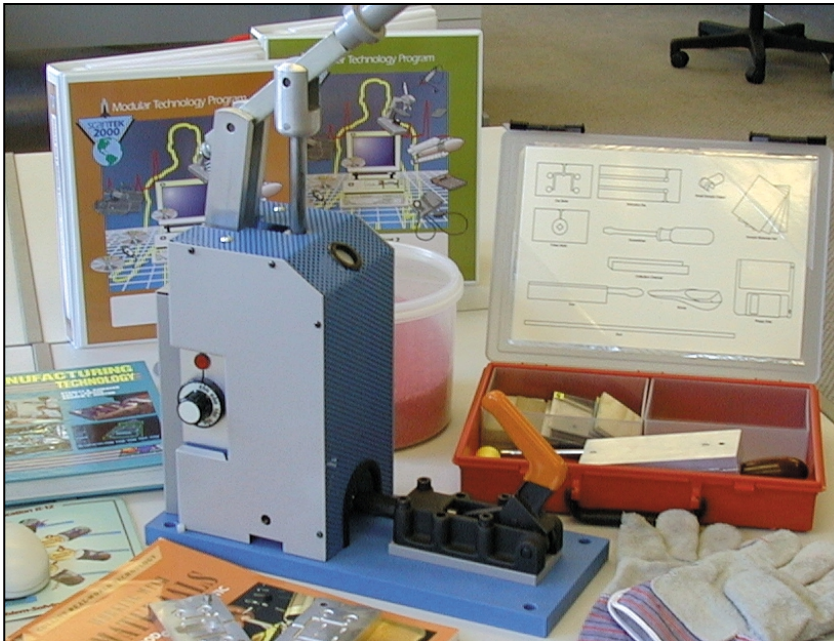


Materials and Processes (10-assignment)



This is an integrated instructional module designed specifically to operate within a Modular Program environment. It is ideal for use with our Scantek Technology program. The module includes a 10-assignment exploratory curriculum that is split into two parts. Each part includes a pre-test and post test. The module includes hardware, software, and curriculum materials sufficient to provide a complete learning experience.

The curriculum incorporates continuous assessment through questions. When used in conjunction with a ClassAct networked management system, this provides instant feedback of student performance. The assessments begin with a comprehensive pre-test. This quiz includes questions for each subsequent assignment, together with questions that will specifically test math and reading ability.

Every assignment starts with a series of questions designed to track inventory. These ensure that any missing items are located before they are needed.

Each assignment is divided into a series of tasks. Hands-on tasks form the core of the student work. Where appropriate, these are accompanied by research tasks based upon illustrated textbooks and software applications. Assessment questions are incorporated into each task.

Typical 10-assignment topic areas include:

- Classification of plastics, metals, woods and composite materials
- Exploring thermoplastics
- Thermoplastic molding process
- Testing of materials for hardness
- Manufacturing process of wood, metals and plastics
- Single-part molding
- Testing of materials for density, melting point and heat conductivity
- Designing components for injection molding
- Multi-part molding
- Combinational molding to include metallic inserts
- Problem solving task – Design a Promotional Gift

Typical 10-assignment activities include:

- Identify, and classify, plastics and metals.
- Use a thermoplastic molder to transform granules of plastic into solid plastic.
- Using virtual testing software, test a range of sample materials.
- Use a thermoplastic molder with a multi-part mold.
- Using books, research the processes for shaping wood, metal and plastic.
- Identify, and classify, woods and composite materials from a range of sample materials.
- Using CAI, identify different forms of materials by investigating the making of a spoon from wood, metal, and plastic.
- Use a thermoplastic molder with an extrusion die to make lengths of solid plastic.
- Using virtual testing software, test a range of sample materials for their density.
- Use a thermoplastic molder with a single-part mold.
- Using books, research the costs of making products from materials.

Each assignment is designed around a list of performance objectives. These lists include academic, technical and occupational objectives. The assignments are written in such a way as to enable a student to attain the performance objectives, with the assessment questions linked to these in order to provide a measure of true competency.

The performance objectives are used by the ClassAct management system to generate a comprehensive portfolio of student competency reports. Default reports supplied with this module include:

- Entry report
- Technical/Occupational Exit report
- Basic Skills report based upon the federal SCAN's report.

The items supplied with this instructional module include:

- 10-assignment On-Screen Student Assignment Guide CD
- 10-assignment Student Assignment Guide
- 10-assignment Student Workbook
- 10-assignment Instructor's Guide
- Computer Aided Instruction software
- Book 'Manufacturing Technology'
- Book 'Resistant Materials'
- Thermoject and handle
- Thermoplastic granules container
- Tube of grease and brush in beaker
- Miter jig
- Pair of gloves
- Mold preparation sheet
- Accessory kit

Additional items required:

- Computer

Module Facts

For Technology Program, order as: ST350/10 Materials and Processes

| | No. | Average time |
|----------------------|-----|----------------|
| Assignments | 10 | 45 minutes |
| Extension Activities | 2 | 45 minutes |
| Total | | 9 hours |



LJ Technical Systems
 Web site: www.ljgroup.com

Ref No. P5085-E