



# VEX CTE WORKCELL

Event Specifications

FRESNO CITY COLLEGE EVENT CONTACT	
For any specific event questions, please contact:	
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## SCOPE OF CONTEST

The VEX CTE Workcell is an exciting platform as it combines various elements of robotics, automation, and control systems into one integrated solution. Contestants will be required to program multiple components such as: a 6-axis robotic arm, conveyors, pneumatics, and sensors (the VEX AI Vision Sensor) to perform a given task. **Competition will start at 8:30 am.**

## NUMBER OF COMPETITORS

Group event (maximum 4 members per group), limited to a total of 8 groups.  
*Fresno ROP reserves the right to modify enrollment due to limited spaces available.*

## RULES AND PROCEDURES:

- The CTE Workcell as built for the competition can be found at the following link:  
<https://content.vexrobotics.com/vexcte/pdf/builds/complete-cte-workcell-v2.pdf>
- The given task will test the contestant's ability to control motors, and understand the VEX AI Vision sensor, as well as program (using Blocks, C, or VEX compatible programming language) the precise movements of the robotic arm, the transport of objects through the workcell, actuating solenoids, and object detection.

## JUDGING CRITERIA

- This is an automation challenge so we will be judging on:
  - Integration of all components
  - Robotic arm precision and movements
  - Object Handling
  - Synchronization
  - Error Handling
  - Optimization

- Fresno City College will be responsible for judging the competition

**EQUIPMENT AND MATERIALS PROVIDED BY THE COMPETITION:**

1. The CTE Workcell will be provided to the contestants
2. All the elements used in the automation task will be provided

**EQUIPMENT AND MATERIALS PROVIDED BY THE CONTESTANT:**

1. Contestants need to provide their own laptops with the ability to program the CTE Workcell (EXP Brain).