered offensive.**  **IN SUMMARY**   * Open a new post that includes your institution and name in the subject line, and the video introducing yourself. * Reply to at least two other students’ posts (whom you do not know) and share what you found interesting. * Reply to your classmate's reply to your post.   You can be as creative as you want, we only ask you to keep an **attitude of respect** and be careful with any content that might be considered offensive. |
| --- |

## **Collaborative Activity**

*The Multicultural Collaborative Activity is the main scenario of the model, and as its name indicates, it consists of at least one collaborative activity carried out in multicultural teams; that is, students from both institutions work together to meet a common goal. Teachers decide the type of activity to be carried out (project, case analysis, problem-solving, etc.), with the delivery of a final product (essay, report, video, presentation, etc.) mandatory.*

| **Underline in yellow the selected learning technique or strategy to implement during the collaboration.** | * Project Oriented Learning * Problem-Based learning * Challenge Based Learning |
| --- | --- |
| **Description of the Sustainable Development Goal (SDG) and the selected goal that will be impacted through the activity.** | During a natural disaster, the government infrastructure installed on the site usually is affected, requiring the residual capacity based on the community means (e.g., mobility telephony). When this situation happens in developing countries (like Brazil and Mexico), a lot of times, this capacity is reduced, causing it much more challenging to locate the victims and coordinate the rescue. In this context, it is required a distributed and secure infrastructure. The collaboration idea is to develop a system based on the IoT technologies and ad-hoc networks that provides a simplistic and ship device where the affected communities can send their position and a basic text message, identifying the level of hazard in which they find themselves. This signal is intercepted by drones, which using a P2P network, send this signal to a Command and Control Center. |
| **Strategic themes that link the activity with the selected SDG.** | * UAS * Resilience & Disrupted Networks * Smart Sensors * Cloud, Edge and Fog Architectures |
| **Description of the impact (direct and / or indirect) and results related to the SDG that are expected to be achieved with the activity.** | The main impact of the final result of the collaboration is to provide the students the opportunity to reflect on how they can use their technical skills to provide better communication ways to support in a disaster scenario. Also, the students will have contact with the social impact of the disaster on the communities, and will be offer them the opportunity to reflect on how can they collaborate to improve a better life condition to this community. |

## 

| **STEP 1: PROJECT SETUP** **DUE DATE: 11 nov 2022**  **WEIGHT: 10**  *During this activity, the students will identify the technical and non-technical requirements of the project using user stories, write the requirement documents, and set the project in GitHub (defining the artifacts). You can use these support materials to learn how to do:*   * [*GitHub Project Management Tutorial - Setup GitHub Projects & Automations*](https://www.youtube.com/watch?v=ff5cBkPg-bQ) * [*GitHub Project Management: How to Boost Productivity by Using It*](https://everhour.com/blog/project-management-using-github/)   *To write good user stories, you can use these references:*   * [*Agile User Story Principles and its Benefits | The Complete Guide*](https://www.xenonstack.com/blog/agile-user-story) * [*User stories with examples and a template.*](https://www.atlassian.com/agile/project-management/user-stories#:~:text=For%20example%2C%20user%20stories%20might,report%20our%20sucess%20and%20failures)   *Finally, the students will create a README file following these approaches:*   * [*Best-README-Template*](https://github.com/othneildrew/Best-README-Template) * [*How to Write a Good README File for Your GitHub Project*](https://www.freecodecamp.org/news/how-to-write-a-good-readme-file/)  **STEP 2: CLIENT AND EDGE STAGE** **DUE DATE: 18 nov 2022**  **WEIGHT: 10**  *During this activity, the group configured the emulation scenario and implemented the android client and required brokers. The group published a video showing that this environment works. Also, the received comments about the documentation produced in the first step will be fixed.* **STEP 3: CLOUD STAGE** **DUE DATE: 25 nov 2022**  **WEIGHT: 10**  *During this activity, the group implemented the broker in the cloud, which receives all messages from the brokers existent in the emulation environment. Also, the broker integration with a SQL database and the dashboard with the required features is done. All stages are integrated. The group published a video showing that this environment works. Also, the received comments about the documentation produced in the first step will be fixed.* **STEP 4: FINAL PRESENTATION** **DUE DATE: 2 dez 2022**  **WEIGHT: 50**  *The final workshop is a critical activity in the GSL, where it is the opportunity for the groups to show the technical result of the cooperation. It follows the basic structure of an Academic Workshop and will happen asynchronously. The students will record a video of 30 minutes (maximum) to present the project and demonstrate the skills achieved during the cooperation. The Final Workshop is compulsory for all students, and not attending implies receiving zero points in the grade and reprobation in the GSL cooperation. To participate in the Workshop, each group needs to make a presentation using an editor (like PowerPoint, Google Slides, Canvas, etc.) which discusses the following minimum topics:*  *What is the problem? (until 3 minutes): In this part, the student needs to explain the situation the system plans to solve using external references (like news, papers, etc.). It is essential that the question related to the “why” needs to be answered. Try to motivate the audience to continue to watch your video.*   * *Technical Architecture of Solution (until 8 minutes): The student needs to explain the technical architecture. It is essential to identify the system’s border (what is inside and outside) and use formal language (like package, system UML diagram, or SysML).* * *How to configure the solution (until 1 minute): It is essential to cite the issues about how to compile, configure, and run your solution. Remember, one of the items required to deliver is the README in the git. The idea is to explain the setup and some tips for compiling the code.* * *Demo of System (>=8 minutes): This part is essential to demonstrate all the system's functionalities.*   *Given the time and the group size, each student must expose to a part of the presentation. It is important to remember that all students in the group need to understand the whole project and its technologies.*  *A day before the workshop, groups need to publish the following material on the GitHub Project Site:*   * *Project Source Code (GitHub) + GPL license* * *Problem and Motivation* * *How to compile code (README file)* * *Presentation file will be used in the workshop.*   *Also, groups need to send a message in the Slack channel named “gsl-br-mex” with the link to the GitHub site. Observation: the git hub site needs to be available for 30 days after the end of the cooperation.* |
| --- |

## **Reflection**

*The reflection activity is the final element, where participants could share their learning experience on the ground on the content learned about the differences and similarities found with their partners during the collaboration. It is one of the essential features of this type of collaborative exercise because it is when the students reflect on what they learned by interacting with a group of students from another country and another experience different from theirs.*

| **STEP 1: REFLECTION** **DUE DATE: 3/12/2022**  **WEIGHT: 10%**  Just as you did during the Icebreaker, go to the assigned Padlet board and create a new video sharing your thoughts about our experience considering the following:   * How do you think your cultural background impacts the way you interact and negotiate with others? * Has collaborating with international peers impacted your learning experience? * After this experience, are there any changes in your worldview ?   You don't have to answer each question individually, it would be better if you just take these questions as a guide to constructing a complete reflection.  Remember, it will be great if you post a video (1-3 min max), but you can also post it as a text (no text limit).  sharing your post, you are free to comment on any of your peers' contributions. |
| --- |

4 Choose the tools

*Click on the following link to know more about technological tools you might use during your international collaboration:* [*https://bit.ly/GlobalClassroomTools*](https://bit.ly/GlobalClassroomTools)

*Choose the tools that students will use during the international collaboration. Remember to include the access links.*

| **Purpose** | **Tool** | **Links** |
| --- | --- | --- |
| **Content management** | *GitHub* | <https://github.com/kabartsjc/gsl-iot-2022>. |
| **Virtual meetings**  *(Synchronous interaction)* | *Zoom* | <https://itesm.zoom.us/j/2507709790>  <https://itesm.zoom.us/j/6133964724> |
| ***Communication***  *(Instant messaging)* | *Slack* | <https://tc1004biot.slack.com> |
| ***Collaboration***  *(Asynchronous interaction)* | *Padlet, Zoom,* | Icebreaker: <https://globalclassroom.padlet.org/barretoabb/4jnahbgrbv979pu7>  Reflection: <https://globalclassroom.padlet.org/barretoabb/bo47oalv7yl42g9s> |
| **Project Management** | *GitHub* | <https://github.com/kabartsjc/gsl-iot-2022>. |