



# Robotic Teaching

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## **OVERVIEW**

Participants will work as a team of two (2) to five (5) people to program a humanoid robot to teach a lesson and answer questions about the lesson.

## **PURPOSE**

Participant will have the opportunity to work as a team to program a humanoid robot to dance to teach a lesson and answer questions about the lesson.

## **TIME LIMITS**

- A. The lecture shall last for sixty (60) to one hundred twenty (120) seconds, starting from the first movement or sound until the robot asks for questions.
- B. For every 5 seconds over or under the lecture time limit, five (5) points shall be deducted.
- C. Program is written before the conference and students are given one (1) hour at the conference to adjust and correct their programs.
- D. Each team will have ten (10) minutes to present and explain their program to the judges and answer questions from the judges.

## **ATTIRE**

Business casual dress as is the minimum requirement.

## **PROCEDURE**

- A. Participants will write a program on for a humanoid robot. Teams who do not have this software may request a ninety (90) day free-trial by emailing TSA.
- B. The robot should be programmed to give a lecture and respond to students' questions about the lesson afterward, with a minimum of 2.
- C. Participants shall present a flash drive to the judges at the time and place stated in the conference program. This flash drive should contain the program and a written description of their program.
- D. The flash drive should have the team identification number and event name written on it.
- E. The written description should describe the programming techniques used and the lesson. Include all movements, sound effects, and words said by the robot during the lecture. Also be sure to include all of the questions the robot will ask and the answers. Be sure to include how to answer questions. A brief description of the lesson should be included.

- F. Teams should report at the place and time described in the conference program to make adjustments and corrections to their program. In order to edit their program, teams must bring their own computer with their software. Teams are not required to edit their program.
- G. Teams will present their program to the judges and answer any questions presented by the judges.

## **REGULATIONS**

- A. All work must be completed during the current school year.
- B. Teams will program to teach a lesson. The lesson may be about any school subject.
- C. The robot must be programmed to ask at least two (2) questions assess students' knowledge after the lesson. Questions may be answered by any detectable medium: touch, verbal, or visual.
- D. The teams shall turn in a flash drive to the judges containing their program and a written description of their lesson and the question and answer period. These should be the only items on the flash drive.

## **EVALUATION**

Evaluation will be based on programming complexity, program performance, and programming knowledge of the team members.

# ROBOTIC TEACHING

## EVENT COORDINATOR INSTRUCTIONS

### PERSONEL

- A. Event Coordinator
- B. Two (2) Assistants
  - a. One (1) to collect programs from participants
  - b. One (1) to observe and time keep while students edit their programs
- C. Three (3) judges
- D. One (1) timekeeper for presentations

### MATERIALS

- A. Event rules
- B. Judging Sheet
- C. Stopwatch
- D. Computer with robotic software installed
- E. Humanoid Robots
- F. A table and three (3) chairs

### RESPONSIBILITES

- A. Retrieve a copy of the event rules and a judging sheet for each judge.
- B. Set up a site for the teams to turn in their programs. Attire is NOT required for check in.
- C. Give teams the opportunity (either when turning in their programs or during their one hour editing time) to sign up for a presentation time.
- D. Allow for ten (10) minutes for each presentation and five (5) minutes for judges to evaluate in between presentations.
- E. Ensure that teams do not communicate with anyone (or any other teams) during their one (1) hour editing time.
- F. Evaluators will evaluate the participants' project independently of one another. Refer to judging sheet for guidance.
- G. For the presentation, the judges will view each program on the team's computer.
- H. During their presentation, teams should present their story and answer questions from the judges. They should also demonstrate the process to stop the program mid-story and the process for when the robot falls.
- I. Any rules violations will result a 20% point deduction or disqualification.



