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A LETTER TO THE FRESHMEN

To the Class of 2018/19,

I hope you're enjoying your first few weeks at Cooper Union. I understand you've started your journey here at a rather tumultuous time. Please don't take any arguments regarding the status of your class to heart. You *deserve* to be here as much as any of the previous years. I assure you that there is no difference in intelligence and character between you and the current upperclassmen.

You should know that it is incredibly easy to become disillusioned and disheartened at Cooper Union. I won't lie to you and pretend our college is anywhere near perfect. There is much to fix, but that should not discount the good this school has to offer, be it the rewarding courses you take or the clubs and organizations you join.

Ultimately, it is up to you to decide how you will spend the next four (or five) years. I simply implore you to remain aware of the broader issues here at the Cooper Union and not to take it all through a negative lens.

Best,
Saimon Sharif (ChE '15)
Editor-in-Chief

CAMP TEAM USA AND CAPE COD

YARA ELBOROLOSY (CE '14)

The start of freshman year in college is usually nerve wrecking due to the pressures of doing well in classes, meeting classmates, and making friends. Most colleges have an elaborate orientation week where freshman can meet one another and upperclassmen to ease the transition into college. Thus, announcement of an orientation for the incoming freshman class at Camp Team USA at Port Jervis was met with surprise and excitement.

According to Alexa Orrico

(ChE '16) who was a camp counselor at the orientation, planning had been going on since the beginning of the summer. She says, "Starting in the beginning of this past summer, a few students including myself and Dean Baker would have weekly meetings discussing the camp. We then sent out letters to the freshmen encouraging them to go to Camp, designed t-shirts and care packages (which would eventually consist of a t-shirt, towel, Cooper Union flashlight, Cooper Union ID holder,



Photo Courtesy of Dean Baker

and a shampoo sample), and put together a great group of counselors. Once the final numbers were in, we had to plan who would be in which cabin and on which bus. We decided that we would not just put roommates together in cabins. Instead we randomized the cabins so that people from all floors of the dorms and all majors would be living together. I think doing it in this way really made sure that people from all parts of Cooper would be able to meet one another. Over 200 freshmen ended up going to the camp and it was amazing to see them all interact. Some were hesitant to go to the camp at first, but by the end, everyone who I talked to really enjoyed their time there and appreciated the opportunity to make friends in an environment outside of NYC. A lot of them also loved going on the zip line and being catapulted into the air by the blob. After getting back from camp, the freshmen had tons of events set up for them. The attendance at every event was incredible and did not diminish as the week went on."

She was not the only one who felt that way. John Falls, the Assistant Dean of Admissions, was also very pleased with the camp and stated that it was a

huge success. He stated that Cooper had a long tradition of going to a camp but it was interrupted for about 9 or 10 years. The students bonded over activities including various sports, zip lining, communal meals, and bonfires. This was a chance for the students to connect in a low-pressure setting and see other sides of their personality. There was a strong interest to get it back started and Dean Baker and Dean Chamberlin were the main people who helped make it possible.

Dean Baker, the Vice President of Student Affairs and Community Relations & Dean of Athletics, told The Pioneer that there were student meetings held every Monday that could run for four hours to plan out orientation. The group of students who made this happen was Jamie Chan (ChE '16), Alexa Orrico (ChE '16), Antonia Stoyanovich (Art '16), Jean Lam (ChE '17), Ryan Smith (ChE '17), Alexa Reghenzani (Arch '15), Jack Donnellan (ME '17), Nick Rendina (ChE '15), and Jason Kim (EE '15). A lot of people were invited such as Malcolm King who is a trustee and a Cooper Alum (EE '97), Eric Hirschhorn (ME '89), Stephanie Reyer (Art '95) and her husband

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THE COMMITTEE TO SAVE COOPER UNION

JOSEPH T. COLONEL (EE '15)

The battle to preserve the Cooper Union's tradition of awarding a full tuition scholarship to all enrolled students rages on.

Formed on December 26, 2013, the Committee to Save Cooper Union was created in order to fight the Board of Trustees' decision to begin charging tuition to the incoming class of 2014. In order to help fund a legal action, the Committee started a successful Indiegogo campaign that raised over \$150,000 within 60 days.

On May 15, the Committee announced that it had filed a lawsuit that would ask for an injunction against charging tuition, an audit of the Cooper Union's finances to help clarify recent fiscal management, and the creation of "The Associates of Cooper Union." As called for by the Cooper Union charter, the Associates would act as a check against the Board of Trustees with the power to remove a trustee through a vote by an elected council.

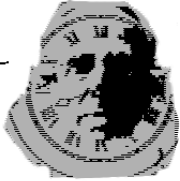
The New York Supreme Court heard the case on Au-

gust 15. During the hearing's lunch break, a rally was held in front of the courthouse at 111 Centre Street and was attended by faculty, students, staff, alumni, and other supporters of the Committee's lawsuit. At the rally, State Senator Brad Hoylman backed the legal actions, saying, "New York needs the same Cooper Union we have had for the past 155 years providing excellence in engineering and the arts. It is time for [...] all parties involved to forge a plan that will preserve Peter Cooper's model of free tuition and save this great institution from becoming just another college."

Members of the Committee as well as current students set up a table outside of the New Academic Building on September 2 to raise awareness for the lawsuit and answer questions regarding the lawsuit. (Full Disclosure: I was one of those students).

The Court has yet to rule on the case. Whether ruled in favor or against the Committee, the case is expected to go to appeals. ♦

Peter Cooper
IN THE FUTURE



JAKE POTTER (ME '16)

EPISODE SIXTEEN



(continued from front)
(Art '92). Professor Risbud (EE '92 and MEE '94), who is also a Cooper Alum, and his family also came up along with President Bharucha with his wife and two dogs, Dean Dahlberg from the Engineering School, Dean Bos from the Art School, and Professor Lewis from the Architecture school. Rob Brumer (ChE '14) also came to the camp.

There were forty camp counselors who were students from all three schools and different years. It took five buses to get the over two hundred undergraduate students up to the camp. Dean Baker also commented on how involved the incoming class was, highlighting the students who went to Cape Cod on Saturday, August 26th, moved in on Tuesday to the dorms, and then were on a bus to the camp the next morning at 8 a.m.

Dean Baker was also involved in putting together and organizing the Cape Cod trip, where a group of about 80 student athletes from all the sports teams go to Cape Cod for a week to train for the upcoming seasons. There were about ten alumni who attended the trip to help the teams train and were very generous by giving their time and even donations to help continue supporting the athletic teams. Cape Cod is the first step for most of the teams since the training focuses more on bringing the teams together, developing those team bonds,

and going over specific skills needed for the games. Dean Baker describes this year as a rebuilding year for most of the teams, since the class that graduated in May 2014 compromised of a lot of key players. The intense workouts of Cape Code helped the players as individuals and as a team gain confidence. Jamie Chan, a current basketball player, said that the most important part of Cape Cod was gaining that confidence and that relationship between team players. Cape Cod also had a learning experience to it: some of the players toured a research ship at Wood's Hole that had just returned from Alaska. For Jamie, the best part was recognizing the technology behind it as something she had learned or seen at Cooper.

For Josie Lomboy, an incoming Chemical Engineering student, both Orientation and Cape Cod were great experiences. She states that it was very exciting and it was a great opportunity to meet new people, both faculty and students. She is a runner on the cross-country team and stated that her team was very friendly and accommodating.

Arielle Mayourian is an incoming Civil Engineering student who also attended both Cape Cod and Orientation. She states "Orientation at an off campus location really got all of the incoming freshman and orientation leaders hyped for an enjoyable experience." ♦

SUMMER EXPERIENCES: PETER ASCOLI (ME '15)

SAIMON SHARIF (ChE '15)

The Cooper Pioneer interviewed current students from the art, architecture, and engineering schools about their summer experiences. The interviews will be published as a series. We hope they will serve to highlight the diverse achievements of our student body.

Here is our interview with Peter Ascoli (ME '15).

The Cooper Pioneer: Where did you work?
Peter Ascoli: I worked as a mechanical design engineer intern at the National Aeronautics and Space Administration (NASA) John F. Kennedy Space Center (KSC) in the Structures and Mechanisms Design Branch. I worked on the fourth floor of a building in the Launch Complex 39 area. I was literally right across from the Vehicle Assembly Building (VAB) and could see five launch pads out of my office window, two of which were shuttle launch pads, 39A and 39B. 39A is now being leased by SpaceX, and 39B will serve as the home of NASA's Space Launch System (SLS), which will launch the Orion flight vehicle in 2017. So, as

if working at KSC was not amazing enough, it was incredible to working in part of the center that made history with Shuttle and Apollo, and will make history again with Orion!

TCP: What was your daily routine?
PA: Most days, I would stroll into work around 8:00 am and leave around 4:30 pm. It was about a forty-minute drive to and from work since I basically had to drive from the southern-most point on center to nearly the northern-most point. I know you probably don't care about my commute, but it was actually a very inspirational part of my daily routine. On the way in, I had spectacular views of the VAB and most of the launch pads as I drove up the cape side. Seeing so much of KSC on my daily drive served as a great reminder of what NASA has accomplished over the years and will accomplish in the future!

Since I was interning as a mechanical design engineer, most of my workday was spent at my computer working



Photo Courtesy of Peter Ascoli (ME '15)

in Creo Parametric, the standard 3D CAD package used at NASA. Every component of my designs had to comply with various factors of safety, so I was constantly running hand calculations and finite element analysis alongside my CAD models to validate my designs. I was working on two Orion-related projects, one for my mentor and one for the branch lead engineer. I actually sat right across from the branch lead. To give you a bit of flavor for the work I was doing, the Structures and Mechanisms Design Branch primarily produces design work in the area of umbilical systems, ground support equipment, and flight hardware handling and transportation. Fortunately, my design projects were a bit out of my comfort zone so my daily work was a good combination of applying my existing engineering skills and learning new engineering design concepts from my mentor, the branch lead, and other coworkers.

Now I said *most of the day* – my mentor made it very clear to me on my first day that he really did not want me spending the whole workday at my machine. Since KSC is an operations center, there were so many different sites to visit, product demonstrations to attend, and even some meetings to attend that would show me a greater picture of the work done at KSC and by NASA in general. Consequently, almost everyday I would get a tour of a different part of the center, or join my mentor in a meeting of his. As such, I got tours of the VAB, the Mobile Launcher (ML), the Launch Equipment Test Facility (LETF), Swamp Works, and the Prototype Development Laboratory (KSC's on site machine shop) to name a few. I also got to watch four launches, three SpaceX Falcon 9 launches and one NASA Delta 4 launch.

TCP: What was the best part about your internship?
PA: Honestly, my entire internship was *out of this world*. I had two very cool Orion-related projects, a phenomenal mentor who advised me on my primary project, and a branch lead engineer who advised me on the second project. However, three events in the last week of my internship really underscored the importance of the work I performed, and served as highlights to the 10-week internship experience.

First, I got to see the *hand-off* – the handing over of a design to a NASA fabricator or contractor – of one of my projects. About halfway into my internship, it was made clear to my mentor and me that due to financial restrictions, the product I was producing for my primary project may never actually see the light of day. However, by the end of the internship, my mentor and the Ground Support Development Operations directorate (GSDO) – the directorate within NASA that originally requested the design be produced – were so impressed with my design work that a contractor at KSC is now taking a really hard look at the feasibility of fabricating my primary design project. Of course, there is still a small chance that the design may not be fabricated, but it was really exciting to see my primary project come farther than my mentor or I expected.

Second, I got to tour the Orion facility in the Neil Armstrong Operations and Checkout (O&C) building. Since my projects were both Orion-related, my mentor was kind enough to arrange a tour for me to see the Exploration Flight Test 1 (EFT-1) vehicle's crew and service modules, which will launch this December, in order to put it all in perspective. I got to see

the crew and service modules being assembled, as well as see all of the equipment used to handle, transport, and assemble the vehicle.

Lastly, I received the NASA KSC Intern of the Year Award. Obviously, I was ecstatic and my mentor and the branch lead I sat next to at work were excited as well. However, the best part of the receiving the honor was having Robert Cabana, the Center Director and former astronaut, present me the award and personally congratulate me on my accomplishment. The award, which was given to me during my last hour on Center, was a fantastic way to end the internship.

TCP: How was it different from what you've done thus far?
PA: This internship involved the most technically demanding design work I have ever done. All the work I was doing involved extremely high loads, on the order of 10³ to 10⁴ pounds, so everything required a calculation. In the past, I have sometimes justified the size, shape and material of a component just out of experience with the material, knowing that with such small loads it will be structurally sound. However, at NASA, some of the parts

were very complex and the imparted loads were so high that I had to thoroughly validate every design choice I made.

TCP: What do you feel was the biggest takeaway from the experience?
PA: I feel like I gained a huge appreciation for all of the engineering work that happens on the ground to make launches possible. Working in the Structures and Mechanisms Design Branch gave me a tremendous amount of exposure to all of the Ground Support Equipment (GSE), such as umbilical systems, transportation equipment (like the Crawler-Transporter), assembly equipment, etc., that are ultimately necessary to successfully perform launches, but do not go up with the rocket(s). So, when EFT-1 launches this winter, and when Exploration Mission 1 (EM-1) launches in 2017, take a moment to try and comprehend that even though the rocket soaring into outer space is an impressive feat of engineering, all of the equipment on the ground that helped launch that rocket are equally impressive feats of engineering.

REVIEW: THE MYSTERY OF EDWIN DROOD

JAKE POTTER (ME '16)

On Sunday the seventh, I had the dubious pleasure of watching the Music Hall Royale's presentation of The Mystery of Edwin Drood. The Cooper Dramatic Society usually puts on an excellent show in the Rose Auditorium, but for some reason a guest company was brought in for the season. I had certain... reservations about how well a new company might perform in our beloved space, especially one with actors coming from as far as Brooklyn College.

Bax's performance was so well received that the audience chose to have him continue in the story as the detective Dick Datchery.

The story of The Mystery of Edwin Drood is an interesting one, as it is one of Charles Dickens' last works and therefore unfinished. Thus, the Music Hall Royale took it upon themselves to complete it on stage. The performance (when not interrupted by the company's rather questionable work ethic and drunk players) was excellent, making full use of a minimalist set and talented players including the powerful vocalist Clive Paget (and his bulge) as Drood's uncle John Jasper and the break-out star Phillip Bax as Bazzard. Bax's performance was so well received that the

audience chose to have him continue in the story as the detective Dick Datchery. The guest from Brooklyn College, Erica Umhoefer, was another audience favorite, playing the murderess Princess Puffer. The actress for Edwin Drood, Miss Alice Nutting, was thoroughly enjoyable and a convincing young man. Her role, unfortunately, was cut short by her character's mysterious murder. There was a bit of a row in the theater and some profanity thrown about, and Miss Nutting stormed out of the theater.

Miss Alice Nutting, was thoroughly enjoyable and a convincing young man.

Unfortunately for the Music Hall Royale, a night which ended with great applause, the departure of the disagreeable Miss Nutting, and only a small bit of incest and lechery also included the rewriting of the thoroughly thought-out ending that the audience chose for the play. In a triumphant career-ending move, Miss Nutting burst forth from the mausoleum, declaring (in an generally disagreed-upon manner) that Edwin Drood was in fact alive, and probably making more money a night than any of the other actors. ♦