

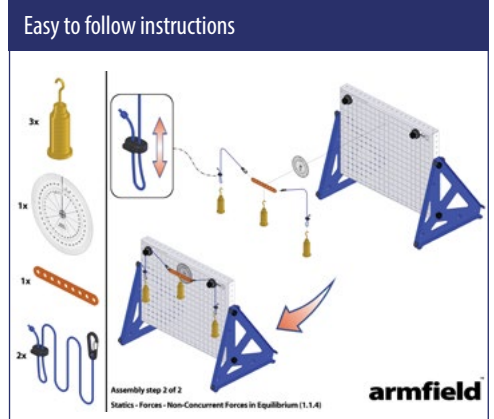
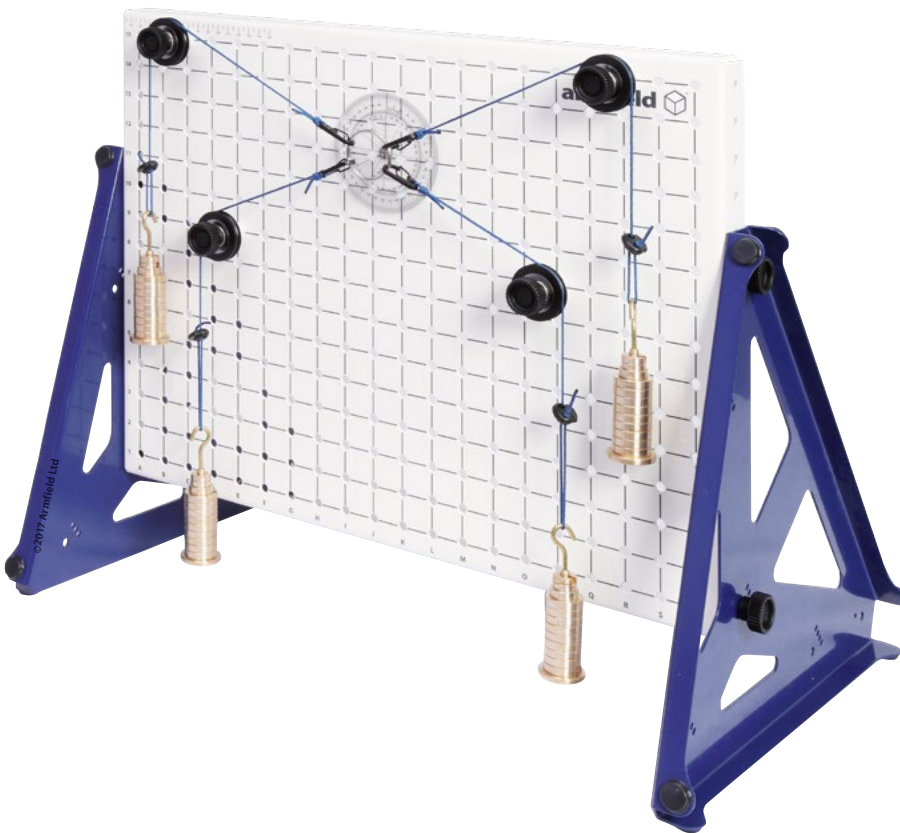
The Engineering Fundamentals range is designed to enable students to gain an understanding of the fundamentals of engineering by the process of learning via hands-on experimentation.

The modular hands-on tray based system is supplied in conjunction with a multifunctional Base Unit enabling the student to conduct their own experiments in subjects such as Statics, Dynamics, Mechanisms and Kinematics. Each kit is supplied with a highly visual user friendly operational guide, enabling the student to understand the theory of the subject by the application of practical experimentation.

AN INNOVATIVE HANDS ON MODULAR SYSTEM DESIGNED TO ENABLE INVESTIGATION AND THE UNDERSTANDING OF ENGINEERING PRINCIPLES

Description

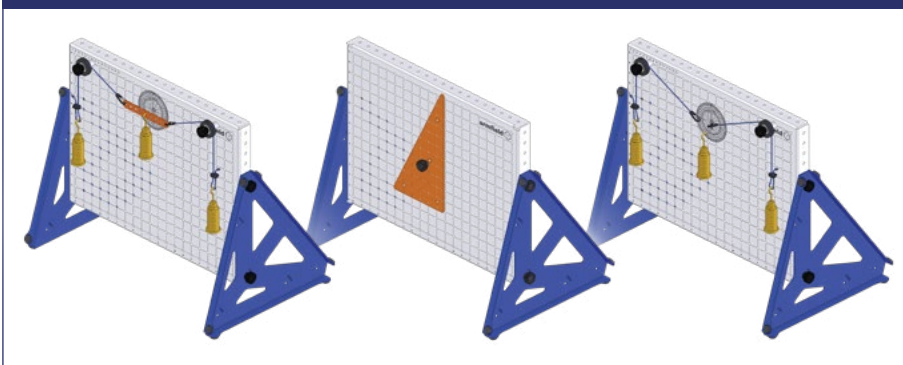
The EF-1.1 - Forces experiment kit enables students to understand the centre of gravity of different shapes and analysis of forces in equilibrium for concurrent and non-concurrent force.



1 tray supplied with EF-1.1



Experiments analysing 4 Forces in equilibrium, CoG of plane figures & non-concurrent forces in equilibrium



High quality materials



Features / benefits

- ▶ Applied student learning via building and experimentation
- ▶ Supplied with a detailed instruction manual, covering the theory of forces including multiple practical experiments designed to further develop the students' understanding in this field
- ▶ Hands-on learning
- ▶ Clear and concise pictorial assembly instructions enhance the learning experience
- ▶ Multiple experimental capability per self-contained kit
- ▶ Toolless assembly

Requirements

Scale

EF-BU

Experiment tray scale  EF-BU scale  EF-WS scale 

- ▶ EF-BU on which to build the experiment from the tray components
- ▶ Level and stable work surface to mount the EF-BU upon. The optional EF-WS is ideal for this if no suitable desk or bench is available.

Experimental content

Centre of gravity of plane figures:

- Parallelogram
- Rectangle
- Semi-circle
- Triangle
- Irregular shape

Analysis of 3 forces in equilibrium using:

- Force triangles
- Vector addition
- Bow's notation
- Graphical method
- Mathematical solution

Analysis of 4 forces in equilibrium using:

- Force triangles
- Vector addition
- Bow's notation
- Graphical method
- Mathematical solution

Analysis of non-concurrent forces (Linked polygons)

Overall dimensions

Tray

Length	0.430m
Width	0.312m
Height	0.080m

Packed and crated shipping specifications

Volume	0.2m ³
Gross weight	5Kg

Essential accessories / equipment

- ▶ EF-BU Base Unit

Related products

- ▶ EF-BU Base Unit

Statics Experiments

- ▶ EF-1.1 Engineering Fundamentals Forces
- ▶ EF-1.2 Engineering Fundamentals Moments
- ▶ EF-1.3 Engineering Fundamentals Beams
- ▶ EF-1.4 Engineering Fundamentals Springs
- ▶ EF-1.5 Engineering Fundamentals Torsion

Dynamics Experiments

- ▶ EF-2.1 Engineering Fundamentals Friction
- ▶ EF-2.2 Engineering Fundamentals Simple Harmonic Motion
- ▶ EF-2.3 Engineering Fundamentals Rotational Friction
- ▶ EF-2.4 Engineering Fundamentals Potential and Kinetic Energy
- ▶ EF-2.5 Engineering Fundamentals Centrifugal & Centripetal Force

Mechanisms Experiments

- ▶ EF-3.1 Engineering Fundamentals Cam, Crank and Toggle
- ▶ EF-3.2 Engineering Fundamentals Mechanisms
- ▶ EF-3.3 Engineering Fundamentals Additional Mechanisms
- ▶ EF-3.4 Engineering Fundamentals Bar Linkages

Kinematics

- ▶ EF- 4.1 Engineering Fundamentals Pulleys
- ▶ EF- 4.2 Engineering Fundamentals Gears
- ▶ EF- 4.3 Engineering Fundamentals Drive Systems

Options

- ▶ EF-WS Workstation
- ▶ EF1-Spares Spares

Ordering specification

- ▶ 4 x 250g weights set on hanger
- ▶ 4 x Roller
- ▶ 1 x Magnetic protractor assy
- ▶ 5 x Acrylic / perspex fluorescent lava orange colour (translucent)
- ▶ 3mm Irregular shape (142.5 x 267.7mm)
- ▶ 3mm Triangular shape (149.3 x 288.5mm)
- ▶ 3mm Rectangular shape (140 x 240mm)
- ▶ 3mm Semi-circular shape (140mm with r120)
- ▶ 3mm Parallelogram shape (42.5 x 140 x 77.2mm)
- ▶ Black Rexel magnetic dry erase marker

Ordering codes

- ▶ EF-1.1 - Forces Experiments
- ▶ EF-BU - Base Unit
- ▶ EF-WS - Workstation (optional)

Armfield standard warranty applies with this product

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



Products CE certified

armfield.co.uk

Aftercare

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com