



UMC



Unknown Mission Challenge

Mission tasks will be totally unknown until the day of competition.
Robots are built and programmed at the competition.

V 1.1 – US Kickoff Version for 2020 season. (Each country may clarify/adapt/change rules for each country's qualifying competitions.) World Championship rules will be finalized in Jan 2020.

This file can be found under the **Get Involved** → **Unknown Mission Challenge (UMC)** Page on the website
Coaches are responsible for communicating rules updates to participants

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1. UMC Overview

Learning Objectives

- Autonomous navigation
- Critical thinking
- Computer programming logic
- Use of sensors
- Adjusting to environmental conditions
- Problem solving
- Learning on the fly
- Design and construction of robots

Synopsis

- An Open Category competition, which will take place at the World Robofest Championship
- There are no qualifying competitions for this challenge
- Mission tasks will be totally unknown until the day of competition
- The goal of this challenge is to provide an opportunity to develop problem-solving skills on the fly without any help from adult coaches

2. UMC Age Divisions and Team Size

- Two Age Divisions
 - Junior Division (Grades 5-8)
 - Senior Division (Grades 9-12)
- Team Size: Maximum three (3) members per team for Jr. Division and both Sr. Division
- Team Registration Fee: \$50
- Related important document – Robofest 2020 [General Rules](#) at [robofest.net](#)
- Each team member, as well as the coach, must bring the signed [Robofest Consent and Release Form](#) on the day of the event, if not completed on-line

3. Robot Requirements

- Teams may only use one of the following approved robot platforms, and must bring their own robot parts
 - LEGO NXT sensors, motors, parts, and one NXT controller
 - LEGO EV3 sensors, motors, parts, and one EV3 controller
 - Vex IQ sensors, motors, parts, and one Vex IQ controller
- No limit to part quantities, except for the limit of one controller
- Pre-assembled robots cannot be used
- All robot components must be unassembled at the beginning of the competition
- Sensor or motor multiplexers are not allowed
- Any programming language is allowed and team must bring their own computer to program the robot
- No internet or cell phone use allowed

4. Competition Procedures

- Only participants are allowed to access the pit area, team tables, practice fields and official game fields throughout the competition day, including during the setup time before the opening ceremony (adult coaches, mentors, and other volunteers may assist with transporting team materials if necessary)
- The Unknown Mission Challenge is unveiled at the start of the event. No adult help is allowed after the unveiling
- Practice fields will be available
- Teams must share the practice fields and are limited to one practice run at a time if other teams are waiting
- Teams will have “official” runs that will be judged
- Winners will be decided based on the scoring of their individual runs
- The exact method of determining final scores will be unveiled at competition

5. Competition Schedule

- **Competition Date**

Friday, May 15, 2020, Part of Robofest World Championship at LTU, Southfield, MI

- ***Tentative schedule***

- 11:30: Check-In begins
- 1:00pm: Unknown Mission tasks are unveiled
- 1:15pm: Competition begins
- 5:00pm: Competition ends
- Awards will be announced at the Noon Awards Ceremony on Saturday, May 16, 2020
- Award winners will be informed by email or on robofest.net by midnight Friday May 15