



# CAREER TRANSITIONS

## CAREER TRANSITIONS CARDBOARD BOAT RACE REGISTRATION PACKAGE

University of Lethbridge  
November 14, 2019



Career Transitions  
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Supported By:  
University of  
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# CARDBOARD BOAT RACES



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## Date and Location

### Career Transitions Cardboard Boat Race

Hosted by Career Transitions

Thursday, November 14, 2019, 9:00 am - 3:00 pm

University of Lethbridge

## Objective

Teams of four junior or senior high students will design and construct a cardboard boat, then race it across a swimming pool. Participating schools will be provided with the required materials on the day of the event. The boat must be built in **1.5 hours**. Judging will be based on: **design, construction, safety, speed across the pool, and weight capacity.**

The educational value for students includes problem solving and the practical application of important principles including

- design, research & presentation
- water permeability
- buoyancy and displacement
- principles of structure, strength, rigidity
- construction
- teamwork and FUN!

## How to Register

- Every school has the opportunity to register ONE team starting August 26 , 2019 ([Team 1 Registration Form](#))
- If the event is not full by September 6, a second registration for ONE additional team per school will begin at 7:00am on September 10, 2019 ([Team 2 Registration Form](#)). Additional teams will be added on a first-come-first-served basis.
- Additional teams can register for a wait-list spot starting September 10, 2019 at 7:00am ([Wait-list Registration Form](#))
- There is no cost to enter the Career Transitions Cardboard Boat Race for Career Transitions partner schools.
- Wait-list spots will be granted on November 4, 2019.
- In-school competitions are encouraged for selecting the teams to represent the school. Please forward the finalized team names by no later than November 12, 2019.
- If you have changes in teams, these must be submitted no later than November 12, 2019.
- Parents and fellow students are welcome to attend **the pool portion (12:30 pm at Max Bell Pool)** on the day to cheer for their team!
- **The event runs until 3:00—please plan accordingly for transportation and bussing. Teams are to stay until all the awards are completed and are NOT to leave early.** Teams that cannot accommodate the full event times may lose their right to register a team next year.

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## Rules and Regulations—Please review!!!

- ◆ A team consists of 4 team members. Teams who compete with only 3 racers will be at a distinct disadvantage when it comes to scoring.
- ◆ **Lunch is provided for racers and teacher chaperones ONLY.** Teams will be issued a wristband for their lunch. Only those with wristbands will be served lunch.

### **Build:**

- ◆ A paper design sketch of each team's boat must be submitted to the judges during construction on the day of the event. **NEW: all designs must be in paper format—no electronic devices will be allowed on the build track.** Online designs are acceptable, however, they need to be printed for race day. Points will be awarded for sketch innovation and how closely the construction follows the design.
- ◆ Only the provided construction materials may be used to build the boat.
- ◆ All cutting must be done in a safe and cautious manner to prevent injuries and floor damage. Judges will deduct points if teams make cuts without attention to safety and the floor underneath.
- ◆ Each team must secure the provided laminated team number to the front of the boat.
- ◆ Decorations must not aid in the floatation or the structure of the boat. A maximum of \$20 is allowed to decorate the boat. Decorations that may become dislodged from the boat in the water must be removed before the speed and weight challenges. No paint, sealers, waterproofing agents, string, glue, or additional tape are permitted.

### **Pool:**

- ◆ In the speed event, teams will race in heats against other boats and the clock. The heat winner will receive 4 points, while a team that does not win the heat but finishes afloat will receive 2 points. Additional points will be awarded to the 12 fastest overall times.
- ◆ All teams must start on the pool deck, with their boats out of the water. Once the whistle is blown and the time begins, teams will then place their boats into the water. Team members are allowed to stabilize the boat in the pool at the beginning of the race in order to allow the rider to smoothly enter the boat. **Team members stabilizing the boat must not be more than one arm's length from the edge of the pool.**
- ◆ The speed event is completed when a team member that is steering the boat touches the finishing line (end wall) while afloat in his/her cardboard boat.
- ◆ Any devices used to propel the boat during the speed event must be constructed from the provided material during the allotted construction time.
- ◆ In the weight event, the weight of three of the team's members must be supported for one minute to receive full points. **All body parts must be out of the water (i.e legs can not be dangling in water off the side of the boat).** Judges discretion will be used to determine if the boat is floating and holding the full weight of the competitors.

### **Infractions:**

- ◆ No external help during the competition is allowed (i.e. from teachers, parents, advisors etc.). **External help will result in a 10 point penalty PER INFRACTION.**
- ◆ **10 point deduction if boat holders are more than an arm's length from the side of the pool.**
- ◆ No running starts, lying down on the boat, or kicking are allowed (**each infraction will result in a 10 point penalty.**)
- ◆ **10 point deduction if you fall off your boat but are still able to continue.**

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## Preparation for Race Day

- Be prepared to register your second team and wait-list any additional teams. There is a 50 team limit.
- Teams should research the design and construction of their boat.
- Teams must prepare and bring a design sketch of their boat in advance. Remember that points are awarded for the sketch! **NEW: all designs must be in paper format—no electronic devices will be allowed on the build track.** Online designs are acceptable, however, they need to be printed for race day.
- It is helpful for students to build and test a prototype of their boat prior to race day.
- Plan the decoration material for your boat (max. \$20 cost limit, no paint, no sealers, no waterproofing agents, no glue, and no additional tape are permitted). Remember that teams earn points for the visual appeal of their boat! All decorations must be appropriate for the water and must not come off in the pool. **Competition for the Best Decorated Boat!!!**

## Race Day Schedule

TIME	DESCRIPTION
9:00 - 9:30	Arrival and Check-in at PE250
9:30 - 9:45	Announcements/Instructions
9:45 - 9:55	Line up and move to track from PE250
10:00 - 11:30	Boat Construction
11:35 - 12:20	2 team members move the boat to the pool 2 team members ensure station clean, then move directly to lunch Lunch – Provided by University of Lethbridge, <b>for racers and teachers ONLY</b> Lunch served in PE250. Change into swimsuits.
12:20 - 12:30	Review of rules
12:30 - 2:00	Races and Weight Challenge
2:00 - 2:15	Judging and Evaluation Students change and meet in PE250
2:15 - 3:00	Awards Presentations and Wrap Up

## Construction Material

### **Supplied By Career Transitions:**

1. One roll of packing tape (50m)
2. Junior High: Two 4 ft x 8 ft sheets of 1/4 inch cardboard  
Senior High: Four 4 ft x 4 ft sheets of 1/4 inch cardboard
3. One small roll of duct tape (9 meters)
4. Klever Cutting Tool (see page 5 for description)
5. One laminated sheet with team number
6. Two pencils
7. Surprise item on competition day (must be used)

### **Brought By Each Team:**

- 2 straight edges/rulers of any length or size (no “T” square rulers)
- 2 tape measures

**No other tools or material may be used during the construction of the boat.**

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## Judging Criteria

Medals will be presented to the top three teams in the junior and senior high categories based on the following criteria (In the case of a tie, the team with the highest speed and weight score will be the winner):

### 1. DESIGN & CONSTRUCTION

Design	<ul style="list-style-type: none"> <li>Sketch innovation and design</li> <li>Construction follows sketch</li> <li>Overall visual impression</li> </ul>	10 points
Construction Quality	<ul style="list-style-type: none"> <li>Boat is built strongly: no loose connections, messy folds, or messy cuts</li> </ul>	10 points
Teamwork/ Organization/ Safety	<ul style="list-style-type: none"> <li>Team is well organized and works as a team</li> <li>Team has a concern for safety</li> <li>Team's work area is neat and all materials cleaned up afterward</li> </ul>	10 points
<b>Construction Points</b>		<b>/30</b>

\*\* Please note: there will be volunteers watching during the build to ensure:

- No adult help is given (**10 point deduction PER infraction**)
- No tape stuck to any permanent surfaces (ie: floor or glass), no mess is left behind after the build (**10 point deduction**)

### 2. SPEED

- Heat winners - receive 4 points.
- Teams that did not win heat, but completed the race - receive 2 points.
- Laying down on the boat, kicking, a running start or falling off the boat will incur a **10 point penalty PER infraction**.
- The 12 fastest times overall will receive bonus points:

1st	26 Points	4th	20 Points	7th	14 Points	10th	8 Points
2nd	24 Points	5th	18 Points	8th	12 Points	11th	6 Points
3rd	22 Points	6th	16 Points	9th	10 Points	12th	4 Points
<b>Speed Points</b>							<b>/30</b>

### 3. WEIGHT TEST

- To complete the weight test, boats must hold the weight of three teammates.
- Time starts once ALL body parts are out of the water; time stops once a body part touches the water.
- The maximum 40 points are awarded for boats that hold three teammates for 1 minute.

TIME ELAPSED	1:00 and +	0:46 - 0:59	0:31 - 0:45	0:16 - 0:30	0:06 - 0:15	0:01 - 0:05
POINTS ALLOTTED	40	30	25	20	15	10
<b>Weight Points</b>						<b>/40</b>

**TOTAL POINTS /100**

The judging rubric, describing Design & Construction breakdown, is available on the website.

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### Cutting Tool

Due to the safety hazards and floor damage that has occurred as a result of past year's cutting tools, in 2012 we implemented the use of the Klever cutting tool. This tool is very sharp and durable, but offers a protected blade to minimize injuries and floor damage. It works very similar to an exacto knife and is able to do all of the similar cut lines. Please note, any other cutting devices will not be provided or allowed for use in construction.

**Shown below is a photo of the Klever Cutting Tool:**

