QUESTIONS FROM THE EE TOWN HALL SURVEY

2014

Can the GSI supplement policy be amended to include the mandatory campus fee and class pass fee?

Yes, the EECS department currently already covers these additional fees through the GSR/GSI supplement. The GSR/GSI supplement was intended to offset the difference in total salary between the GSR and GSI rates by providing combination appointments or stipends for students serving as GSIs. However, students with GSIs will need to contact their Research Support Officer (RSO) directly themselves to initiate their combination appointment. In addition, they will need to pay the remaining $389.75 in fees directly billed to their CARS account.

What can be done to reduce theft from the bike racks near Cory Hall?

Bicycle theft is a tremendous problem on college campuses, and UC Berkeley is no exception. Bicycles and bicycle parts, including “quick release” seats and wheels, are in big demand, and thieves are well-equipped and organized.

Unfortunately, there is no full-proof measure to prevent a bicycle from being stolen. However, there are certain measures that can be done to assist in the prevention of bicycles being stolen. For example, registering your bicycle with the UCPD, locking your bicycle properly with U type locks, and parking your bicycle in one of the Secure Bicycle Parking lots (http://pt.berkeley.edu/around/biking/bikeparking). Additional suggestions can be found on the UCPD website, http://police.berkeley.edu/prevention/bike.html.

How can the department encourage more research collaborations with undergraduates?

The College of Engineering has collaborated to design Beehive, a clearinghouse for research positions, design projects, and even more creative opportunities! This platform helps to match aspiring scholars with original investigations in a range of disciplines. Students can use it to browse, watch, and apply for a variety of opportunities in different departments. Faculty can use it to post jobs or research opportunities. In the long term, the hope is that this platform can be used by departments across campus and outside of the College of Engineering. Check it out at http://beehive.berkeley.edu/
How can we ensure that all EECS GSIs are taking advantage of the departmental supplement? We need a uniform system.

The EECS department provides information to all current students on the department GSI/GSR supplement policy at the beginning of each semester. Unfortunately, students may not be aware of the department supplement policy or the process for initiating their combination appointment if they miss the email reminders that are sent out about this in our monthly email updates and announcements. Students with GSI appointments may also not be aware that they themselves need to contact their Research Support Officer (RSO) directly to initiate their combination appointment. As a department, we are constantly striving to find ways to better communicate this information with our students and would welcome any suggestions on how to better convey this information so that all students are aware and can take advantage of the supplement policy.

Can we convert one of the bathrooms in Cory Hall to gender-neutral to be more welcoming to transgender students?

This is an issue that was also raised at the last Town Hall and an issue that the EECS department is very aware of and is working on addressing. The EECS department is currently looking into funding options in order to convert the bathrooms in both Soda and Cory Hall to be more gender-neutral. This is also an issue that has been raised by students at other UC campuses and a concern that is being addressed at the UC system wide level: 

The 5th floor Sutardja Dai Hall collab is one of the few without coffee/snacks for grad students. Can this change? I'm tired of stealing from other collabs.

The best way to ensure that coffee/snacks are provided for your collab is to speak to the Research Support Officer (RSO) or staff in charge. They may not be aware of this and bringing this to their attention may lead to the availability of these refreshments on the 5th floor Sutardja Dai collab or other areas where such refreshments are lacking.

There are a lot of issues with the wireless network (EECS-Secure). Can the network infrastructure be improved?

Summary: We are aware of a number of issues relating to the EECS wireless network, including frequent disconnects, inability to connect at all, and the failure of multicast-based services such as video mirroring and streaming. These issues are due largely in part to our outdated network equipment and design, and the fact that the network was not designed to handle today’s volume of wireless traffic and devices. We are currently working to address these issues: first with a
refresh of the wired routing and switching core scheduled for deployment in January 2015, after which we will be fully replacing the wireless broadcast infrastructure with a design geared towards greatly increased radio density and performance. The wireless upgrades are scheduled to take place during summer 2015, and we expect to resolve the majority of our wireless issues in time for the fall 2015 semester.

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As many in the EECS community know, there are a number of deficiencies in the EECS network infrastructure that have created a lot of pain for anyone trying to use EECS wireless networks.[1] We would like to take a moment to address those issues, and to describe the steps being taken to rectify them and bring our wireless networks up to the high standard expected and deserved by the EECS community. These issues are most commonly experienced in Soda, Cory, and Sutardja Dai Halls; they can also be experienced to a lesser extent in Blum Hall, the Hearst Memorial Mining Building, the Calvin Lab, and the Berkeley Wireless Research Center, as a result of a shared underlying wired infrastructure.

The most common symptoms we have seen are:

- Inability to connect to the wireless networks in several locations
- Slow association times or trouble reconnecting after a device wakes from sleep
- Occasional or frequent disconnects while using the wireless network
- Difficulty utilizing services such as Bonjour/AirPlay, Chromecast, or anything relying on multicast IP traffic

There are a number of contributing causes to these issues, which is why it has taken so long for them to be addressed. For one, the EECS network has not undergone a major refresh since 2008; we generally aim for a five-year cadence on each section of the network, and the next refresh is due to land in January 2015. Additionally, the lower cost of laptops and the incredible popularity of mobile phones, tablets, e-readers, and the like have drastically changed how networks are designed and built. As a result, our old equipment and designs, while appropriate in 2008, have not scaled well with the explosion of wireless devices. This growth is especially apparent in EECS due to the nature of the work being done. Our wireless networks were never designed to handle today’s volume of wireless devices, nor modern user expectations of wireless network performance. Combine this with age-related architectural shortcomings in our wired core network, and several years of decreased network staffing in the department, and one begins to see how we got to where we are today.

The good news is that IRIS, the department’s IT organization, has been working tirelessly over the past year to lay the groundwork for a cutting edge replacement of the network infrastructure. Our current project, which is in the late design phase, is a full overhaul of the wired routing and switching core. Targeted for a release in early January 2015, this refresh will address a large number of issues and limitations within the wired network on which the wireless relies. This
project is expected to resolve some, but not all, of the symptoms related to slow association times and frequent disconnects. It will also introduce multicast routing capability, as well as several other features, which will allow us to support applications such as AirPlay and Chromecast. The core refresh is the first project in a larger effort, and we have subsequent refreshes planned to address other parts of the network.

The largest contributor to our troubles, as alluded to above, is that we lack sufficient radio coverage (in terms of number, location, and quality of access points) to support today’s wireless needs. During the spring semester, after the new routing core is complete, we will dedicate ourselves to addressing wireless coverage. This will involve the selection of new, state-of-the-art wireless access points, as well as contracting professional RF surveys of EECS buildings to determine the correct density and number of access points. Initial back of the envelope estimations indicate that we can expect to increase our number of access points by approximately 50%; we will also utilize better placement and newer equipment with more powerful radios. Our current hope is that this project can be completed during the summer of 2015, so that we will finally have resolved the majority of the wireless issues in time for the fall 2015 semester.

The unfortunate crux of the issue is that this is a systemic problem with many causes and nothing close to a quick or easy fix. In extreme cases, we are able to deploy access points on-demand in particularly bad areas. However, it is preferable to focus our time, money, and efforts on developing a sustainable and scalable long-term solution, rather than dispensing short term band-aids. For the time being, we are regretfully recommending the use of a wired network connection whenever the wireless is unreliable or if you are in need of a more stable, high-speed connection.

If you have any further questions or concerns about the wireless network, please direct all inquiries to help@eecs.berkeley.edu, where they will be directed to the engineers working on these projects.

We apologize for any and all difficulties caused by the current state of the wireless network, and we’re sorry that we don’t have a more expedient solution for you. We hope you understand the reasoning behind our logic and that we are working diligently to bring the department’s network up to the highest possible standard.

Thanks,

EECS/IRIS Network Infrastructure Group

[1] For the sake of this document, EECS wireless is defined as all wireless networks (any beginning with “EECS-” as well as AirBears, AirBears2, and attwifi) being broadcast by EECS Department infrastructure, which is located in the buildings described in the first paragraph.