



Kick off your student's journey into robotics education with our all-new curriculum:

# Intro to Robotics I

*Intro to Robotics I* is an easily adaptable and ready-to-teach course for the classroom, after-school programs, or summer camps created by REV Robotics! This curriculum establishes the basics of robotics terminology and lab safety, followed by introductions to mechanical design, electronics, and programming for autonomous robotics.

The *Intro to Robotics I* course is intended for use in high school classrooms by 9th-12th grade students. It is designed to align with national standards including ISTE, ITEEA, CSTA, and NGSS.

**Lesson Plan** REV DUO

Subject/Course:	Intro to Robotics I
Section:	Section 3: Intro to Electronics
Lesson Title:	Lesson 23: Electronics Challenge
Lesson Duration:	135 Minutes

Lesson Objectives:

- Efficiently use multiple electronic components on their robots to complete the challenge
- Use electronics on their robots that are visually appealing, innovative, and functional.
- Create a presentation that communicates clearly to their peers the design process using creative means to communicate.

Summary of Tasks/Actions:

Day 1: Reinroduce the challenge (5 minutes).	Day 1: Work time (45 minutes)
Day 2: Work day (45 minutes).	
Day 3: Do the challenge (45 minutes).	

Materials/Equipment:

REV Robotics Intro to Robotics I, Section 3: Intro to Electronics, Lesson Plan

**Section 3 Grading Rubric** REV DUO

Group: \_\_\_\_\_ Date: \_\_\_\_\_

	2	3	4	5
is exists, but no analysis of the data	Adds a sensor and uses it in their robot program, but it doesn't impact their robot performance	Adds 1 or more sensors and uses them in their robot program, and they moderately improve robot performance	Adds 1 or more sensors and uses them in their robot program, and they greatly improve robot performance	Adds 1 or more sensors and uses them in their robot program, and they greatly improve robot performance
Raw data exists, with a basic analysis of the data (spreadsheets/ graphs etc.) displayed	Raw data exists, with a basic analysis of the data (spreadsheets/ graphs etc.) displayed	Data analysis is thorough with multiple charts, graphs etc.	Data analysis facilitates logical Takeaways and the types of assessment demonstrates a deep understanding of the content	Data analysis facilitates logical Takeaways and the types of assessment demonstrates a deep understanding of the content
Presentation is complete, lasts around 5 minutes, and cover all of	Presentation is complete, lasts around 5 minutes,	Presentation content is above average and	Presentation content is exceptional and	Presentation content is exceptional and

REV Robotics Intro to Robotics I, Section 3 Competition: Tennis Towers 2

REV Robotics Intro to Robotics I, Section 3 Grading Rubric

## Course Highlights

- 35+ hours of hands-on lessons and challenges
- Educational support toolbox including lesson plans, and rubrics
- Gamified student learning materials and resources
- Adaptable for classroom or extracurricular learning environments
- Focus on using the Engineering Design Process in real world applications

## Student Learning Outcomes

- Develop essential workforce readiness skills such as critical thinking, problem solving, and improved reasoning
- Obtain foundational knowledge required for advanced robotics courses
- Gain confidence to participate in programs such as the *FIRST*<sup>®</sup> Tech Challenge
- Improve behavioral, social, scientific, cognitive, and intellectual skills
- Build and design solutions for real-world problems



# Intro to Robotics I

The *Intro to Robotics I* curriculum is designed for use with the following REV DUO equipment:

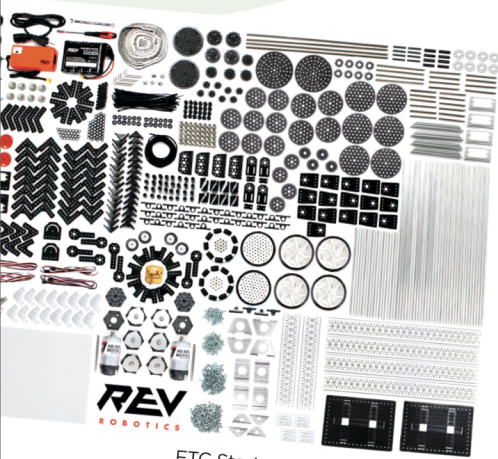
## Combination #1:

DUO EDU Mechanical Kit (REV-45-2708) +  
DUO Control Bundle (REV-35-2709)

The DUO EDU Mechanical Kit (REV-45-2708) is specifically created to implement hands-on STEM projects in the classroom. Pair this kit with the new DUO Control Bundle (REV-35-2709) to get your robot up and running.



DUO EDU Mechanical Kit, REV-45-2708



FTC Starter Kit V3, REV-45-1883

## Combination #2:

FTC Starter Kit V3 (REV-45-1883) +  
Control & Power Bundle (REV-35-1906) +  
FTC Sensor Bundle (REV-45-1885)

With over 1,400 components, the FTC Starter Kit V3 (REV-45-1883) provides the most robot design flexibility of any kit on the market, offering a strong foundation to build on with loads of additional components. Pair this kit with the Control and Power Bundle (REV-35-1906), containing all of the control system components needed to get your robot up and running. Easily add REV sensors and sensor accessories to help your robot understand the world around it with the FTC Sensor Bundle (REV-45-1885).

## New to Educational Robotics?

Check out additional curriculum resources featuring the REV DUO System like *Mechanical Foundations* from Carnegie Mellon Robotics Academy or the *FIRST Class Pack Curriculum* from FIRST Tech Challenge: <https://www.revrobotics.com/education/>

## About REV Robotics

REV Robotics inspires innovation and creativity within the educational robotics community by offering comprehensive product lines, extensive educational resources, world-class customer service, and specialized sponsorship programs. With a global presence spanning over 190 countries, we empower the next generation of STEM professionals by providing cutting-edge solutions and essential tools for success.

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