## ASsquare_logo.tif Coastal Fund Minutes

## Associated Students

Tuesday, 05/17/22, Zoom: <https://ucsb.zoom.us/j/89636182726?pwd=VU14ei8rQnVOV0xmR0xYeHh5MmhPUT09>

**CALL TO ORDER: 6:02 PM**  recorded by Carissa and Kathryn

1. **ATTENDANCE**

| **Name** | **Note:**  absent (excused/not excused)  arrived late (time)  departed early (time) | **Name** | **Note:**  absent (excused/not excused)  arrived late (time)  departed early (time) |
| --- | --- | --- | --- |
| **Ethan Estrada**  **Chair** | **present** | **Visala Tallavarjula**  **Outreach Coordinator** | **absent (excused)** |
| **Mykala Listorti**  **Co-Chair** | **present** | **Carissa Stewart**  **Administrative Assist** | **present** |
| **Emma Swanson**  **Undergraduate Rep** | **present** | **Kathryn Bozanich**  **Administrative Assist** | **present** |
| **Erika Chan**  **Undergraduate Rep** | **present** | **Sarah Siedschlag**  **Advisor** | **present** |
| **Anannya Deshmukh**  **Undergraduate Rep** | **present** | **Ethan Engler**  **Senate Liaison** | **present** |
| **Austen Apigo**  **Graduate Student Rep** | **present** | **N/A**  **Senate Liaison Proxy** | **N/A** |
| **Michaela Sten**  **Graduate Student Rep** | **present** |  |  |

1. **COMMITTEE BUSINESS**
2. Approval of Attendance and Proxies

*MOTION/SECOND: Ethan/Austen*

*Motion language: Motion to approve attendance and proxies.*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. Approval of Minutes

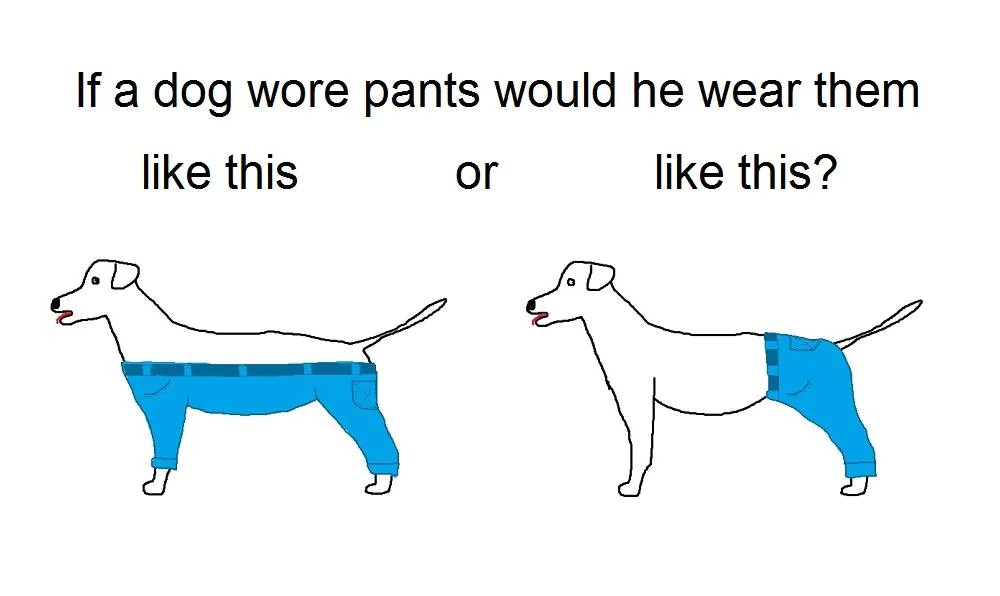
*MOTION/SECOND: Ethan/Mykala*

*Motion language: Motion to approve minutes*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **PUBLIC FORUM** (Announcements, appreciations, concerns, requests to have items added to agenda)
2. Ice Breaker: Which one? (Left: A | Right: B)



1. **REPORTS**
2. Advisor Report: Siedschlag
3. next week is decision week
   1. <https://docs.google.com/spreadsheets/d/1FTx8gtANbP3ZvRdVmrtmH6OvdcjyZ8G3LQskzQmMqM4/edit#gid=0>
   2. link above is for a budget information sheet, includes estimated rollovers and average spending
   3. should decide whether to use all the rollover amounts this quarter or leave some behind for next board
   4. we were requested about $305,000
   5. cutting down to $194,000 would be a lot (this amount leaves a 2 year rollover, including this year)
   6. need to do strong, visible outreach all year to secure a lock-in fee
   7. implementing a new lock-in fee will take a year, so leaving a 2 year rollover will cover funds until that is secured (if secured next year)
   8. three years is the safest bet
   9. leaving a 3 year rollover means spring quarter would have $165,000
   10. next year will have an extra $20,000 as lock in fees increase every five years naturally
   11. for the master workbooks, try to get down to $170,000
4. honoraria is open, apply now
5. Chair Report: Estrada
6. Interviews have finished and decisions for both the graduate and undergraduate positions have been made
   1. three undergrads so mykala can return
   2. one graduate member
7. Make sure to fill out the honoraria!
   1. https://www.as.ucsb.edu/senate/honoraria/bcc-appointed-position/

1. Vice Chair Report: Listorti
2. not many updates on the retreat because we were unsure of how to introduce new members
   1. this retreat will be more social and a farewell
   2. training new members will take place another day
3. Senate Report: Engler
4. apply for honoraria
5. last CF meeting tonight
6. Administrative Report: Stewart & Bozanich
7. scheduled may check-ins with sarah
8. master workbook is complete, copies will be sent out after meeting
9. Coastal Service Program Report: Stewart & Bozanich
10. starting May check ins
11. two projects left for csp and submitting them early
12. Outreach and Education Report: Tallavarjula
13. n/a
14. Sub-Committee Report
15. External Communications
    1. has not met this week
    2. needs to schedule time but all have mismatched schedules
16. **AGENDA**
17. Approval of Agenda/Additions to Agenda

*MOTION/SECOND: Ethan/Erika*

*Motion language: motion to approve agenda and additions to agenda*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **OLD BUSINESS**
2. **NEW BUSINESS**
3. Reallocation Request for CF-202109-00302

*MOTION/SECOND: Ethan/Kaley*

*Motion language: motion to approve reallocation request for CF-202109-00302*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

* want to take money out of stipend to transportation and field trip money
* students who were going to take the stipend were unable to
* hoping to have more student involvement next round
* seems fine
* everyone had trouble recruiting students this year

1. **DISCUSSION**
2. Overview of Tonight’s Presenters

a. Natural History Collections - Gregory Wahlert

* have funded multiple times
* pretty general
* austen is recused
* kaley has clarifying questions - who are the scientist mentors and how many hours a week are students working?
* anannya wants to know can students choose what collection area they work in or are they assigned?
* mykala wants to know more about the mentorships with the curators, and if this is all in-person
* erika wants to ask if student curators can return for another year, and if that is not allowed, do they provide other opportunities
* ethan noticed they extended the internship to a full year and are recruiting interns from students who already work in the Cheadle center
* have there been any noticeable research projects that have come about in the past year?

b. Spiny Lobster - Cori Lopozanski

* asking for $7,700
* not a huge amount
* looking at how spillover effects lobster populations
* sarah noticed that funds are listed as a stipend, but it should definitely be an hourly wage
* kaley wants to know where they are in the process of getting boat time allocation and do they have stakeholder engagement with local fishermen?
* what level of intern experience are they looking for? scuba diving may require specific qualifications
* do they already have interns or are they looking for new ones
* mykala wants to ask how they work with commercial and recreational fisheries
* can only get scientific dive certification if working for a lab
* they are looking for scientific divers
* why is it important that we assess the lobster population?

c. Phytoplankton Response - Zoe Welch

* kaley recused
* had a previous proposal on ocean alkalinity this quarter, so similar topic
* this one looks at phytoplankton response based on brucite exposure
* interns getting $20/hr is a large amount
* required to work 10 hours a week for about 100 hours total
* ethan wants to know how strict they will be with that 100 hours
* anannya wants to know if they are using synthesized or mined brucite
* ethan wants to ask how her work differs from the other OAE projects

1. **PROJECT REVIEW**

**Project Title:** CF-202204-02436 | Providing undergraduate work and research experience in the UCSB Natural History Collections at the Cheadle Center

**Sponsoring Org:** Cheadle Center

**Project Leader:** Gregory Wahlert

**Summary:**

We request funding to hire four UCSB Student Museum Curator workers in the UCSB Natural History Collections at the Cheadle Center. Student Curators will receive direct supervision, training, and mentoring from Cheadle Center staff scientists. In order to manage, digitize, and preserve our half million natural history specimens, we routinely train and work with UCSB students. Providing internships on a quarterly basis limits our ability to provide robust work and research experiences, therefore we request funding to hire student workers for the entire 2022-2023 academic year. This year-long time-frame will allow us to develop closer mentoring relationships and to provide enhanced training and work experience for Student Curators. The positions will involve work in a natural history museum setting and include opportunities to conduct research, to learn about biodiversity and data sciences, and to participate in a variety of scholarly activities in coordination with staff scientists.

**Presentation Notes:**

* **austen recused**
* **greg is the collections manager and research botanist at cheadle center**
* **mission of the cheadle center: preserve UCSB natural history collections, ecological restoration and management, public service and education outreach**
* **focus of project centers around their natural history collection**
* **have ½ million specimens in the natural history museum**
* **only three workers, so there is a lot of work to do**
* **trying to increase the collections, digitize them, and document them**
* **collections cover everything from insects to seaweed to vertebrates**
* **120,000 plant specimens**
* **10,000 seaweed specimens**
* **700 lichen specimens**
* **most specimen founded within the channel islands**
* **collections were started by UCSB faculty years ago**
* **animal specimens include vertebrates and invertebrates**
* **only two Gregory and the director of the cheadle center**
* **digitize all of the specimen through unpaid internships, internships**
* **10-15 undergrad interns working on collections at one time**
* **one of the few places on campus where students can get real world and real work experience with mentorship**
* **helps students figure out what they want to do**
* **add to resume**
* **interns have gone onto specimen-based graduate programs**
* **collections are mainly used for research**
* **want to document ecological wellbeing**
* **used to promote science education, restoration, and conservation**
* **continue to collect new specimens through field research and expeditions**
* **all specimen used for research and outreach**
* **right now is teaching a botany course, and he has been able to use their samples for the class**
* **want to aggregate the collections into large data sets and be downloaded for probing**
* **specimens are a time capsule, a historical record of life over the last few hundred years**
* **one of the big projects involved with is looking at how plants respond to a gradually changing climate**
* **specimens can be used to document the biodiversity of an area**
* **can answer what grows where**
* **three of their specimens are being used in three CA conservation genomics projects**
* **want to make sure that the half-million specimens are preserved for future reference**
* **could not do it without the involvement of students, mainly interns**
* **the current project is a follow-up of one awarded last year, which asked for funding for 4 student museum curators**
* **being a curator is technical and takes time to train**
* **would like the interns to become part of their staff as a junior curator**
* **have had fantastic results**
* **have enjoyed working with students and accomplishing so much**
* **75% of work was curation**
* **25% was research experience for students to gain**
* **current project is a continuation**
* **will conduct exit interviews**
* **want to hire 4 students for 10 hr/week and in-person work**
* **ccber staff would prepare written reports to gauge whether the initial goals and objectives were met**
* **genuinely consider them to be junior partners in the museum**

**Board Questions:**

* **you mentioned that 10-15 interns usually work in the museum, you are asking for 4 curator interns, what is the difference between these positions?**
  + **most of interns come for ten weeks**
  + **with regular interns, they are just getting them trained and then its the end of the quarter and they leave**
  + **takes the internship to new levels by extending it over three quarters**
  + **allows for more in-depth training**
* **student curators are from the current pool of interest, what qualities are you looking for in this group of interns that become the student curators** 
  + **the internship program is valuable because they take anybody on**
  + **they look for any interest on the part of the student**
  + **they did not plan for it to be only from current interns**
  + **worked with these students before**
  + **comes down to the enthusiasm on the student part**
  + **obvious when they are interested in the work of the cheadle center**
  + **with the curator position, they have the ability to move around and work with other directors/collections**
  + **all digitization is similar**
  + **probably will recruit from students they have worked with recently**
* **wondering if there was any virtual options for the student curator**
  + **has been working with two student interns for the current project**
  + **do 2-3 hours a week from home**
  + **can do digitization work at home**
  + **can theoretically work 100% at home**
  + **think its good to be on site and not be remote**
* **would you consider student curators interested in returning for another year or would you only choose students from a new group?**
  + **would like to have students pulled over and work with them but they are all graduating**
  + **not starting over but many candidate students**
  + **anticipates that they will need to recruit 1 or 2 other students**
  + **have had great interns from history of art and architecture programs**
  + **most interns come from environmental studies**
* **have there been any notable research projects over the last year that you can share?**
  + **definitely share summaries of exit interviews**
  + **two students who had to leave early for graduation**
  + **one was working on etymology collection**
  + **he did some research on bees and he had a chance to TA a class with her**
  + **on track to continue onto grad student working in the field**
  + **other student was working with vertebrate curator**
  + **worked on a gopher snake project and got to participate in a field project**
  + **always the goal to introduce interns to research wherever possible**
  + **largest part of work will be working with the collections**

**Board Discussion:**

* **ethan thinks it is great**
* **funded it in the past, will likely continue to support it**
* **kaley thinks it is a uniquely great project**
* **one of a kind and not a lot of people would have access to such a large collection**
* **an awesome opportunity for students**
* **getting curation work is very hard to find, so it is wonderful**

*MOTION/SECOND: Ethan/Erika*

*Motion language: motion to table discussion for CF-202204-02436*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

**Project Title:** CF-202204-02462 | Examining spillover dynamics for the California spiny lobster (Panulirus interruptus)

**Sponsoring Org:** Bren School of Environmental Science and Management

**Project Leader:** Cori Lopozanski

**Summary:**

This study addresses mechanisms driving spillover (animal movement from within a marine protected area (MPA) into a fished area) of the California spiny lobster within the Campus Point State Marine Conservation Area (SMCA). The Santa Barbara Channel Long-Term Ecological Research program has conducted annual surveys of lobster abundance within the Campus Point SMCA since 2012. While these efforts have demonstrated long-term increases in lobster abundance within the MPA, they do not consider changes in lobster abundance immediately outside of the reserve or relative to habitat configuration. To understand how habitat influences lobster spillover, we will extend the current sampling in multiple locations in and around the MPA. Measuring the changes in lobster abundances within and adjacent to the reserve will allow us to quantify the fishery benefits provided by the MPA and provide recommendations for future MPA design to maximize such benefits.

**Presentation Notes:**

* **cori and allie are phD students at Bren school, studying marine ecology**
* **mpa’s are common spatial management tools forprotecting coastal ecosystems**
* **recent movements to protect 30% of ocean in mpa’s by 2030**
* **by prohibiting extraction this can provide conservation**
* **mpa’scan also provide benefits to fisheries**
* **if you have organisms who are traveling from the mpa to outside of it that is called spillover**
* **interested in seeing how spillover and conservation might depend on the mpa design**
* **california has 124 maps across the state**
* **california has one of the first scientifically designed mpa network**
* **has been implemented since 2012 using a participatory process to choose the areas**
* **finding that the design principles (i.e. not making mpa too small) are incredibly important in the long run**
* **making sure the mpa is large enough but not too large and protecting different habitats**
* **want mpa’s to cover a wide range of ecosystems and environmental conditions**
* **different sized interestingly configured mpa’s**
* **one design aspect in mpa’s that has not been considered is habitat configuration**
* **did not think about how they would be configured spatially to get the most benefits**
* **fish and other organisms like the shelter of the reef**
* **mpa’s borders with continuous habitat might promote spillover**
* **mpa borders with isolated habitat might promote conservation**
* **good for the fishery if you are trying to promote maps as a benefit for fisheries**
* **if goal is conservation, then mpa’s should be designed with edges of reserve farther away from edge of habitat**
* **haven’t tested this and don’t really know about the affect**
* **proposing a local study of this concept with the california spiny lobster**
* **habitat is really important for lobsters**
* **at night they go into kelp forests to search for food and sleep in rocky areas during the day**
* **they like the structure and habitat**
* **local research groups have been monitoring lobster populations since 2012**
* **lobster species is an awesome potential candidate in design**
* **campus point is an ideal location because of its habitat configuration**
* **looking for funding for an undergraduate researcher**
* **want to depend on density by counting lobsters in field work**
* **hoping to expand the LTER**
* **sandy habitats, sand-rock habitats, and rocky habitats are all found in campus point**
* **on the eastern boundary it crosses over the habitat but not on western side**
* **hoping to do surveys before and during fishing season to see how fishing affects population density**
* **hoping to capture economic benefit of the reserve**
* **want the internship to be flexible, primarily working on field work and some data sets**
* **currently have support from BREN for a summer internship to focus on underrepresented minority groups**
* **hoping this funding can continue internship through the entire academic year**
* **want the intern to stay and help finish the project**
* **with summer internship, they would like the intern to be able to work on their own research with the data sets they already have**

**Board Questions:**

* **why did you decide to go with a stipend instead of an hourly wage for the stipend?** 
  + **flexible how that is structured**
  + **wanted to do hourly method so they could be flexible with how many hours it was**
  + **since funding does end at end of summer, a stipend seemed easiest to continue**
  + **asked around for common rates but open to changing those rates**
* **you said you are currently waiting for boat time approval, where are you currently with that?**
  + **fully approved**
  + **coming from pisco at the moment**
* **one concern is that the stipend means that students need to wait for the money until the end**
* **do you anticipate any problem with hiring student divers**
  + **already have someone who accepted the summer position**
  + **they fulfill all criteria**
  + **hoping they will continue through with the project after they receive more funding**
  + **do not need a ton of extra manpower but would like to get more undergrads involved next winter/spring**
* **understand you are encouraging your undergrad to pursue research, how will you mentor them while they pursue this ?**
  + **mentorship is very important to them**
  + **anticipate it will be a collaborative effort between mentors and interns**
  + **field work is not starting until this summer**
  + **they are experienced with coding, data analysis, and data integration**
  + **want to help student interns with those aspects of science**
* **scheduled structured field time, how will you keep things structured with all of the scheduled structured field time with all of the other commitments of the project**
  + **it is tough especially when classes start**
  + **the student they spoke with has a lighter course load and has time that matches with the field schedule**
  + **everything but the field research is flexible**
  + **when it comes to field work, flexibility is a must depending on weather and conditions, etc.**
  + **number of field days for the project is not outrageous with only 10-15 field days**
* **has there been any kind of engagement with the fishing communities in the region, specifically on the eastern side of the mpa?**
  + **not currently but historically ucsb has been very collaborative with lobster fisherman and been involved in the past with those fishermen**
  + **something they are considering during the lobster fishing season**
  + **lobster fishing is closed from april to october**
  + **interested in quantifying fishing effort, which involves collaboration with fishermen**
  + **already have an interesting data set that shows when and where boats travel around campus point**
  + **should be talking to lobster fisherman**

**Board Discussion:**

* **ethan thought it was cool**
* **kaley doesn’t think it is a priority project but thought it was fine**
* **emma liked the mpa explanation, especially the nemo analogy**
* **they offered good options for partial funding, which is something to consider**
* **mainly will reduce intern hours**
* **ethan appreciated their willingness to change the stipend to hourly wage**
* **interesting project but important to look at what kind of experience can an intern get from it**
* **they already have an intern working this summer who wants to continue helping which is cool**

*MOTION/SECOND: Ethan/Kaley*

*Motion language: motion to table discussion for CF-202204-02462*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

**Project Title:** CF-202204-02452 | Investigating Phytoplankton Response to Brucite as a Method of Ocean Alkalinity Enhancement

**Sponsoring Org:** EEMB

**Project Leader:** Zoe Welch

**Summary:**

As anthropogenic climate change (ACC) and related ocean acidification (OA) impacts have increased, some have proposed combatting decreasing ocean pH with technology-based interventions. While the chemical outcome of introducing alkaline compounds to seawater is predictable, the ultimate impact of these agents upon the biology and ecology of the surrounding marine system is not. This project will investigate the effects of brucite, a proposed method of Ocean Alkalinity Enhancement (OAE) to mitigate OA, upon phytoplankton species which comprise the base of many coastal California marine food webs. This project will assess if/how environmentally-relevant concentrations of brucite may impact the growth and biomineralization of two important phytoplankton groups (coccolithophores and diatoms) in pure culture experiments that have been tailored to represent oceanographic conditions seen during key seasonal timepoints critical to overall coastal marine ecosystem productivity.

**Presentation Notes:**

* **kaley is recused**
* **phD student in EEMB department**
* **interested in examining response and vulnerabilities associated with climate change and human perturbation in marine systems**
* **project focuses on a mitigation strategy for climate change that is preemptive in combating it**
* **everyone has heard or been affected by climate change**
* **via human processes, we have added a significant amount of CO2 into the atmosphere**
* **once c02 dissolves n ocean it goes through unique sequence that interacts with water molecules that turns into bicarbonate with interacts with an alkaline compound**
* **overall, there is a net increase in bicarbonate, CO2, and hydrogen in ocean water**
* **relationship with hydrogen and co2 affects alkalinity**
* **alkalinity overall does not decrease but that buffering capacity does**
* **bunch of different technologies to address what we do with c02**
* **how do we get CO2 out of the system?**
* **within ocean systems, there is a method of ocean alkalinity enhancement that has been proposed**
* **Ocean alkalinity element is the idea to introduce alkaline elements to address that**
* **involves mining the terrestrial sphere, pulverizing alkaline compounds/salts, and placing them in a marine environment**
* **drive the system to be less acidic**
* **of the proposed compounds is magnesium hydroxide (brucite)**
* **brucite can be found naturally by mining**
* **can also have it produced via industrial pathways as a primary product or byproduct**
* **thinking about how much brucite needs to be produced is up to 7 billion tons**
* **what might happen when we introduce that much material into the marine environment?**
* **if we have a distribution site, it is important to think about how sensitive is that location to the addition of those compounds**
* **what sort of species would be affected how would the ecology be effected**
* **guiding question of the project: how might brucite addition affect the growth and biomineralization of two phytoplankton groups?**
* **will be looking at a diatom and a coccolithophore**
* **measuring cell counts, carbonate chemistry parameters, salinity, nutrients, and calcium and magnesium content**
* **these collectively show how healthy groups are and how much they are growing**
* **ultimate outcomes of the experiment will involve publication and presentation**
* **intending to contact the eemb website and share the results**
* **the undergraduate intern will be working under her mentorship, she will be the project leader**
* **will be giving them living wage with up to 200 hours overall, no more than 10 hours a week**
* **will not require previous lab experience**
* **interested in the attitudes and passion for the project**
* **will gain familiarity with oceanographic and climate change literature**
* **will be looking at cutting edge of climate change solutions**
* **will receive in-person experience with phytoplankton culture work**
* **would be doing sampling and data analysis**
* **could present at the undergrad symposium**
* **if they have a passion and interest in this work, would love to have them as research collaborators in the future and coauthors in the paper**
* **has teaching experience and mentorship experience**
* **this will be her first time fully in charge of a project**
* **this project will help with completing her dissertation project**

**Board Questions:**

* **are you using mined or synthesized brucite for this experiment?**
  + **something that is under discussion**
  + **going to be a matter of sourcing, price, availability**
  + **haven’t got any of the materials yet and still in design process**
  + **levels of brucites will be gauged off of target alkalinity**
  + **will get a nuanced look in further experiments**
* **you mentioned you have some experience with teaching, can you be more specific with how your past experiences with teaching and mentoring will play a role in this project?**
  + **gotten a teaching award from ucsb**
  + **really loves teaching**
  + **taught mostly from ES department**
  + **taught all intro courses and some other specialized course**
  + **she wants to facilitate someones learning and passion**
  + **because she has taught students with various backgrounds, she know how to facilitate passion within the learning process**
  + **want to make sure that research isn’t separated**
  + **important to teach that research matters, the context of research matters**
  + **teaching and mentorship are almost two sides of the same coin**
* **for the internship, you put up to 100 hours maximum with up to 10 hours a week, what is the level of flexibility there? Is 10 the maximum or is there a chance for them to work past that?**
  + **that's a question to establish what the undergrad is comfortable with**
  + **there is potential to go over 10 hours but only if the undergrad is comfortable with that**
  + **it is her responsibility to make sure everything goes well in the project, so she wants to make sure they are comfortable and not feeling taken advantage of**
  + **ultimately looking at 100 hours over the quarter but okay with splitting it between the weeks**

**Board Discussion:**

* **ethan thought it was great**
* **she phrased it as if she didn’t have teaching experience but has received an award for it**
* **thinks it will be a great experience for the intern who participates in ita**
* **even though aspects of the project were up in the air, they still have a solid plan for what they want to do**
* **it will be tough this quarter, but ethan really believes in this project**

*MOTION/SECOND: Ethan/Mykala*

*Motion language: motion to table discussion for CF-202204-02452*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

**ADJOURNMENT AT 8:37 PM**

*MOTION/SECOND: Ethan/Mykala*

*Motion language: Motion to adjourn at 8:37 PM*

*ACTION: Consent*

*Additional approval required: NO*