ACTE: Individual/Group Robotics A Rubric

DIRECTIONS
1. Ask the student/group for the **printed portfolio**. Digital or electronic portfolios are not accepted. Allow no more than 5 minutes for project setup and score the printed portfolio during setup.
2. Robotics A uses a **preassembled robot** and student-created **drag-and-drop/block programming**. Robot construction, fabrication, wiring, and written text-based code are not required or scored. Confirm that the block program and documentation are student-created. **AI-generated programming or production assets are prohibited.** If suspected or disclosed, pause scoring and refer the entry to ACTE staff.
3. Allow no more than 10 minutes for the project presentation. The student may choose which portion of a larger body of work to show.
4. Judges may ask questions for no more than 5 minutes and are not limited to the topics listed in the rubric.
5. Enter a score for every criterion. Add the /30 portfolio score and /70 project/presentation score for the /100 final score, then initial page 2.

PRINTED PORTFOLIO CHECKLIST			Points
Online Orientation Certificate	**0** Certificate is missing.	**10** Certificate is printed and placed as page 1 of the portfolio.	
Printed Portfolio	**0** No printed portfolio is submitted, or only a digital/electronic portfolio is provided.	**10** A complete printed portfolio is submitted at judging. Digital portfolios are not accepted.	
Required Portfolio Sections	**0** Required printed portfolio sections are not provided.	**10 - Printed portfolio includes these 9 sections:** 1. Online Orientation Certificate (first page) 2. Project identification page: student name(s), school, category, level, and region 3. Table of contents 4. Project narrative: purpose, learning, and benefit 5. Software and hardware used 6. Challenge/task statement, desired robot behavior, sequence plan, flowchart or pseudocode, sensor/motor plan, programming strategy, or other planning evidence 7. Drag-and-drop/block-program screenshots, annotated block sequences, version history, test runs, performance data, debugging notes, revisions, and final-program evidence 8. Works cited/bibliography and credits for tutorials, sample resources, media, datasets, and other permitted sources 9. Signed statement that the drag-and-drop/block program and included documentation and production assets are student-created and contain no AI-generated content or assets	

Judges Printed Portfolio Checklist Score	**/30**

This section is valued at 30 points total.

ROBOTICS A PROJECT & ORAL PRESENTATION RUBRIC

Select the score range that best matches the demonstrated level. Enter one numeric score from 0-10 for each criterion.

PROJECT					Points
Task, Purpose & Programming Plan					
0 No identifiable task, purpose, desired behavior, or programming plan.	**1-3** Task is unclear; the planned robot behavior and programming approach are difficult to identify.	**4-6** A basic task and plan are evident, but sequence, requirements, constraints, or intended behavior is incomplete.	**7-9** Clear purpose and logical programming plan define the task, sequence, requirements, and intended robot behavior.	**10** Compelling, well-developed plan demonstrates exceptional understanding of the task, constraints, sequence, and desired autonomous behavior.	
PROJECT					**Points**
Block-Code Logic, Sequence & Control Structures					
0 No functioning student-created drag-and-drop/block program is provided.	**1-3** Blocks are mostly prebuilt, copied without understanding, incomplete, or arranged with little logical sequence.	**4-6** Student-created blocks show basic sequence and control, but loops, conditions, variables, events, or efficiency are uneven.	**7-9** Well-organized block logic uses effective sequencing, loops, conditions, events, variables, or functions to control the robot.	**10** Exceptional block program demonstrates advanced logic, efficient structure, purposeful control, readability, and sophisticated problem-solving.	
PROJECT					**Points**
Motor, Sensor & Robot Control					
0 The program does not produce observable robot control.	**1-3** Motor commands, timing, direction, speed, sensors, or inputs are unreliable and require frequent human correction.	**4-6** The program controls basic movement or inputs, but precision, sensor response, timing, calibration, or autonomy is uneven.	**7-9** Purposeful motor commands and sensor/input logic provide precise, responsive, and mostly autonomous robot control.	**10** Exceptional programming integrates motors and sensors with precise calibration, responsive decisions, smooth control, and full autonomy.	
PROJECT					**Points**
Task Performance, Testing & Debugging					
0 The robot does not perform the programmed task or cannot be tested.	**1-3** Major program errors prevent task completion; little systematic testing or debugging evidence is provided.	**4-6** The robot completes part or most of the task, but reliability, repeatability, testing, or debugging is inconsistent.	**7-9** The robot reliably completes the task with documented test runs, effective debugging, and only minor performance issues.	**10** The robot completes the task autonomously and consistently with rigorous testing, refined debugging, optimization, and exceptional reliability.	
PROJECT					**Points**
Originality, Purpose & Student Authorship					
0 Purpose or student authorship of the program cannot be established.	**1-3** Work shows limited original programming decisions; sample blocks, sources, or development process are unclear.	**4-6** Purpose and student contribution are evident, though programming choices, customization, or documentation are basic.	**7-9** Original, purposeful block programming shows clear student ownership, appropriate source credits, and strong development evidence.	**10** Distinctive programming solution and convincing evidence demonstrate independent student authorship and complete understanding of the block logic.	
PRESENTATION					**Points**
Explanation of Programming Process & Professional Delivery					
0 Does not explain or demonstrate the program or robot behavior.	**1-3** Explanation is difficult to follow; limited preparation or understanding of how the block program controls the robot.	**4-6** Explains major blocks and steps, but detail, organization, testing, debugging, or delivery is inconsistent.	**7-9** Clearly explains the task, sequence, blocks, motors/sensors, testing, debugging, revisions, and robot behavior professionally.	**10** Confident, concise demonstration shows command of the complete drag-and-drop programming workflow and can explain how key blocks work.	
QUESTIONS					**Points**
Programming Knowledge, Debugging & Responses					
0 Does not answer judges' questions.	**1-3** Answers are incomplete or show little understanding of block logic, robot commands, sensors, testing, or errors.	**4-6** Answers most questions and describes basic sequence, control, sensor, testing, or debugging challenges.	**7-9** Provides specific, accurate responses about block logic, loops, conditions, motors, sensors, calibration, testing, sources, and revisions.	**10** Insightful responses demonstrate deep block-programming knowledge, effective debugging, reflection, and equal group contribution.	

AI-GENERATED ROBOTICS PROGRAMMING PROHIBITED: Entries may not contain generative-AI-created block sequences, programming logic, flowcharts, documentation, text, images, media, or other production assets. Robotics A evaluates programming of a preassembled robot; construction and written text-based code are not scored. Judges should not independently penalize suspected use; pause scoring and refer the entry to ACTE staff for review.

Judges Printed Portfolio Checklist Score	**/30**
Robotics A Project & Oral Presentation Score	**/70**
Total Project Score	**/100**
Ranking (ACTE Staff Only)	

Judges Initials: _____