



Roles and Responsibilities



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INTRODUCTION

PURPOSE

The purpose of this document is to clearly define the roles, responsibilities, and expectations of each position and subteam within UBC Concrete Canoe. It serves as an operational guide for current members and should be considered as a living document.

REFERENCES AND DEFINITION

Definitions:

- Primary subteam: Subteams of which members must be a part of. These include either hull, mix, structural, construction, software, or leads.
- Secondary subteam: Subteams of which members can either join full-time (as their main subteam), or part-time (in addition to a primary subteam). These include paddling, and administration.
- CHBE 104: The engineering design team workspace shed. Located near the East exit of the Chemical Engineering and Biological Engineering (CHBE) Building.
- PPE: Personal Protective Equipment. To be checked for wear and tear, worn and fit *before* beginning any work in dedicated work areas and confirmed by a team lead.

GENERAL STRUCTURE

UBC Concrete Canoe team structure is divided into three categories, listed below:

1. Executives
 - a. Co-Captains
 - b. Project Manager
2. Team Leads
 - a. Senior Leads
 - b. Junior Leads
 - c. Administrative
 - d. Safety Officer
3. General Members

Each subteams consist of at least one (1) senior lead and general members. Subteams may choose to recruit up to two (2) junior leads to act as leads-in-training. Senior leads are responsible for managing the operation of their respective subteams. They report directly to the captains and work in close collaboration with the other leads. Junior leads assist senior leads in running the subteam, and are to act as acting lead in the absence of senior leads.

Small focus groups/committees can be created by captains or leads as required.

ROLES & RESPONSIBILITIES

CO-CAPTAINS

Co-Captains serve as the central communicators with APSC and act as the main point of contact, both internally and externally. They are responsible for the day-to-day running of the team, addressing any questions, comments, or concerns from team members.

Responsibilities:

- Primary point of contact, both internal and external
- Address any questions, comments, and concerns within the team
- Ensure all members have completed the required safety certifications as outlined by UBC
- Maintain CHBE 104 inventory with team leads
- Plan out budgets with the project manager
- Assists other subteams and leads as required

Short-term Planning Captain

Responsibilities:

- Communicate internally with each subteam and administrative/executive members
 - Tracking current progress
 - Relaying due dates of milestones and submission materials
- Leading proposal compilation and competition deliverables
- Coordinate with leads to facilitate team purchases

Long-Term Planning Captain

Responsibilities:

- Organize and coordinate due dates and milestones throughout the year
- Facilitate large team purchases, i.e. mould and capital expenses
- Apply for PAF and other funding
- Organize meeting rooms with UBC
- Communicate externally with other captains

PROJECT MANAGER

The project manager oversees internal communication and financial activities. These activities include tracking reimbursements, monitoring income and expenditures, and recording sponsorship invoices. The PM also handles the team calendar, ensuring all events are tracked and communicated properly.

Responsibilities:

- Manage and assess the efficiency of different communications methods within the team
 - Ensure effective coordination between subteams
- Manage team finances
 - Submit and track reimbursement requests
 - Monitor income and expenditures
 - Document sponsorship invoices
 - Coordinate with Director of Project Finance and Director of Sponsorship on future budgeting
- Manage the team calendar
 - Follow up with leads to update the calendar weekly, or as soon as an event is announced

SAFETY OFFICER

The safety officer is responsible for checking and enforcing safety regulations. They report directly to the captains and serve as a liaison between the team and UBC Safety & Risk Services. They are a critical member of the team, and play a pivotal role in ensuring that UBC Concrete Canoe operates safely, responsibly, and in compliance with university standards.

Responsibilities:

- Acquire PPE and first-aid kits as needed
- Maintain inventory of PPE and first-aid kits, including their expiry date
- Be aware of UBC's safety regulations and the team's safety protocols
- Inform and enforce safety regulations
- Report and document any safety violations
- Monitor members for continued safety standards

HULL

Hull is a primary subteam responsible for developing and testing different canoe hull designs, using FreeShip and SolidWorks. They work closely with the structural subteam to iterate on and analyze new designs. In the second term, they oversee the preparation and casting of the canoe, coordinating with the construction subteam. Members are trained not only in design software, but also in casting techniques, to ensure a smooth casting day.

General responsibilities:

- Develop and test different canoe designs
 - Perform resistance, stability, and maneuverability analysis
 - Work with the structural subteam throughout the iterative process
- Produce required hull deliverables as outlined by the RFP
 - Write the hull section report
 - Create a canoe cross-section for display
- Maintain knowledge transfer among members
 - Attend hull lecture sessions
 - Attend casting practices
- Execute hull responsibilities on casting day
 - Reinforcement selection, set-up, and construction
 - Concrete placement and finishing
 - Canoe aesthetics (staining, inlays, etc.)

Senior Hull Lead

Senior hull leads are responsible for managing the hull subteam. They serve as the main point of contact to and from the subteam.

Responsibilities:

- Manage and track hull deliverables
- Teach hull design materials
- Coordinate casting practices with the mix and construction subteams
- Lead canoe construction portion of casting day in conjunction with structural & construction
- Determine future leads and potential within the hull team



Junior Hull Lead

Responsibilities:

- Assist with managing hull deliverables
- Act as acting lead in the absence of senior leads

MIX

Mix is a primary subteam responsible for developing and testing different concrete mix designs. Their main objective is to create a mix that is lightweight, strong and waterproof. Members are trained to experiment with fundamental and innovative ingredients of concrete to create a final mix recipe for the canoe.

General responsibilities:

- Develop and test out different mix designs
- Determine the best mix design and the required mix materials
- Maintain inventory of material organization and storage in CHBE 104, in collaboration with other leads and co-captains
- Produce the required mix deliverables as outlined by the RFP
 - Mix design
 - Mix report section, MTDS, display section, and all necessary worksheets and paperwork
 - Ensure MTDS are up-to-date
 - Required strength number, in coordination with structural

Senior Mix Lead

Senior mix leads are responsible for managing the mix subteam. They serve as the main point of contact to and from the subteam.

Responsibilities:

- Arrange mask fitting and training with the captains
- Manage and track mix deliverables
 - Ensure mix designs are within scope
 - Complete all required testing
- Manage mix inventory and storage in CHBE 104
 - Report all depleting materials/equipment or purchases required to the captains
 - Do an inventory at the start of each year to determine the starting point
 - Maintain a clear understanding of the mix supplies available at all times
 - Ensure all materials and supplies are prepared and available ahead of casting day
- Teach mix learning materials
- Coordinate casting practices with the hull and construction subteams
- Lead mix construction portion of casting day



- Determine future leads and potential within mix team

Junior Mix Lead

Responsibilities:

- Assist with managing mix deliverables
 - Assist with calculations and RFP items
- Manage mix inventory and storage in CHBE 104
 - Keep a clear inventory and notify senior leads/captains of any depleting resources
 - Maintain space organization
 - Ensure all required equipments are working and in proper locations
- Act as acting lead in the absence of senior leads
- Lead mix team research

STRUCTURAL

Structural is a primary subteam mainly responsible for calculations and producing the mould design. Members are trained in SolidWorks and structural calculations. They work closely with hull and mix subteams, advising them on design demands and constraints.

General responsibility:

- Research ways to improve the structural integrity of the canoe
- Create SolidWorks model of the canoe based on FreeShip
 - Work together with the hull subteam to iterate and test the canoe designs
- Create a mould design based on hull
- Produce required structural deliverables as outlined by the RFP
 - Perform the required structural calculations
 - Write the structural report section
 - Provide the required strength numbers for the mix subteam

Senior Structural Lead

Senior structural leads are responsible in managing the operation of the structural subteam. They serve as the main point of contact to and from the subteam.

Responsibilities:

- Manage and track structural deliverables
 - Produce the required strength demands for mix
 - Coordinate with the hull subteam to produce the final mould design
 - Check on calculations and write the structural report section
- Teach structural learning materials
- Lead canoe construction portion of casting day in conjunction with hull & construction
- Determine future leads and potential within the structural team

Junior Structural Lead

Responsibilities:

- Assist with managing structural deliverables
- Act as acting lead in the absence of senior leads

CONSTRUCTION

Construction is a primary subteam responsible for managing construction-related deliverables. Their main tasks are to assist hull in preparing for casting day and to construct the crate and display for competition. Construction activities begin in the second term; interested team members are recruited from other subteams at the end of term 1. Members are trained in carpentry and the use of power tools.

Responsibilities:

- Pre-casting day
 - Organize training for new construction members
 - Inventory and organize materials
 - Ensure all required materials and equipment are ready for casting day
 - Coordinate with the safety officer to ensure sufficient PPE
 - Coordinate with the hull and mix subteams to hold casting practices
- Casting day
 - Organize shifts for team members
 - Perform quality checks
- Post-casting day
 - Check canoe daily
 - Refil humidifier
 - Water the canoe
- Canoe transportation
 - Design and build a crate to transport the canoe
 - Research ways to mitigate damage in transportation
 - Arrange transport for other competition deliverables
- Build the competition stand & display
- Write the Engineer's notebook as outlined by the RFP

Senior Construction Lead

Senior construction leads are responsible for managing the operation of the construction subteam. They serve as the main point of contact to and from the subteam.

Responsibilities:

- Manage and track construction deliverables
 - Prepare materials for crate and display construction, in communication with captains
 - Lead the building of the crate and display
 - Lead the writing of the Engineer's notebook
- Train other members in carpentry and the use of power tools
- Manage storage in CHBE 104 in collaboration with other leads and captains
 - Report all depleting materials/equipment or purchases required to the captains
 - Maintain clear record of construction supplies and tools available
 - Ensure all materials & supplies are prepared and available ahead of casting day / project delivery date
- Lead construction projects
- Determine future leads and potential within the construction subteam

Junior Construction Lead

Responsibilities:

- Assist with managing construction deliverables
- Manage inventory and storage of CHBE 104 with other leads
- Act as acting lead in the absence of senior leads

SOFTWARE

Software is a secondary subteam responsible for managing the team's website and developing the team's design software. They aim to replace the aging FreeShip software with an in-house one, better suited for the team's needs and wants. Members are trained in programming, specifically in C++.

Responsibilities:

- Maintain and update the team website
- Discuss with other subteams and leads to figure out design software requirements
- Develop and maintain the design software
 - Currently built with OpenCascade and Qt6

Software Lead

The software lead is responsible for managing the operation of the software subteam. They serve as the main point of contact to and from the subteam. They are the primary handler of all software-related accounts.

Responsibilities:

- Create and track timelines for software deliverables
- Create and manage all software-related accounts
- Arrange discussion sessions with other subteams to figure out their needs

PROJECT MANAGEMENT

The project management team acts as a bridge between the technical and all non-technical/non-competitive subteams and positions within UBC Concrete Canoe.

Director of External Relations

The Director of external relations is the head of outreach and social media, they lead the team's external presence by managing social media, outreach, and community partnerships.

Responsibilities:

- Manage social media platforms and create engaging content
- Take and edit photos to showcase team activities and competitions
- Lead recruitment campaigns and promote opportunities for External Relations Associates
- Collaborate with UBC communities and student groups
- Highlight team updates and achievements in newsletters
- Build and maintain strong connections with sponsors, partners, and supporters

Director of Project Finance

The Director of Project Finance is responsible for managing the team's FP&A portfolio, including external and internal finances. They are the primary handler for all capital movement.

Responsibilities:

- Knowledge transfer of intermediate MS Excel and PowerBi to Project Finance Analysts
- Executive FP&A responsibilities, including cover sheet sign-off and portfolio optimization
- Lead the FP&A portfolio while providing support to the Partnerships team.
- Establish and lead the centralization of data, including major Excel Macro and PowerBi infrastructure projects

Director of Sponsorship

The Director of Sponsorship is the main liaison between the team and external sponsors. They are responsible for planning and managing the partnerships subteam.

Responsibilities:

- Manage non-social team events and Partnerships Associates
- Executive sponsor retention capabilities, collaborating with external relations.
- Establish and own the sponsorship outreach and collaboration framework

External Relations Associate

The External Relations team is responsible for managing the team's online presence.

Responsibilities:

- Manage social media (Instagram, LinkedIn, etc)
- Create promotional material to update followers on things the team is doing
- Getting LOTS of photos & video material to use
- Representative at most major events for photos
- Collaborate on the competition video
- Event Promotion, publicize upcoming events, initiatives, or campaigns to boost

Project Finance Analyst

The Project Finance subteam is responsible for planning and managing the team's financial portfolio. Members will also be responsible for sponsorship outreach and retention.

Responsibilities:

- FP&A duties, including budgeting, analysis, and forecasting of future finances (Short and Long term).
- Conduct spend analysis to explore potential FP&A portfolio optimization opportunities
- Utilize PowerBi to create dashboards and establish centralization of data
- Ad-hoc duties as required

Partnerships Associate

- Reach out to potential sponsors or partners who align with the team's needs (Milwaukee, dewalt, etc as request from construction).
- Create sponsorship proposals and communicate the value of supporting our team.
- Maintain existing sponsor relationships and provide regular updates or recognition as seen appropriate.
- Communicating with sponsors, monthly newsletter
 - Updates on canoe (what progress we are currently making, what we are changing from past years, etc.)
 - Where their money is going specifically
 - Collaboration with executive team and other design teams for sponsorship night
- Make an annual Christmas card and personalized gifts for sponsors
- Organize the sponsorship appreciation night with the social coordinators

Social Coordinator

The social coordinators are a committee formed by any interested members. Their goal is to foster a sense of community and engage members through fun, inclusive, and engaging activities.

Responsibilities:

- Coordinate socials for the whole team semi-regularly
- For money-intensive events, send out feelers and ask for contributions from each member
- Prioritize affordable or free activities to ensure accessibility for all team members.
- Communicate clearly with the team about upcoming events, logistics, and any associated costs.
- Be creative and inclusive, ensuring events cater to a wide range of interests and schedules.

Graphic Designer

Graphic designers are specialized members who assist the team in producing marketing and promotional materials, designs for merchandise and the team's artistic needs when needed. Their main goal is to enhance and support sponsorship and social media initiatives for the team.

Responsibilities:

- Produce graphics for social media posts, sponsorship packages, weekly newsletters, promotional materials, etc.
- Produce designs for team merchandise
- Support the team with any artistic or creative needs and projects

PADDLING

The paddling team represents UBC Concrete Canoe in the racing portion of the competition. Their primary objective is to develop and maintain strong paddling skills through regular practice sessions. Members are expected to commit to a consistent training schedule and maintain a high level of physical preparedness.

Responsibilities:

- Attend regular paddling practice
- Maintain an inventory of paddling equipments
- Collaborate with construction for the transport of paddling equipments to and from the competition

Paddling Lead

The paddling lead is responsible for planning paddling practices. They are the liaison between UBC Concrete Canoe and the paddling practice location.

Responsibilities:

- Serve as a liaison between the paddling team and the paddling practice location
- Rent canoes and storage lockers from the practice location, as required
- Coordinate paddling practices
- Plan and lead drills referring to competition races