

# ENERGY CONCEPTS, INC.



## What is Investigating Forensics?

Television shows like CSI and NCIS have made forensics a houshold name.

ECI's Investigating Forensics program is based on a contextual learning system that is designed to provide an overview of various types of evidence found at crime scenes and letting students learn how to apply scientific principles in the evaluation of this evidence. The Student Laboratory Manual allows for the application of scientific inquiry, with the student questioning, observing, creating and experimenting determineing whether a set of hypotheses are true. Students will perform experiments that allow them to apply analysis methods to various types of evidence and determine whether a suspect can be identified or eliminated based upon the data. These studies are representative of the types of analysis typically performed in a forensic laboratory.

#### Experiments

Experiment 1: System Familiarization and Safety Experiment 2: Working with Material Safety Data Sheets (MSDS) Experiment 3: Hair and Fiber Analysis Experiment 4: Handwriting Analysis Experiment 5: Analysis of Ink - Paper Chromatography Experiment 6: Powder Analysis Experiment 7: Analysis of Metals - Flame Test Experiment 8: Is There Blood? Experiment 9: Fingerprint Identifications Experiment 10: PCR-based Fingerprint Identifications

# Angle of impact Hypotenuse Length Angle of impact = arcsine(opposite side/hypotenuse)

#### Laboratory Manual

ECI's Laboratory Manual is designed to help the student develop a thorough understanding of the subject matter. Clearly written and professionally illustrated, the manual provides the most specific laboratory setup and easy-to-use procedures available.



## DNA

The genetic material present in every living cell, is very important in modern forensic science. One way in which DNA is used is to generate a DNA fingerprint identification. This identification is a key method in the identification of people and provides a way to solve crimes. Students use polymerase chain reaction thermocyclers and electrophoresis to generate DNA fingerprints. They can then compare the fingerprints they obtain with those from suspected criminals to determine whether they can positively identify the individual from a crime scene.



#### Instructor's Resource Guide

A comprehensive Instructor's Guide is included to provide coordination and efficient equipment utilization. It contains scheduling guides, helpful hints and tips, and demonstrations. The Instructor's Guide includes sample data, expected results, and answers for easy comparison to each student's results.

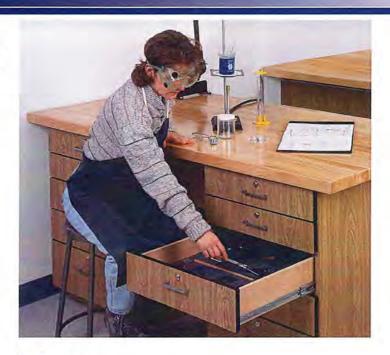
#### **Student Journal**

A clear, easy to follow format for students' interpretations and answers is available. The flexible design allows for expansion with additional journal notes when needed. The layout of the journal encourages greater comprehension on the students' part and allows for a permanent record for future reference.

### Laboratory Furniture

ECI's modular design lab furniture allows a wide range of custom configurations. From island-style workstations with convenient storage bases to mobile units, this furniture fits beautifully into every lab. It is constructed with fine craftsmanship. Durable high-quality materials and rugged hardware ensure that it will stand up for years. A variety of wood grains and color combinations are available.





## **Storage Solutions**

Form always follows function with ECI lab furniture. Die-cut foam storage inserts organize your equipment and assist in component inventory. Each drawer and door has its own key lock to provide added inventory control during and after class.

## **Complete Customer Service**

# **More From ECI:**

# Material Science Technology

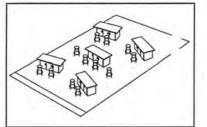
An innovative and motivating laboratory course including these units: *Solids, Metals, Ceramics, Polymers,* and *Composites*.

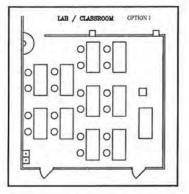
**New England Academic Representative:** 



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ECI also supports your purchase by providing instructor training and equipment orientation, initial inventory of equipment, and a tollfree telephone number for technical support from our competent engineers.





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