

# Equipment and Software Supporting T-Level instruction for:



**LJ CREATE™**  
Learning for life

## ENGINEERING AND MANUFACTURING

- Core
- Mechatronics Pathway
- Electrical and Mechanical Pathways
- Light and Electric Vehicle Pathway

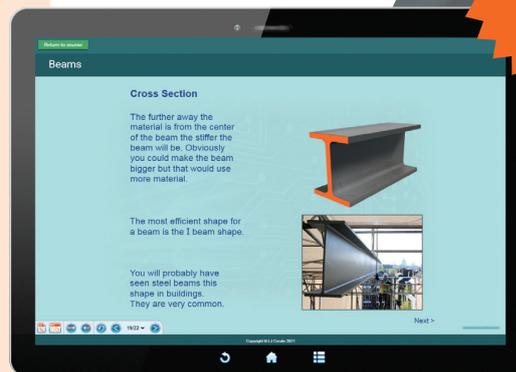
## CONSTRUCTION

- Core
- Electro-Technical Pathway

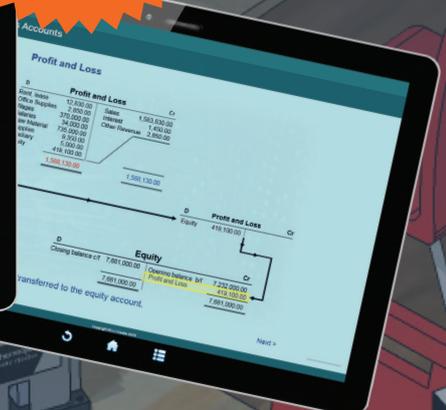


### Over 7,000 online lesson library topics, including:

- Health and Safety in the Workplace
- Mechanical Systems
- Electrical and Electronic Circuits
- Manufacturing
- Industrial Controls and Control Systems
- Engineering Design
- Electric Vehicle Engineering
- Automotive Technology: Engines
- Automotive Technology: Electrical
- Automotive Technology: Chassis
- Automotive Technology: Emissions
- Materials and Structures
- Green Energy in Buildings
- Alternative Energy Generation
- Physical and Chemical Science
- Project Management
- Business Skills
- Technical English and Mathematics
- Quality Management
- Transportation and Logistics



**FULL  
FUNCTION  
LMS**



# Equipment for Engineering

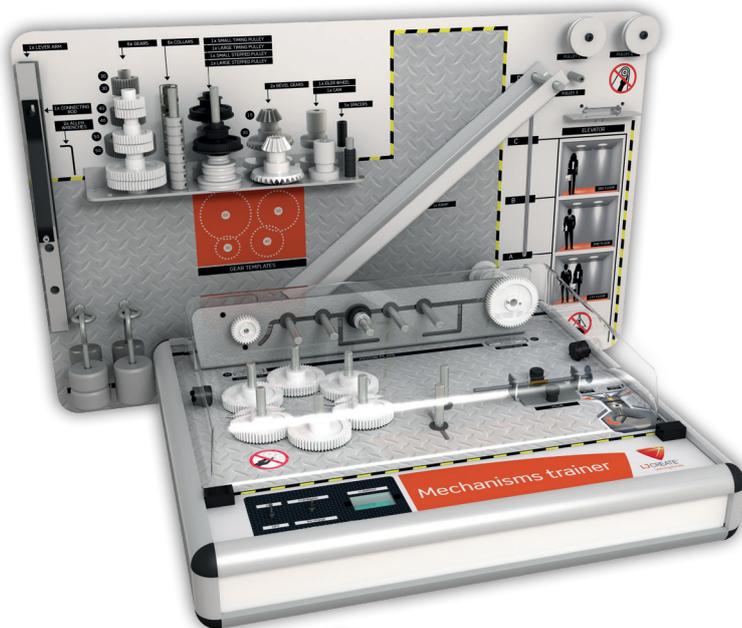
Featured products include:

## MECHANICAL PRINCIPLES

The **Mechanisms Trainer (260-01)** offers a classroom-based resource for practical investigation of a variety of fundamental mechanical systems. The trainer allows users to investigate gears, pulleys, levers, cams, belt drives, and inclined planes.

Typical Practical Activities Include:

- Identify the different types of motion found in mechanical systems
- Determine compound gear train ratios and speed
- Identify the purpose of belt drives



## INDUSTRIAL CONTROLS

The **Industrial Control Teaching Set (290-01/SI)** brings a factory floor conveyor sorting system into the classroom.

Our innovative simulation software is included to help introduce the basic concepts of PLCs and ladder logic.

Typical Practical Activities Include:

- Problem solving - sorting parts
- Human versus machine
- Troubleshooting an industrial control system



## ELECTRICAL & ELECTRONIC PRINCIPLES

The **Core Electronics Workstation (320-11)** allows the practical study of a wide range of electronics subjects. The workstation comprises an electronics study trainer, component set, and a range of plug-in experiment cards.

Topics Covered Include:

- Basic circuits
- DC circuits
- AC circuits and phasors
- Signal conditioning
- Electromagnetic systems



# Equipment for Construction

Featured products include:

## GREEN ENERGY IN BUILDINGS

The **Green Energy in Buildings Trainer (122-01)** puts a model home into the classroom. This allows students to investigate lighting technologies, insulation properties, glazing, and air-conditioning, in addition to green energy production and related topics.

Typical Practical Activities Include:

- Investigating energy use in buildings
- Home wind turbines
- Solar electric systems

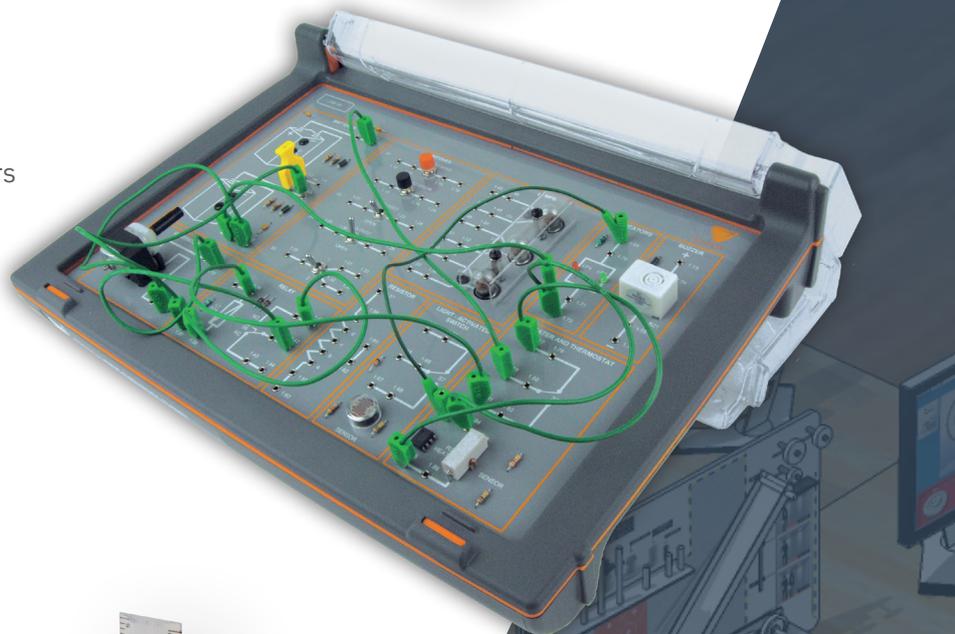


## BASIC ELECTRICITY

The **Basic Electricity Trainer (140-10)** offers investigation into fundamental electrical circuits and components using a robust self-contained hardware unit.

Typical Practical Activities Include:

- Electric current
- Voltage
- Resistance
- Magnetism
- Motors



## STRUCTURES

The **Structures and Materials Teaching Set (121-01)** offers student activities to investigate the science and technology behind the built environment.

Typical Practical Activities Include:

- Identify the forces that act on structures
- Investigate how skyscrapers are constructed
- Construct model beams from wood



# Equipment for Automotive

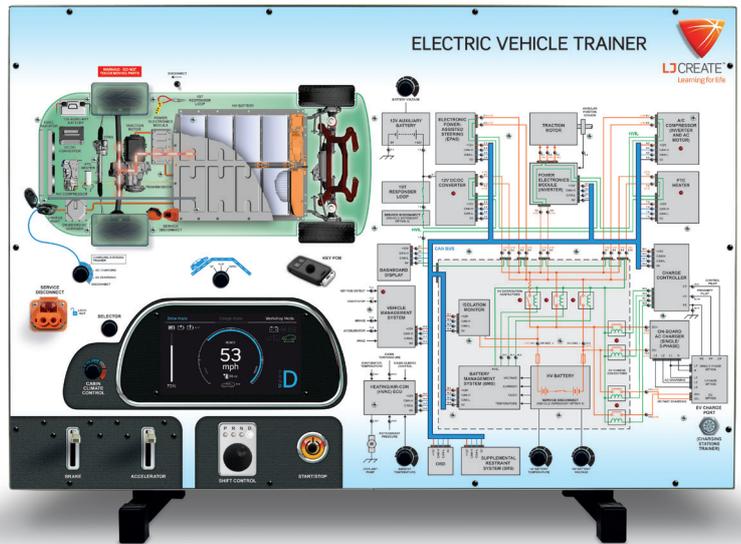
Featured products include:

## ELECTRIC VEHICLE SYSTEMS

The **Electric Vehicle Systems Trainer (740-01)** provides students and instructors with the opportunity to demonstrate, investigate, and fault-find a simulation of the electrical system of a typical electric vehicle.

Typical Practical Activities Include:

- Electric vehicle systems and components
- Practical EV systems
- The high and low voltage system



## AUTO ELECTRONIC SYSTEMS

The **Electric Vehicle Electronics Workstation (730-00)** allows the practical study of a range of advanced Electric Vehicle circuits and concepts.

Experiment Cards Included:

- Electronic systems
- Electromagnetism
- Input transducers
- Analogue integrated circuits
- Pulse width modulation signals

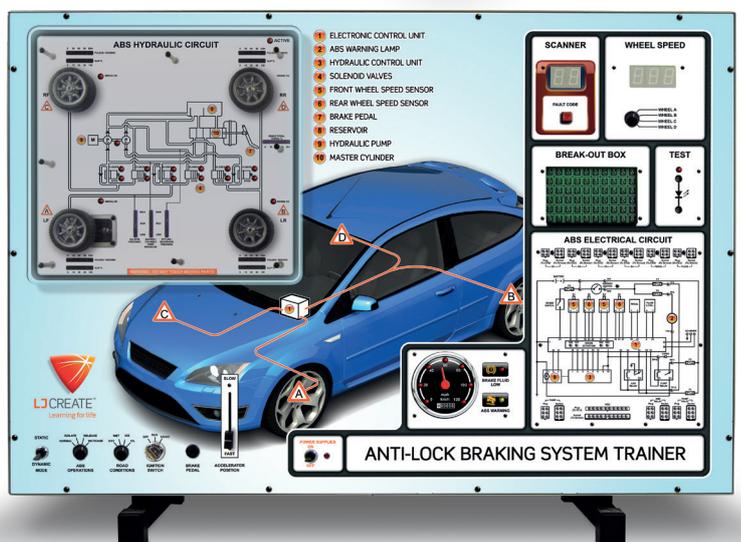


## ANTI-LOCK BRAKING SYSTEMS

The **Anti-Lock Braking Systems Trainer (755-01)** provides students and instructors with the opportunity to demonstrate, investigate and fault-find a simulation of a typical 4-wheel anti-lock braking system.

Typical Topics Include:

- Principles of braking systems and acceleration
- Identify the phases of ABS operation
- Test the operation of ABS sensors



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