



Michigan Tech Concrete Canoe

This year, the Michigan Tech Concrete Canoe Team had their research and development start at the end of the 2017-2018 season. They are working assiduously to bring their best foot forward and accomplish so much more. With the new beginning, and the concentration on improvement and success, the team looks forward to the upcoming season.

2017-2018

Michigan Tech is no stranger to snow. Averaging over 170 inches of snow every year, Houghton, Michigan is a popular hub for skiers, snowboarders, snowmobiles, and hockey fans of the Midwest. With the inspiration of the surrounding landscape of Michigan Technological University and the 2018 Winter Olympic Games, the team has dedicated last year's theme to their love of snow. The theme was carried throughout the display table, cross section, and stands, and was a true representation of the wintry spirit of the Upper Peninsula of Michigan.

Backcountry utilized feedback from last year's canoe, *Free Range*, and its hull design was inspired by the 2003 entry canoe, *SISU*. A hybrid hull featuring a slender deep bow, narrow parabolic stern, and relatively flat and wide amidships was utilized to decrease maneuverability due to a longer hull while maintaining the focus on straight-line tracking. The beam width was also reduced indicating a slimmer hull, leading to less wave-making resistance and more efficient paddling. In addition, the height of the bow was increased to prevent the boat from collecting water at high speeds. Credit for *Backcountry* is attributed to Jakob Janquart, who worked to make an innovative hull design.



2018 Michigan Tech Concrete Canoe at a Glance	
Name	Backcountry
Weight	230 lbs.
Width	29"
Length	20'
Depth	13.5"

2018 National Competition

This year was unfortunately less successful season for Michigan Technological University's Concrete Canoe Team. Placing 2nd place at the 2018 North Central Regional Competition, they were unable to attend the National Competition in San Diego, CA.





Adversely, at our regional conference at Western Michigan University in Kalamazoo, MI, the canoe races were canceled due to inadequate weather. This was unfortunate for the team due to our previous success in the paddling races. Our progress and dedication to paddling will continue with practices held three days a week, either outside during the fall and spring, or inside in the pool and weight rooms during the winter months. We will also advance our presentation by preparing the presenters with detailed questions and countless practices. With diligent preparation and rigorous studying, the presenters will be prepared for every question they will be asked.

Additionally, the team also made a number of forward strides in other categories. The team worked together to create a final product that stayed true to the expected hull outcome and last year's theme. The aesthetics committee drew inspiration from the local natural landscape that embodies the wintery spirit of the Upper Peninsula of Michigan. To achieve this, pigmented concrete was strategically applied to the canoe with the use of stenciling, to create sleek patterned skis and a stunning sunset over a valley on the slopes. Our dedication and hard work has continued to this year and we will strive to achieve perfection.

Regional Competition Breakdown	
Presentation	2 nd
Final Product	2 nd
Technical Paper	1 st
Races Overall	N/A
Women's Endurance	N/A
Men's Endurance	N/A
Women's Sprint	N/A
Men's Sprint	N/A
Coed Sprint	N/A
Final Results	2 nd

2018-2019

Research and development will continue to make even greater strides than last year, while also continuing to improve our concrete mix design. For this upcoming year, the team plans to build upon success and knowledge gained from *Backcountry* and previous year's canoes. The hull design committee has innovated another groundbreaking canoe design, similar to that of *Backcountry* and 2002-2003 *SISU*, that will be tested with a luan wood prototype. The focus of this year's canoe was more on straight line tracking and top end speed without sacrificing any turning ability. This was achieved by decreasing the width of the base hull of *SISU*, while conserving the overall length of 20 feet. Also, the taper of the hull was shifted closer to the bow for an additional innovative implementation.

Team Leadership

Returning for another year of leadership on the concrete canoe team are co-senior captains Elizabeth Adams and Cole Schilling. Elizabeth is a fourth-year Electrical Engineering student. She was presentation and compliance head last year, and will be returning with the duty of presentation head this year. Cole will be a fourth-year Civil Engineering student. He had the responsibilities of mix supervisor and mold construction committee head last year, and he will be focusing on his co-project manager position this year.

Stepping into a leadership position as junior captain is Mary Kinney. Mary is a third-year Civil Engineering student. This coming year she is taking over as the structural analysis and fundraising committee heads. She, along with Elizabeth and Cole, will be project managers by overseeing all committees throughout the year and ensuring yet another competitive final



product capable of making waves in the nation competition.

2019 Regional Competition

Michigan Technological University will be attending the ASCE North Central Conference Regional Competition at the University of Michigan in Ann Arbor, MI.

2019 National Competition

The ASCE National Concrete Canoe Competition will be held at Florida Institute of Technology in Melbourne, Florida from June 7th-9th, 2019. Michigan Tech is working hard to earn the honor of representing the North Central Region at the national level, and aims to place among the top finishers by bringing innovative and advanced ideas to the competition.

We would like to thank the department at Michigan Tech for their support!

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We would also like to thank our corporate sponsors for their generous help!

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