

Cal Concrete Canoe

2021-2022 Joint Fundraising Grant Proposal

Executive Summary:

The Cal Concrete Canoe team competes at the annual ASCE (American Society of Civil Engineers)-sponsored concrete canoe competition. Our team challenges students to apply knowledge gained in class to a dynamic, hands-on project. We hope to provide a welcoming community in which student members can learn and grow, while working towards competitive final deliverables.

Our team also recognizes its role in the larger Civil and Environmental Engineering (CEE) community and the Cal ASCE chapter. In order to streamline fundraising, Concrete Canoe will participate fully in the Cal ASCE Joint Fundraising Committee (JFC) and therefore will adhere to the policies and procedures dictated by JFC.

This school year, Cal Concrete Canoe will strive to qualify for the 2022 National Concrete Canoe Competition (NCCC) by winning the regional Mid-Pacific conference. After adapting to the COVID-19 pandemic last year, our team is excited to return in person and provide fresh perspectives and new ideas to innovate. To further increase our chances of qualifying for nationals, we plan on developing stronger ties with the department and faculty, and exploring recent innovations in both industry and academic research. Our ultimate mission by the end of the year is to not only be the top team in the Mid-Pacific region, but top five in the entire country.

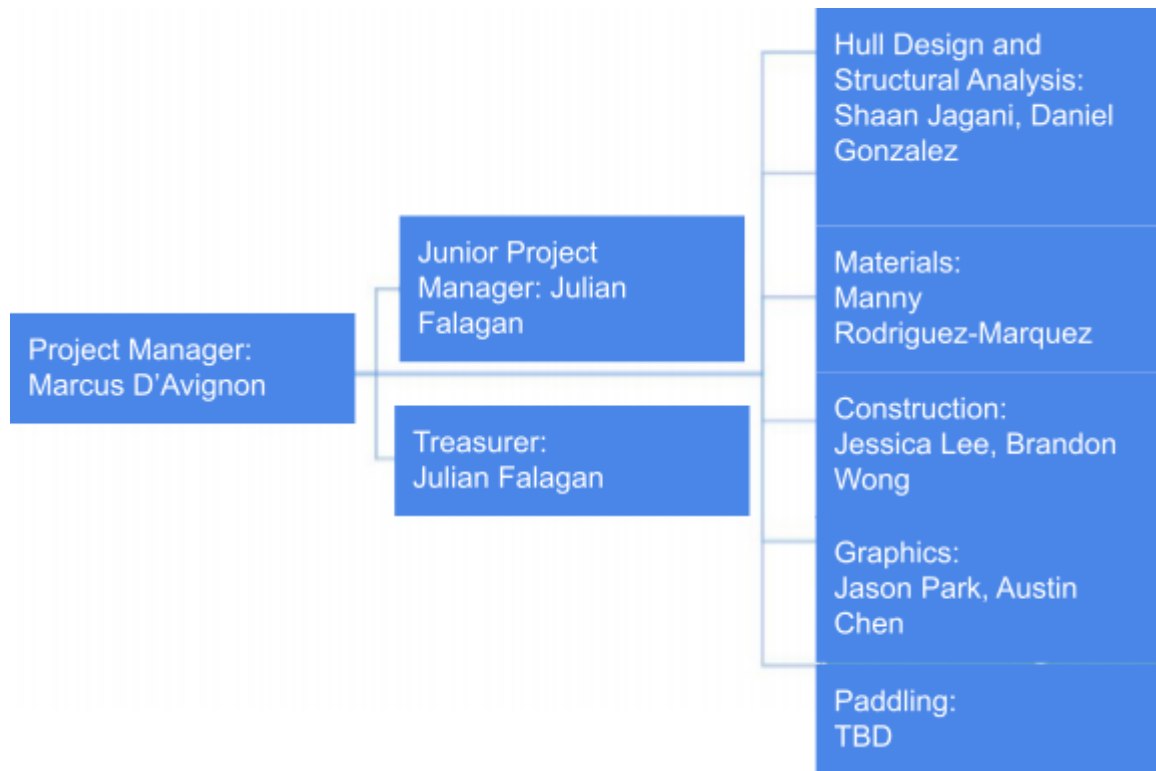
Statement of Agreement to Terms & Conditions:

Cal Concrete Canoe agrees to all terms and conditions outlined in the JFC 21-22 General Contract.

Organization Description and Management:

Cal Concrete Canoe focuses on giving its members experience in working with concrete and developing their knowledge on the technical properties of this material. We stress teamwork, reliability, and pride in one's work in order to produce a quality final product. Our team hopes to provide the CEE students with an organization that can teach them the intricate details of concrete while still making it an enjoyable experience.

- Internal Organization



- Description of roles:
 - Project manager: in charge of overseeing division progress and managing overall scheduling. Makes final calls regarding canoe related decisions
 - Junior project manager: assists project manager in overseeing division progress and communicating with division officers.
 - Treasurer: manages funding and monitors canoe CalLink account. In charge of procuring donations and other funding allocations
 - Division officers
 - Construction: oversees construction of the canoe including mockups, mold fabrication, curing, and sanding
 - Materials: designs and tests the canoe mixes
 - HDSA: conducts preliminary tests on canoe designs and is responsible for load and flume testing
 - Graphics: oversees artistic element of canoe including yearly theme, apparel, and paper design
 - Paddling: coordinates paddling and lifting sessions
- This year's team will take a more collaborative approach with overlap between positions so some are not final
- Senior advisors - Tracy Tanusi, Matthew Michalek
- Risk Management
 - Team Quality Control Officer - Julian Falagan
 - Ensures safety protocol is followed during all phases of construction and testing
 - Coordinates safety training with lab staff and any other applicable University entities
 - Monitors progress of work to ensure all processes and deliverables are

compliant with the rules

Position	First Name	Last Name	E-mail
PM	Marcus	D'Avignon	mdavignonsf@berkeley.edu
JPM	Julian	Falagan	jfalagan@berkeley.edu
Construction	Brandon Jessica	Wong Lee	brandino@berkeley.edu jlee23@berkeley.edu
Materials (1)	Emmanuel	Rodriguez-Marquez	mannyrodr721@berkeley.edu

Hull Design and Structural Analysis	Daniel Shaan	Gonzalez Jagani	danigonza11@berkeley.edu ajagani@berkeley.edu
Paddling	TBD		
Graphics	Austin Jason	Chen Park	austinchen0704@berkeley.edu jason_park@berkeley.edu

Goals:

SMART (Specific, Measurable, Assignable, Realistic, Time-Related)

- Organization Deliverables
 - Final Product – A Finished Concrete Canoe
 - Cutaway Cross-Section
 - Display Table
 - Concrete Cylinder Samples
 - Reinforcement Samples
 - Canoe Display Stands
 - Design Report
 - Engineer's Handbook
 - Formal Presentation
 - Speech/Script
 - PowerPoint, Prezi, etc.
 - Concrete Bowling Ball for MidPac mini-games
- Organization Schedule
 - Because schedules for MidPac 2022 have not yet been released, we are unable to determine our exact project schedule. Likewise, particular tasks will be dependent on the particular set of rules released in early September by the NCCC Committee. However, the following key deadlines represent our rough estimates of our 2021-22 project schedule. A revised, formal schedule will be created upon the release of more information regarding MidPac.

Date	Task/Description
Summer '21	Finalize Team, Preliminary planning for upcoming year,
Sept. 2021	NCCC Rules are released, Begin writing design paper
Oct. 1, 2021	Hull Design Completed, Begin Structural Analysis Calcs
Oct. 15, 2021	Mock Canoe Formwork Completed, Finish Structural Analysis Calcs
Late Oct. 2021	Cast Mock-up(s)
Nov. 20, 2021	Complete Canoe Formwork, Cutaway ready for casting, Mix Design Completed
Dec. TBD 2021	Casting Day, Begin Writing Script/Making Presentation
Jan. 2021	Wet Sanding/Dry Sanding
Mar. 1, 2021	Sanding Completion, Begin Graphics Application
April 1, 2021	Graphics Completion, begin sealing

Long Term Investments

- Due to COVID pandemic, one year of experience and knowledge about physical construction was lost. Additionally, the team did not meet in person which contributed to difficulties in recruitment. This year, our goal is to rebuild and strengthen the community that is concrete canoe while adding new members. We will foster a supportive community with extensive collaboration in order to make up for that which was lost due to COVID.
- We will build upon our ideas proposed prior to COVID, including horizontal skeleton frames for the panels as well as wet sanding and polishing. Our last physical canoe lacked a smooth exterior while our half-completed canoe from two years ago had difficulties in its construction.

Affiliations:

- Human Resources
 - Team Members (~20 Members)
 - Technical Advisor – Cruz Carlos
 - We work with Cruz with just about everything
 - lab clean up, lab safety, concrete advice, etc.

- Lab Staff –Llyr Griffith, Matt Cataleta, Shakhzod Takhirov
 - Matt and Llyr help us store some wood on the lab floor, with shipping, and cutting wood
 - Shakhzod helps us laser scan the canoe and with post-processing of these scans ○
- Faculty Advisor – Claudia Ostertag
 - We have checked in with her throughout the pandemic year for advice
 - Plans on helping us with the mix design
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- Assets
 - Davis Concrete Lab
 - Storage in 120 O’Brien
 - Berkeley Aquatic Park
 - 2 Fiberglass Canoes
 - *Bear Necessities*
 - *OptiCal Illusion*
 - Small Storage Shed
 - Paddles
 - Life Vests
 - Seats
 - RFS – Berkeley Global Campus
 - Trailer
 - Canoe Transportation “Coffin”
 - *Bearneath the Sea*
 - Canoe Shed
 - Old Canoes
 - Old Display Materials
 - Old Awards
- Corporate Donors
 - Various cement, admixture, and aggregate companies made one-time donations

Contributions:

- Joint-Fundraising Contributions
 - Infosessions
 - Cal Concrete Canoe team pledges to provide assistants and attendees for Infosessions as required based on proportion of total JFC budget allotted to Cal Concrete Canoe team
 - Cal Concrete Canoe team will also provide a team committee member to assist ASCE Infosessions Officer as necessary
 - Career Fair
 - Concrete Canoe team pledges to provide assistants and attendees for the Career Fair as required based on proportion of total JFC budget allotted to Canoe Team
 - Additional Fundraising
 - Concrete Canoe team will keep 80% of additional fundraising beyond

- joint-fundraising
 - We recognize additional fundraising must be conducted with entities not previously associated with Joint-Fundraising Committee
 - Concrete Canoe team will keep budget for donated items
- Automatic Sanctions
 - Concrete Canoe team recognizes automatic sanctions listed in the JFC contract if commitments are not fulfilled. However, the team requires prior notification and opportunity to respond and make up missed obligations before sanctions are taken.
- JFC entities
 - Department Outreach
 - Outreach Officer will work with CEE Department to promote new and prospective student outreach
 - Class visits
 - Flyer distribution
 - Tabling
 - Lab tours
- ASCE Membership
 - Concrete Canoe team commits to all organization members becoming members of ASCE
 - Membership will be required for all CEE student members, as well as all members of the competition team (paddlers, presenters)
 - Membership will be encouraged but optional for members with majors outside of the CEE Department
- Mentorship and Academic Help
 - A culture of mentorship will be encouraged in our team to increase retention of students in the Civil Engineering department
 - Returning members will be encouraged to provide course advice and academic help for newer members
 - A survey will be taken to determine what classes are common amongst newer members and when their midterms occur
 - Based on this, officers will offer help for reviewing the material
 - If there is enough demand, study halls will be organized to allow members to study for the exams together while bonding with the team

Performance Evaluation:

While some clubs took the year off or put their teams on hold, Concrete Canoe had arguably one of their most innovative years yet. With the inability to meet and fabricate in person, we made the most of our virtual year by hosting professional development in the fall and division-led sessions in the spring.

Our professional development course featured everyone from alumni to mentors covering such topics as resumes, interviews, and wellbeing during a virtual year. Though hosted by canoe, these meetings were available to anyone who wished to attend with many non-canoe members finding them useful.

The spring saw a more hands-on approach with the divisions co-hosting a concrete flower pot build.

Members were mailed cement as well as popsicle sticks and art supplies and were led by officers through the design process from 3D modelling to casting to painting. This was very well-received by members who were provided a fun opportunity for some semblance of hands on construction.

Our goal was to maintain the sense of community that makes concrete canoe during the year apart in order to maintain our comradery as we return in person.

Contingency Plan:

In the event of our club failing to fulfill its role in the CEE Community, a meeting will be held immediately with the executive team, technical advisor, and faculty advisor to analyze why our club is struggling to achieve its goals and create a rehabilitation plan to be effective right away. We will divide our performance review into three separate categories: budget, JFC requirements, and team goals. The budget category will address how we are spending our money and determine whether we are behind budget. JFC requirements will address if we are fulfilling our obligations to JFC through info-session attendance and providing all the necessary documents that they request. And finally the team goals category will address how our team is performing in the actual design and construction of our canoe. We will look at the quality of the research and casting and also examine our schedule progress. If our in-house contingency plan does not fix our problems, we will then report to JFC and ASCE to discuss further actions in regards to rehabilitating, suspending, or dismissing our club.