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ASCEBRUINS.ORG - 1 - WINTER 2017
A Letter
FROM THE PRESIDENT

Dear Alumni, Faculty, and Friends,

I am honored to share with you a recap of the strong quarter we just had for ASCE at UCLA. During my letter in the previous ASCE Bruin, I made a promise to you. I stated that we would continue to develop our club and find ways to benefit our members. Our Officer Board did just that. Some of the highlights from the past Fall Quarter include our first ever Networking Night, an EIT Preparation Workshop, a Faculty-Appreciation Breakfast, and a number of unique events with our new Family System. In addition, a couple of our projects reached notable milestones: Seismic Design had a top 9 proposal and Concrete Canoe had their mold professionally cast. Furthermore, we made significant strides to achieving one of our platforms - pursuing a long-term community service project. We initiated a joint venture with Engineers without Borders (EWB) at UCLA to provide access to clean water to an underprivileged community in the Navajo Nation. We had a total of 60 events and 133 project events last quarter. The bottom line is that our officers have consistently found practical ways to improve their position, project, or the club and then made it happen. Without further ado, I present to you the ASCE Bruin Winter Edition. Let’s get started.

ASCE started the year off in heavy-recruiting mode. Through events like Enormous Activities Fair, Engineering Welcome Day, ASCE Kickoff BBQ, Open House, and General Meeting, we were able to engage a large portion of the civil engineering students. During our General Meeting, we had about 110 students in attendance and Brooke Crowe, past ASCE President and recipient of the Richard T. Shimano Award, shared her experiences, encouraging former and new ASCE members. We are now at a total of 271 paid members.

From September 23 to the 26th, the ASCE Officer Board went on the traditional Officer Retreat to Big Bear, a crucial event for officers to prepare for the upcoming year, as well as bond with fellow officers. One of the main tasks accomplished was developing a Mission Statement which built upon ASCE’s mantra of always being welcoming. So we decided to centralize our efforts into creating more member benefits. After many hours, our efforts culminated in the following Mission Statement: Creating community and enriching experiences.

This past quarter, we had eight info sessions, three field trips, one networking night, and thirty companies attend our Career Fair. Those number are absolutely outstanding! The hard work of Asia Reeves (Career Fair Coordinator), Damian Gutierrez (Speaker Coordinator), Heather Wong (Networking Night Liaison), and Kasey Murakami (Field Trip Coordinator) truly enriched the experiences of all our members through huge professional development.

"The work that sponsors, alumni, and the department do for ASCE at UCLA is not a part of their job descriptions yet they continue to help us."
ASCE at UCLA continues to look for new ways to sustainably expand which often can be answered by collaborating with other organizations. We had an EIT Workshop with Chi Epsilon, Thanksgiving Potluck with Calgeo, and a few info sessions and field trips with other civil engineering organizations. Furthermore, two of our projects are collaborations: ASCE-ITE Transportation Project and EWB-ASCE Navajo Project. While the Transportation Project partnership will be starting their work next quarter, the Navajo Project already began with an on-site assessment trip in November. In addition to gaining a unique insight to the amazing culture of the Navajo community, they accrued important information to accomplishing their goal this year (see EWB-ASCE Navajo Project Section for more details).

The strength of our club stems from the support we receive from our sponsors, the UCLA Civil Engineering Department, and alumni. Sponsors provide funding and materials to allow our projects and chapter to raise the bar, while alumni provide invaluable assistance through our professional events. Finally, I am very proud to say that the relationship between ASCE at UCLA and the Department/Faculty has strengthened immensely. Yash Kansal (Media Director) works very closely with Jesse Dieker and Lucy Capul to achieve something unprecedented—weekly notifications to all civil engineering students of upcoming events. The work that sponsors, alumni, and the department do for ASCE at UCLA is not a part of their job descriptions yet they continue to help us. We are profoundly grateful for them.

To anyone who believes it is too late to join or attend – it is never too late! Next quarter, our projects require more support than ever, new social events such as Ski Trip and the UCLA Basketball Tailgate could always use more friendly faces, and the fresh set of professional events will help you develop your career. We got something special here, my friends. Stay tuned because we are in it.

All the best,

Suraj Patel, President
ASCE at UCLA 2016-2017

"To anyone who believes it is too late to join or attend – it is never too late!"
MEMBERSHIP

JOHNNY SCHMIDT

It’s been a great year for involvement in ASCE, with many new and returning members contributing to a thriving membership base. We currently have a total of 272 members, 56 more than at this time last year and more than half of whom are new to ASCE. Though our organization is centered around the field of civil engineering, we were able to see more than 30 students from other fields of study join ASCE, giving us an even more diverse group of people and ideas. We are happy to welcome people from all interests and backgrounds to the ASCE at UCLA family, and proud to see so many new faces interested in our club.

We were able to attract so many new members in part because of our advertising at both the UCLA-wide Enormous Activities Fair and the engineering specific Engineering Welcome. Showing off our brand-new member shirts and armed with hundreds of flyers advertising our early events, a mix of officers, project managers, and directors were able to speak to countless new students. By sharing about all the professional, social, and practical resources ASCE has to offer, we were able to attract many prospective members and ensure a great start to the year.

Although it’s great to have a lot of members, it’s even more important to us that those who join are able to get the most out of ASCE. We continued to use the member tracking system implemented last year to keep attendance at events and workdays and ensure that members are getting involved. To further increase the effectiveness of this system, we purchased a Chromebook specifically for the purpose of signing into workdays and events, allowing project managers and officers to conveniently keep track of who is coming to their events. Using this, we are able to see, for example, that our best attended info session had 45 students, or even that 23 people attended the steel bridge workday on October 21st. Though we are such a large organization, we want to remain a place where people can develop real skills and real friendships in smaller settings.

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INFO SESSIONS

DAMIAN GUTIERREZ

We have enjoyed great success at the info sessions this quarter with companies of all disciplines. Past info sessions include focuses in Geotechnical Engineering, Structural Engineering, Transportation Engineering, and Land Development. Other disciplines include Construction and Consulting firms. The attendance at these info sessions have also been great with as many as 45 people showing up for one of the info sessions. Next quarter we expect to see this type of diversity with hopes of upgrading the quality of food provided at these info sessions. Make sure to stop by and network for those jobs!

FIELD TRIPS

KASEY MURAKAMI

ASCE at UCLA went on 3 field trips during the fall quarter of this year. We visited John A. Martin and Associates’ office and project site, the Donald C. Tillman Water Reclamation Plant hosted by LADWP, and the on-campus new Wasserman Football Center as well as the Mo Ostin Basketball Center under construction by PCL. The general turnout out for each of the trips was about 15 students. At the John A. Martin and Associates’ office we were able to learn about the different programs being used and visit TEN50, a new high-rise going up in Downtown LA. At the Donald C. Tillman Water Reclamation Plant, the students walked around the different facilities in use and learned about water treatment. Lastly, we were able to tour the project sites for the new football and basketball centers. PCL gave us an insight not only to the new projects being built on campus, but also on how we can get involved with construction companies. While the office visits and project site tours this quarter were successes, there are still more companies we would love to visit. With that in mind, we already have some great field trips planned for the upcoming winter and spring quarters, including a possible trip to the Hoover Dam in the spring!
JOHN A. MARTIN AND ASSOCIATES’ FIELD TRIP ASCE at UCLA visits John A. Martin and Associates’ project site.

LADWP FIELD TRIP Our members visit Donald C. Tillman Water Reclamation Plant.
This quarter ASCE participated in both annual and new community service events. Volunteers came out to Explore Your Universe, KD Shamrock, and a New West Charter school visit. As tradition, ASCE set up a booth at the Explore Your Universe fair. This fair focused on introducing physics and engineering to a younger audience. We used toothpicks and gum drops as building materials to allow children to construct bridges. The KD Shamrock philanthropy event was a great team building exercise where participants played bubble soccer. The proceeds from the event went to charity. Students also traveled to the New West Charter High school to present to the engineering club. The volunteers fielded questions as well as discussed the various branches of civil engineering with the students. In addition to these day events, ASCE kicked off its very first long term community service project. In collaboration with Engineers Without Borders, a team of volunteers took on the challenge of providing a Navajo community with a sustainable water system. Next quarter we hope to continue traditional events, as well as continue working on the Navajo project. We hope to collaborate with other clubs like Habitat for Humanity next quarter.

EXPLORE YOUR UNIVERSE FAIR
Our members interacting with young students, introducing physics and engineering to them.

KD SHAMROCK PHILANTHROPY EVENT
Members taking part in a team building activity by playing bubble soccer.
ALUMNI & PROFESSORS

JENNY LI

This fall, ASCE successfully held several events featuring alumni and faculty. We began the quarter with a faculty appreciation event on campus, and followed it up several weeks later with the traditional student-professor BBQ at Professor Stewart’s residence. Students and faculty members socialized with one another in a lively and warm atmosphere while enjoying a delicious Italian dinner. Next quarter, we are looking forward to even more events including a UCLA basketball game and BBQ with alumni as well as professional workshops featuring professors and increased outreach with LA YMF.

ATHLETICS

BRYAN HONG

ASCE Athletics took upon its first challenge on September 26th, participating in the Engineering Ultimate Frisbee Tournament. This year, over 10 engineering clubs and 200 students signed up for the event. As the defending champion, ASCE recruited new team members and joined forces with Society of Women Engineers (SWE). We started off strong with two wins over IEEE and ASME. Then, the final game was against the Biomedical Engineering Society (BMES). BMES had several club frisbee players, but fear not, we did too. We put up a great fight and kept up with the scoring. When we were tied at 2-2, the IM field shut down all its lights, indicating the end of the tournament. Even though we all hated drawing the game, we still received free shirts and the TROPHY; we remained undefeated in this tournament. Special thanks to ESUC for hosting the event and SWE for helping the team to win the title. Also, thanks for those who came out and cheered for us.

We also had three intramural sports during fall quarter. We had co-rec flag football, women’s 3 v 3 basketball and men’s 3 v 3 basketball. Flag football team started off strong and won their first game by mercy rule. However, we did not get another much-needed win to make the playoffs. Alex Lee, Alyson Kim, Dario Qiu, Ellen Key, Gabriel Blum, and Kylie Williams were the “spirit of the game” winners for Flag Football. They played with great sportsmanship and cheered on their teammates.

At Hitch basketball courts, men’s 3 v 3 basketball team went to the playoffs with an undefeated record and we were ranked #3 out of all 23 teams. In the semi-finals, Justin Kuo hit 4 three-pointers in a row to tie the game at 20-20, but we lost by 2 points after the other team hit the game-winning shot. ASCE men’s b-ball team put up a great fight and we were proud of our achievement. Finally, for the first time in ASCE history, we put together a women’s 3 v 3 basketball team. They impressed their opponents and fought their way to the championship game, but the other team outshot them with 21 – 14. Even though we did not win a shirt this quarter, we bonded and won friendships, the goal of organizing intramural sports. With two teams advancing this far in intramural sports and a team crowning the Engineering Frisbee Tournament, ASCE has once again demonstrated we are not just engineers but well-rounded engineers.

In the winter quarter, we will organize intramural and casual sports to prepare for PSWC’s Kan Jam, soccer, and volleyball. Last year, we placed 3rd in Kan Jam and 1st in volleyball. This year we would like to revisit our success. In addition, we are expecting to host game watching events. We will watch and cheer for UCLA #2 men’s basketball, #2 men’s volleyball, and other athletics teams at home. Make sure to come out!
FALL STUDENT-PROFESSOR BBQ
ASCE Members interact with professors in a casual setting.

ENGINEERING FRISBEE TOURNAMENT
ASCE at UCLA, teamed up with SWE, shares the 1st place award with BMES.

BASKETBALL INTRAMURALS
Our Men’s and Women’s Basketball teams after completing their respective IM games.
The fall social calendar was full of traditional events, as well as new social activities. Events such as the Welcome BBQ and Laser Tag have been staples in the ASCE at UCLA social rotation, and were warmly welcomed this year as well. The Fall Welcome BBQ had a notable freshman attendance due to the event starting immediately following the Friday Civil 1 Seminar. A freshman in attendance, Claire Killian, said, “It was really great to meet many of the upperclassmen”. Cornhole, Kan Jam, and Jumbo Jenga (courtesy of CalGeo at UCLA) were all available for members to enjoy as they ate their hamburgers on the patio of Engineering IV.

Laser Tag was another event with a surprisingly large turnout. A handful of new faces joined veteran laser tag players at the Ultra Zone in Sherman Oaks. One new player, a freshman named Azeb Mallick noted that “[his] first event with ASCE just showed how awesome the club is and [that he] knew from then on that ASCE is where it’s at.” Not only did this event show how awesome the club was, but it also displayed the laser tag skills of those in attendance. ASCE members held individual scores that consistently ranked top 5, despite the fierce competition from a band of high school player and a wedding party, both of whom were also playing alongside ASCE at UCLA.

Traditional events such as pumpkin carving and gingerbread house building further strengthened the bond between ASCE at UCLA members. This year, both events were coordinated with the mentorship chair to ensure quality. This resulted not only in better events, but in a larger attendance in comparison to previous years.

A new event hosted this quarter was the ASCE at UCLA Bar Crawl. This event was for 21+ members only. Alumni, YMF members, and other local student chapters were informed of the event, and a good mix of professionals and students ended up attending the event. Greater advertising will accompany future bar crawls to incorporate more alumni and other student chapters.

Next quarter the highly anticipated Annual ASCE at UCLA Ski Trip will take place over the MLK weekend. In addition to this event, more events will be hosted with other organizations on the UCLA campus and with other ASCE Student Chapters across Southern California.
MENTORSHIP

RYAN WORLEY

On June 3rd, 2016, the new ASCE family system began with the ASCE Family Reveal Event. This fall, we have increased the size of each family. We now have over 100 members that are participating in the ASCE family system, which is a great accomplishment. Next quarter, we plan to come up with new, fun events to get you as members even more involved with the family system. Early talks include murmurs of a possible bowling or mini golf social, as well as more fun on campus activities.

This past fall, we have had a variety of events for members of the ASCE family system. We have had a laser tag social, a pumpkin carving, a gingerbread social, and our first ever Thanksgiving Potluck. These events all allowed members in each family to get to know one another, and members were able to branch out and meet new people. The thanksgiving potluck was the highlight event, as it was attended by almost 50 people and created a collaboration between all 4 families and Calgeo.

Additionally, each family had individual socials between their members. The activities done during these socials ranged from getting food together on the hill, to going out for some ice cream at salt and straw. Expect these individual family socials to continue during winter quarter!

I’d like to give a special thank you to Amberly Bark, Jenny Li, Yash Kansal, Megan Nazareno, Max Armenta, Jorge Barrio, Leighton Paradis, and Tina Root for their work as family heads this past quarter! The work they put in was vital towards the success of the program.

If you haven’t already, please sign up for the ASCE Mentorship Family! Look for the link on Facebook, or contact me directly at rcoworley1592@gmail.com. The ASCE family is one of a kind, and has made a big school like UCLA, feel a heck of a lot smaller. Sign up with ASCE Mentorship, and I guarantee you will have a plethora of fun!

FAMILY SORTING AND PUMPKIN CARVING The four families pose with their pumpkins that they carved together after an amazing dinner.
During the 2016 Fall Quarter, ASCE at UCLA had its first ever Networking Night for its members. Twenty-two representatives from eleven companies, two LAYMF members, and forty-nine students gathered at Italian restaurant Locanda del Lago, located near Third Street Promenade in Santa Monica. During a cocktail reception flowing with hors d’oeuvres and complimentary drinks, attendees had the opportunity to learn about and share their civil engineering and construction management experiences in a more casual and intimate setting. Attendees were free to roam around the restaurant and conversed both one-on-one and in groups.

Networking Night was designed to prepare students for the ASCE at UCLA Fall Career Fair the next day. Students were given the opportunity to sharpen their networking skills and establish connections ahead of the Fair. Overall, attendees had a good experience; at the end of the three hour event, several attendees remained at the restaurant to continue their conversations. One professional said that he enjoyed the atmosphere of the Networking Night, while many representatives the next day said that they were happy to see familiar faces during the Fair, since they had already met the students the night before. For the Winter Networking Night, which will take place the evening before the ASCE at UCLA Winter Career Fair, one can expect to see an expanded venue due to positive feedback and a significant level of interest, as well as additional representatives attending from different companies.
CAREER FAIR

ASIA REEVES

ASCE’s Fall Career Fair is where many civil engineering related companies come to recruit members of our club! This year it was held in Ackerman Grand Ballroom, right on campus, and we had a whopping 30 companies attend! That’s the most companies we have had attend in the previous few years! We definitely tried to increase the diversity of the companies in attendance, adding more from the fields of general civil, geotechnical, water, and environmental engineering. We had around 190 students attend our fair. The event was a big hit among both the students and the companies that came. A lot of companies made it a point to let us know how our fair was the most organized fair they had been to! Additionally, a lot of companies who had attended our previous career fairs said this year’s fair was a significant improvement. Hooray for progress! Next quarter we are looking to continue the great success of the Fall Career Fair.

PSWC 2017

MONICA CORBIN

PSWC is ASCE at UCLA’s biggest competition. It is a regional competition between nineteen different schools and this year it will be held at UCI. We will be competing in all seventeen events, eight of which involve our different projects that are worked on throughout the year. Last year we took first place overall and we are hoping to do the same this year! Our projects are well underway preparing for the competition and we can not wait to see the result of all their hard work this quarter. If you are interested in learning more about this competition please visit pswc2017.weebly.com.
In February 2017, we will be going to Sparks, Nevada to compete at the annual ASC Regions 6&7 Construction Management competition for the fourth time. We have 24 student members participating in the Design Build, Heavy Civil, and Mixed Use categories, each offering a different problem statement to reflect different scenarios in construction. All school teams have 16 hours on the competition day to prepare preconstruction mock bids, which include quantity takeoffs, cost estimates, schedules, and site logistics plans. The following day, the teams present the bids to a panel of judges. The school teams with the best presentation and overall approach to the problem statements get the top places in the competition.

One of our goals this year is to be more knowledgeable of construction concepts and applications before going to the competition. To achieve this goal, we held two workshops in October where we invited professionals from Pankow Builders and W.E. O’Neil Construction to teach us the fundamentals, like how to use Bluebeam and make a schedule in Microsoft Project. These workshops were well-attended, especially by students from the CEE 1 course as part of their course curriculum.

Currently, we have already picked 24 students to be registered for the competition, and we are hosting workdays every week to hone on specific material and expand on the topics that were previously covered in the two workshops. In addition, we will continue to invite industry professionals to give us practice problem statements and provide feedback. With the extra assistance from these professionals, we are looking forward to being stronger contenders at the competition in February.
It’s been an exciting fall quarter for the Concrete Canoe project, full of new challenges and accomplishments. In this project, over 200 teams across the country attempt to engineer the strongest, lightest, and fastest canoe from only a hand-designed concrete mix. We compete in product display, oral presentations, a design paper, and of course paddling races.

Our year is off to a great start, with one of our largest director teams ever (11 people!). Our core group of workers is rounded out by a dedicated squad of freshmen and new members. We’ve already put a combined 1,500 person-hours into the project, and formed many new bonds in the process!

This quarter, we researched materials and strategies, engineered our hull shape, designed our mix, practiced paddling techniques, and assembled our casting mold and pretensioning system. Most notably, a national rule change disallowed several key components of our concrete mix, leading to many hours in our mix lab batching and testing new formulas. Overall, we’ve spent nearly twice as many hours engineering our mix this year, and the hard work has paid off -- our final mix appears to be our strongest in recent history! We also held many practice casts to perfect speed, color gradients, and working with our newly built pretensioning system. We were able to make time for all these new activities by getting our casting mold CNC milled for the first time in several years, rather than building it out of cross-sections all quarter long. We’ve also held field trips, team movie nights, and even joint paddling practices with other schools this quarter.

As we finalize preparations for mid-January casting day (when the nearly entire canoe is built in a single day), we start to look to the winter quarter ahead. We will draft our design paper, practice our oral presentation, add artwork to and sand the canoe, finalize our paddling teams, and build our canoe stands, display, and cutaway section. Ultimately, we’re excited to compete in the 2017 Pacific Southwest Conference at UC Irvine on April 6th!
CONCRETE SPORTS

FRANCIS PARAS

Fall 2016 was a great start for the Concrete Sports team here at UCLA! For those not familiar with Concrete Sports, it is ASCE’s most historic and prestigious project in which we create sports equipment out of concrete and compete in athletic events using our concrete. This year’s project is a completely new challenge compared to years past. In previous school years, the challenge was to create a bowling ball completely out of concrete and bowl with it. However, PSWC rules have changed this year and we are now tasked with creating and throwing a concrete frisbee instead! It is definitely a new and interesting challenge, but it is a challenge that myself and my director, Adam Wong, are very excited to tackle!

Great progress has been reached this quarter for Concrete Sports. We have been spending time in the lab, mixing concrete and casting prototype frisbees en route to finding the best concrete formula. Once our prototypes finished curing, our team took them out to the field for some testing and throwing practice. The workdays have been very productive, and we are getting closer to choosing a final mix and a final frisbee design.

In the upcoming quarter, we will be conducting our final prototype testing. After this, we will choose our best mix and cast our competition Frisbees In addition, we will also begin developing design and costume ideas for our theme, which we decided to be Fruit Ninja! The rest of the quarter will focus on throwing practice as we must prepare and finalize our competition team for PSWC. Fall 2016 was fun and we are looking forward to a great Winter 2017!

ENVIRONMENTAL DESIGN

JOSEPH WILDMAN

The goal of the Environmental Design Project is to design a greywater filtration system with the challenges of maintaining a minimum flow rate, discharging water with low levels of contaminants, and assembly of the filtration unit in under 20 minutes. During our workdays, our team has been working in groups to develop individual components of the whole system. One group focuses on the structural support system, while others focus on chemical dosage and filtration. The filtration system utilizes granular filtration as a method of contaminant removal and other processes to achieve the desired water quality. The CEE 1 Workshop gave freshmen an opportunity to learn more about environmental engineering and demonstrated the process of coagulation with the addition of coagulating agents to water mixed with soil. In Winter Quarter, our focus will be on finalizing conceptual designs, building prototypes, and finalizing assembly methods.
EWB-ASCE NAVAJO PROJECT

MAXWELL ARMENTA

The Navajo Water Project is a project under the umbrella of both the Engineers Without Borders (EWB) and American Society of Civil Engineers (ASCE) at UCLA Student Chapters. The project had its on-campus debut through the first EWB general meeting on Thursday, October 13th. Following the general meeting, a project specific meeting was hosted every Wednesday in the EWB Student Space (Boelter Hall 2821).

The first couple of meetings consisted of researching topics such as solar energy, greywater treatment, and weather patterns. Individual members completed research independently and returned to share what they learned. Project leaders also took advantage of general meetings to present on topics such as Bernoulli’s equation, solar energy, and recent Navajo history. At one meeting, project members designed different configurations of PVC piping which was attached to a submerged pump. The following week, each design was tested and volumetric flow was calculated using stopwatches and a 5-gallon bucket. Overall, members learned a lot from meetings, preparing the entire group for a design-intensive winter quarter.

One major milestone the project achieved this quarter was a successful visit to the Navajo Nation Territory in Arizona. Eight members traveled roughly 10 hours on Wednesday, November 23rd to stay with a family that the project aims to assist. The group shared a Thanksgiving meal, gave away donated food items, and surveyed three properties. Members learned a handful of Navajo words and how to bead. The trip was educational in many ways.

Now that the group has a more complete understanding of design parameters, winter quarter will consist of additional fundraising and designing the system. The goal is to construct the system immediately following the end of spring quarter. In addition to the construction goals for this year, the Navajo Water Project will also need to establish long-term goals and assess how both ASCE and EWB can best help the people of the Navajo Nation for years to come.

NAVAJO NATION TERRITORY TRIP A group of members from ASCE and EWB visit Arizona during the Thanksgiving break.
GEOWALL

ARIELLE SANGHVI

GeoWall is UCLA’s only undergraduate geotechnical engineering project. We design and construct a small-scale mechanically stabilized earth retaining wall (MSE wall) which must hold back 500 pounds of sand--our wall is made solely out of paper materials. The UCLA GeoWall team competes at both regional and national competitions against other schools, where each participating team must design their wall to be robust while using the minimum amount of material necessary. This is analogous to having a cost-effective design in a real-life construction project.

During Fall Quarter, our project held two workdays a week in the lovely UCLA Soils Lab, during which we performed lab tests, created multiple wall designs, fabricated the reinforcements, and tested the prototype of our design. This year we are not allowed to use tape to secure our reinforcing strips to the facing of our wall, so creativity and innovative ideas were abundant during workdays! The GeoWall team held a CEE 1 workshop for new students to learn about the hidden wonders of geotechnical engineering--every high-rise building needs a solid foundation. Students were given a tour of the Soils Lab as well as an introduction to the geotechnical field, which one may not learn about until their third year in the civil engineering program.

Winter Quarter consists of submitting our design report to the judges in order to qualify for the national competition, which will be held in Orlando, Florida at the annual Geotechnical Frontiers conference in March. We will be practicing multiple builds each week in order to prepare for the timed portions of the competition. The team will also be painting and decorating our plywood box to look snazzy for the geotechnical challenge.

Geotechnical engineering rocks--we can’t wait for 2017!

GEOWALL WORKDAYS Team members working hard and having fun at the same time during the workdays.
SEISMIC DESIGN

ERIC ROBERTS

Although many changes have been implemented to the seismic design competition this year, we managed to have a very successful fall quarter. From numerous design constraints to new architectural requirements and an entirely new set of ground motions for testing on the structure, our team was ready to accept the new challenges ahead of us. With incredible help and advice from our new faculty advisor, Professor Henry Burton, and our lab technician, Professor Eric Ahlberg, we were able to refine our structural design while improving our knowledge and understanding for the competition moving forward. In addition to hosting many returning members, we had a large number of passionate newcomers who were eager to learn!

With this year’s competition being held in Portland, OR from March 7th through March 10th – a much earlier time than usual – our team adopted an aggressive schedule to ensure we met our goals for proper design and construction of our models. This translated into creating different structural assemblies in SAP2000 and beginning to brainstorm and model architectural elements during the summer. At the beginning of the quarter, our earlier competition date forced our workday schedule to be efficient, requiring two separate, simultaneous sets of workdays to be conducted. Thus, for newcomers, we implemented a series of construction workshops focused on construction quality and the fundamentals of structural engineering, while having our experienced, returning members begin the construction of our first prototype model. This schedule allowed for the construction quality of our prototype to be maintained for the purpose of collecting meaningful data from shake-table testing, while providing useful knowledge and building experience for new members. The series of construction workshops culminated in the fluid design and fabrication of small-scale towers, which were then tested to failure, presenting a useful opportunity to provide feedback and properly assess the damage. Meanwhile, we successfully tested our first prototype against the competition ground motions, and now eagerly await assembling our final structure in preparation for the EERI competition!

In addition to managing workdays, we worked closely again with students from the UCLA architecture department to deliver a crisp initial rendering that helped us place very high in the design proposal submitted for admission to the competition. This partnership is strengthening each quarter and we look forward to producing even higher quality renderings and architectural themes/features. We also collaborated with the Seismic Outreach team for our CEE 1 workshop, where we delivered a presentation on earthquake engineering and had students design their own structural models with K’NEX pieces, which were subsequently tested against ground motions.

With the annual EERI competition approaching quickly this upcoming quarter, we are focused on refining our construction skills, preparing our competition materials, and continuing to educate members throughout the duration of the project. In summary, we have a very dedicated team and strong design, and we are extremely excited to compete in Portland in a few months!
STEEL BRIDGE

KYLE EVANS

The goal of our project is to construct a steel bridge that meets a specific set of rules as detailed by the ASCE/AISC Student Steel Bridge Competition. This year, we were tasked with building either a long span bridge or a cantilever bridge – and ultimately decided it was advantageous to build a cantilever bridge. This presented a new challenge to our design team, as the past few competition bridges have been long span and is what we were more familiar with in terms of design. We spent our fall quarter flushing out our new design, first in AutoCAD and Sketch-Up, and then in SAP2000 where we performed many iterations to optimize the bridge design. Our finalized design meets all the new design parameters and constraints, which includes spanning a 7-foot river, cantilevering about 4-feet, and sustaining a 2500-lb. vertical load test. In order to design the bridge, we considered many real-world factors in bridge design and construction like spatial constraints, materials, constructibility, fabrication, safety, aesthetics, project management, and cost.

This fall quarter, we implemented a new student machine shop project to get new and returning members familiar with the machines and tools we use to fabricate the actual bridge (which doesn’t begin until winter quarter). Students were given a set of parameters and asked to create their own design, generate a 3-D rendering using computer modeling programs, and fabricate their design. The implementation of this new project led to an increased and sustained member growth throughout the quarter. Additionally, we hosted a successful CEE1 AutoCAD Workshop: Drafting and Design for about 30 people in November. Participants were required to submit a follow-up assignment consisting of a modeled piece of space truss from last year’s bridge to receive CEE1 credit.

Looking ahead, we’ve ordered our material and we’re ready to hit the ground running with fabrication during winter quarter. We’ll be holding build practices until we finalize the build team for our regional competition at PSWC in Irvine, California this April. Should we qualify, we’ll be traveling to Corvallis, Oregon over Memorial Day weekend to Oregon State University for the national competition. Finally, we’d like to thank our sponsors for making the bridge possible and enabling us to pass this project and the wonderful experience it provides on to future members.
This fall quarter Seismic Outreach partnered with Paul Revere Charter Middle School. We had a quick fifteen-minute commute for our school visits and held weekly workdays for our members. On November 2nd, Seismic Outreach hosted 325 students, 40 parents, 5 teachers, 50 UCLA student volunteers, 6 corporate volunteers and 4 UCLA professors at our Finale Day in Pauley Pavilion. For the first time, we incorporated our own Civil and Environmental Engineering department professors to act as judges at the Finale Competition Day. We are excited to continue this tradition with the help of our wonderful faculty. Thank you to Professor Zhang, Professor Ju, Professor Taciroglu, and Professor Sabol for your help on this day. Your help was integral to this program’s success!

Next quarter we plan to have a winter program for the first time. We will be heading over to Woodland Hills to work at Hale Middle School with long time partner Julie Istrin. We are eager to continue to expand our program’s reach, while also refining and perfecting what we already have.

Over Fall quarter, the ASCE Surveying team focused on teaching its members techniques in differential leveling and taping and providing them with an understanding of surveying techniques and equipment. The quarter was off to a great start, with 10 attendees for the CEE 1 Workshop, and workdays beginning earlier in the quarter. We started with two workdays a week, but a third workday was added due to a high demand. At our fall quarter workdays, we learned how to measure elevation changes through differential leveling, using the automatic level and Philadelphia rod to take measurements. We also learned two different methods to measure horizontal distances with taping. Throughout the quarter, we were able to have a few friendly races during workdays as well!

Besides having workdays out in the field, we also had a Surveying Workshop in November, where members learned to do traverse calculations and the calculations for one of the events from conference last year involving the distance between two points, elevation, and azimuth. With the total station that Professor Robert Kayen has generously let us borrow, members were able to measure and compute necessary information in the field.

Not only did we learn a lot, but we also had fun! Our members got to spend time with each other outside of workdays at our dinners and board game socials! In the Winter quarter, a team of four will be selected to begin training for the Pacific Southwest Conference (PSWC). It will be focused on using the total station and getting more familiar with the calculations for the desired information such as elevation, azimuth, coordinates, and distances between points. We are excited to have another exciting quarter of Surveying!
OUR PROJECT SPONSORS

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STEEL BRIDGE

WALTER P MOORE

ALSO, THANK YOU

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