

IOWA SKILLSUSA
ROBOTICS: URBAN SEARCH
AND RESCUE
2019



2018 Contest Details

Iowa Robotics: Urban Search and Rescue

Contest Location: DMACC- Ankeny, FFA Building, Main Ballroom

Contest Date: April 26

General Schedule:

FRIDAY SCHEDULE:	
8:00-10:00 AM	FIELD PRACTICE/MAKE SURE CAMERA WORKS ON CONTEST DISPLAY.
10:00-11:00 AM	INSPECTIONS/INTERVIEWS
11:30-12:15 PM	COMPETE
12:15-1:00 PM	LUNCH BREAK
1:00-1:45 PM	COMPETE
	DEBRIEFING/FEEDBACK WITH PARTICIPANTS AND COACHES

Participants:

Urban Search and Rescue

Team Participants	Team #	School
Astor, Geoffrey	USR -101	FORT DODGE SENIOR HIGH SCHOOL
Moore, Taeton		
Yates, Elijah	USR-202	FORT DODGE SENIOR HIGH SCHOOL
Krug, Forest		
Cooper-Ohm, Phillip	USR-303	Lewis Central High School
Cael, Woltmann, Cael		

General Requirements/Information:

- Teams will be required to have their team number attached to their robot at all times of competition. It can be anywhere on their robot but must be visible to the officials while in pits/ interview areas/inspections/competition arena etc. (see Team # Info Previous Page)
- Safety glasses are required while in pits/competition area. Please see safety glasses point deductions on page 18 of Robotics-Urban-Search-and-Rescue Guide
- All Team members will need a Resume. Please see resume point deductions on page 18 of Robotics-Urban-Search-and-Rescue Guide
- Robots should be built to contest specifications. See Robotics-Urban-Search-and-Rescue Guide
- Teams should bring tools/supplies needed to repair and/or maintain robot.
- Pit area should stay organized for participant safety.

- All participants are responsible for cleaning up pit area before leaving contest area.
- Extension cord will be needed to charge batteries.
- No test will be given at state level.
- Additional rules are included in Explosive Ordnance Disposal Contest description

Explosive Ordnance Disposal Contest Description

Competition area takes place in a 12'x12' area. It consists of two ramps. One will have $\frac{3}{4}$ wood strips that will force the robot to travel over them to get to the top. The other ramp will be clear of obstacles. There will be 3 mailboxes, 2 on top of ramps and 1 on ground level. There will also be partitions that force the robot to navigate in arena area. 2 ordnance (plastic blocks) will randomly be placed in the mail boxes or on floor at ground level. There will also be foam mats on the floor with a few removed to change terrain on floor level. Each ramp section will be approximately 24W, 96L, 16H. The outside border will be grey 3/4 PVC conduit. Ramp will be built out of $\frac{1}{2}$ plywood. Partitions will be made with $\frac{3}{4}$ plywood.

Rules of Iowa Contest- May be different from national contest

- Teams will place robot on parking zone, complete a wiggle/technology test. They will then go to the driver area of contest faced away from competition area.
- Team members will be in ready position faced away from competition area while blocks are randomly placed in two areas. When all clear signals are given, students may grab controller and wait for instructions to start the game. At this time one member of the team may turn and look at competition to assist driver who is using the camera to navigate.
- When 6 minute timer starts robot may leave parking zone. Clock will stop when 2nd block is placed in disposal area.
Note: this year with only three teams, we will have each run through course twice. Will take best time for their final score.
- Any instructions, advice or telling participants where blocks are located by spectators will result in a 25 point penalty for each incident.
- If robot needs technical assistant after clock has started team members will need to raise technical help flag located in driving area- Team members are not allowed to leave the driving area unless instructed to do so. Note: the robot cannot resume operation until everyone is out of competition area and that timer will be running while technical help is given.
- This is our first year of this contest and this first year will be a learning experience for all of us.
- Our primary purpose is to make the contest fair. If you have specific questions, contact Ed Birkey at ebirkey@fdschools.org.
- 1st place team will have opportunity to advance to National SkillsUSA event in June

Inspection Schedule:

Teams need to be in certain locations at times given on chart below. Please make sure to be at areas on time.

JUDGE/INSPECTION SCHEDULE

		10:00	10:20	10:40	11:00
Astor, Geoffrey	USR -101	#1		INSP	SKILL
Moore, Taeton					
Yates, Elijah	USR-202		#1	SKILL	INSP
Krug, Forest					
Cooper-Ohm, Phillip	USR-303	INSP	SKILL	#1	
Cael, Woltmann, Cael					

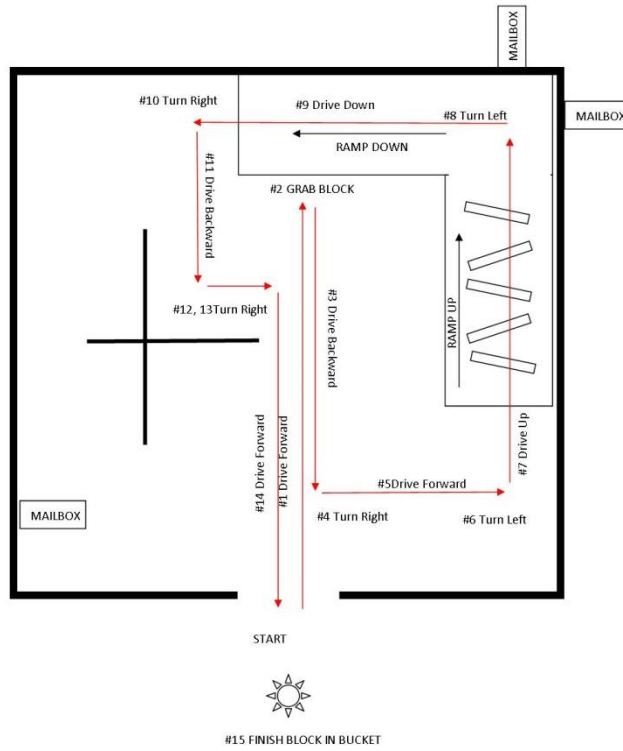
What will happen at each area?

Judging area: Teams will present their ideas and talk about their engineering notebook (15 min) See pages 15-Robotics-Urban-Search-and-Rescue Guide (Engineering Technician Notebook) and 16 (Technical Presentation) for rubrics used in this portion of the interview. Notebooks will be left with judges and returned when judging is completed.

Inspection Area: Two teams at once will come to this area and have robots inspected see page 12-Robotics-Urban-Search-and-Rescue Guide (Inspections) for check sheet. Inspections should not take long so if one needs to make changes they can do this and come back and go through inspections again.

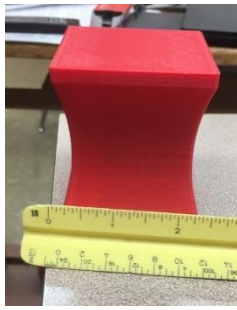
Skill Test: Two robots will come at once. Each Robot will do a number of tasks in the competition area. See contest tasks below. This test will be done without camera/monitor system. It is just a test to evaluate robot design and functions. The rubrics on page 13 (Robot Drive Chassis) and page 14 (Arm Mechanism and Gripper) -Robotics-Urban-Search-and-Rescue Guide will be used for this

Iowa USR SKILL TEST

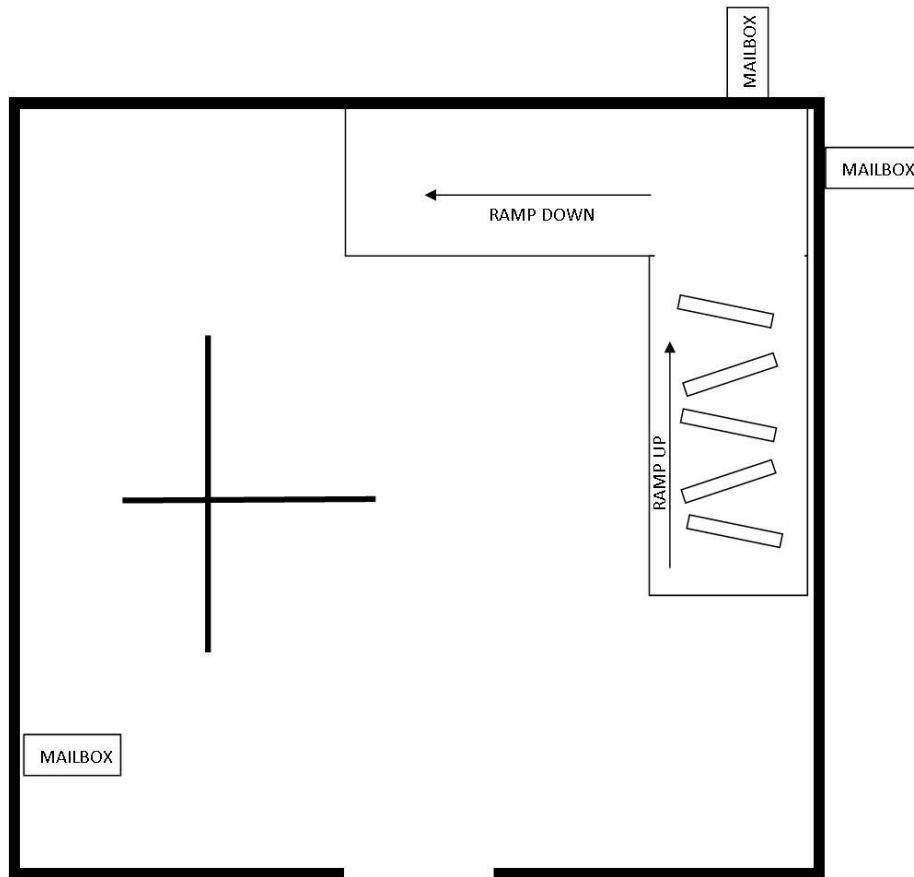


Robot will follow path shown above and complete specific tasks to evaluate performance

Schedule		
Competition Time	Team #	
11:30	101	
11:45	303	
12:00	202	
	Lunch	
1:00	101	
1:15	303	
1:30	202	
Debreifing		
<i>Schedule may be adjusted as needed</i>		



Ordinance /block used for this event



START



Contest area layout