Mechanical Electrical Computer Hub

Fall 2020 - Updates

August 29, 2020

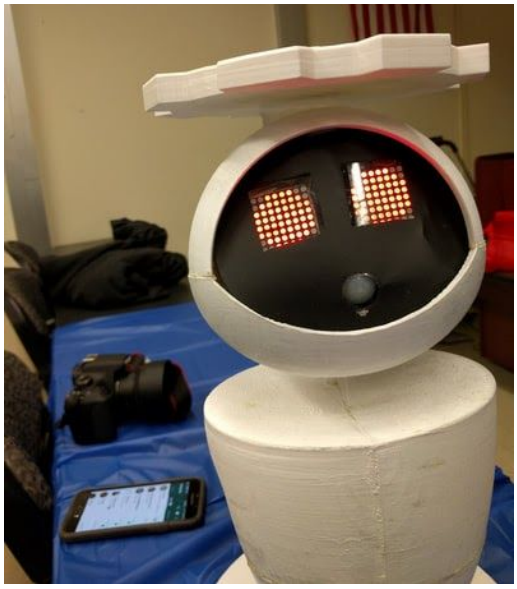
Message from the President

In light of recent events, the upcoming semester is bound to bring about several changes to the layout of MECH's operations. As the President, I assure you that the MECH team is here to help; we will continue to fund new projects, and provide you with a plethora of resources and skill development workshops while practicing USF's COVID-19 regulations. In this document, we will cover all these changes elaborately to ensure all of us are on the same page.

We hope that everyone is following CDC safety guidelines, and is practicing social distancing. We are excited to see you (virtually), and we can't wait to collaborate!

- Haider Ali Khan

General Information



Contacting the E-Board

The E-board has tirelessly worked over the summer to create new resources and refine previously existing ones to improve all points of contact. We have consistently updated our social media accounts, Instagram, Facebook, and Discord, to provide a means of accessing information quickly. Given below are mediums of connecting with us:

Mail: mechusf@gmail.com, president.mechusf@gmail.com

Facebook: MECH USF

Instagram: @mechusf

Discord: **www.**discord.com/invite/dTPbJRU

Event Platform & Virtual Attendance

Given the current atmosphere, MECH will not be holding **any** in-person events this semester. USF is using Microsoft Teams to provide synchronous virtual learning experiences for Fall 2020, and hence we have also decided to opt for Teams as MECH's official virtual platform. Every week a link to our latest Teams meeting will be shared on all of our social media accounts. At the start of each session, a form will be shared with each student in order to record attendance for these events, and we encourage everyone to join on time to avoid missing out on attendance.

DfX Lab & Other Resources

For all these years, DfX Lab (pictured above) has been the venue for all our events and workshops. It is a crucial component in MECH projects as it offers several machines and tools, including but not limited to; 3D Printers, Laser Cutters, and CNC Mills. However, things might look a bit different this semester, as social distancing regulations limit access to these resources. Therefore, to accommodate each student (yes, even those who plan not to return to campus), we worked closely with the staff at DfX to develop the following:

- An online 3D printing system: students submit their files and the lab staff will print the parts for them, after which students can pick-up (contact-less) at their **convenience**
- Similar **scheduled** and contact-less pickup system for ordered parts and components
- **Scheduled** access to soldering stations, laser cutters, and workbenches.
- Check-out system for shop tools from the DfX Lab.

Note: To make these resources accessible to each group, we will ensure to set up each group with members currently in Tampa. Further, we have decided to introduce a new format for all our projects (see below), to complement these resources. You can visit the DfX website for more details: www.eng.usf.edu/dfx/index.html

To further simplify access to the forms mentioned above, we have created a brand-new website:

mechusf.wixsite.com/mysite

Projects & Events

Workshops & General Body Meetings

As mentioned above, we plan on holding all events via **MS Teams,** including our GBMs and Workshops. Throughout the semester, we will be teaching in-demand industry skills through our workshops, although these may be interest-based and major-specific for some members. Thus we have decided to hold back-to-back meetings with the workshop coming in after the general body meeting, so members who chose not to attend the workshops can still be a part of our weekly updates and guidelines. Remember:

- All workshops are tailored to assist the members in their project development, so attendance is **essential**
- Members can contact the E-Board outside of our weekly meeting times as well
- These workshops provide a strong foundation for your professional careers

Project Selection Surveys

Not being able to hold in-person GBMs is unfortunate, especially for our project selection and brainstorming sessions. We believe in the freedom of creative design, and thus, we have developed dedicated surveys for our members that give them a fair chance at choosing their project. We will be posting the form titled, ‘Project Interest Form’ on our social media accounts and will be sending these at our MS Teams events. This survey and all other necessary forms are also posted on our website. After the members submit their project ideas, we will hold an online poll, from which the top projects will be selected for further development. We encourage everyone to submit their ideas, as there is no limit to creativity, our Iron-Man exoskeleton was a great hit at the 2020 Engineering Expo.

Phase-by-Phase Projects

To maintain social distancing and remain safe during this pandemic, we have classified projects in three isolated phases this semester. Each project group will be capped at six members each, and the E-Board will assign two members per phase based on preference and major qualifications *(These assignments can be changed on a case-by-case basis)*.

1. **Programming & Electrical:** This phase will be divided into two sub-phases, where one member will be in charge of programming the Arduino, while the other will be responsible for developing circuits and powering the machine. A good understanding of coding in C++ and electrical circuits is critical for this phase.
2. **3D Modeling & Printing:** This phase will also be divided into two sub-phases, both members will be in charge of modeling the 3D components, and DfX 3D Prints submission (*any group member can pick up these parts from the lab).* Expertise in SolidWorks or other CAD software such as Inventor is an essential requirement.
3. **Assembly & Documentation:** This phase is critical for the overall presentation of the project, as industry standards demand a well-documented process. Assigned members will be putting it all together and documenting the process from the beginning of the project to the end. Casing the components, soldering open connections, understanding how to assemble all the motors, good communication skills, amongst others, will be essential for this role.

This way, in-person meetings will not be necessary, and all members can work remotely. Some phases may be conducted simultaneously, but some may depend on the work of a different stage. With this in mind, we encourage all team members to be considerate of each other and work in a timely fashion. We are willing to assist you in phase transfers, for instance, when two members are done with the 3D printing phase, they can turn in the components at DfX for the assembly member to pick up, or you have the choice to transfer at your own discretion.

Upcoming Events