

## CONSTRUCTION AREA

### 14. Adobe Brick Construction Technology (3)

Cultural and technical aspects of adobe brickmaking and construction. Soil selection, laboratory experimentation, brickmaking, construction practice. Field trips to local manufacturing plant and construction sites. (field trips)

### 110. Estimating and Bidding (3)

Prerequisite: Ind A 42, 115. Basic methods used to evaluate, fix cost, calculate worth, make accurate quantity take-offs and labor time estimates; preparing bids for prospective buyers.

### 111. Light Building Construction (3)

Principles of light frame construction including foundations, framing, exterior finish and related areas of layout; estimating and ordering materials; conventional and modular component systems. (field trips)

### 112. Heavy Building Construction (3)

Problems and methods of solution in the construction of heavy buildings; site, excavations, foundations, framework, heavy timber, reinforced concrete, structural steel, masonry construction, and related elements. (field trips)

### 113. Mechanical Systems in Construction (3)

Heating, ventilating and air conditioning systems in buildings and plants; basic functions, specifications; construction installation and testing procedures. Lectures, demonstrations, guest speakers from industry. (field trips)

### 115. Materials of Construction (3)

Properties and functional applications of basic building materials: wood, steel, concrete, ceramics, plastics, adhesives, sealants. Recent developments in new materials and applications. (field trips)

### 116. Scheduling and Control (3)

Prerequisite: Ind A 107, senior standing. Critical path method; planning, scheduling, and control of construction projects including logic, time assignment and computation, analysis, replanning, diagramming practices, monitoring and updating, computer utilization; role of management.

### 117. Construction Detailing (3)

Prerequisite: Ind A 42. Standard structural details for buildings constructed of wood, concrete, masonry, and steel. Graphic communication among architects, engineers, contractors. (field trips)

### 118. Construction Contracts and Specifications (3)

Prerequisite: Ind A 42. Principles and methods for developing and applying construction contracts and specifications.

### 119. Construction Laws (3)

Laws, acts, orders, bulletins, rules and regulations affecting the contracting business.

## AUTOMOTIVE AREA

### 12. Basic Automotive Systems (3)

Design, construction and mechanical functions of automotive engines, fuel systems, electrical systems, power transmission, brakes, and wheel suspension; proper use and safety of tools and equipment.

### 120. Automotive Engine Systems (3)

Prerequisite: Ind A 12, 51, or 52. Advanced study of automotive engines and support systems. Includes piston and rotary engine theory, fuel systems and fuel technology, electrical systems, small engines, diesel, gas turbine, emission control and diagnostic center power analysis. (field trips)