

APPLIED INDUSTRIAL TECHNOLOGY

AIT V01 Introduction to Heavy Equipment: Operation and Maintenance 3 Units

In-Class Hours: 35 lecture, 52.5 laboratory

This course introduces students to the use, maintenance, adjustment, calibration, and basic repairs of heavy equipment commonly used in industrial applications, such as agriculture, construction and manufacturing. Emphasis is placed on both mobile heavy equipment as well as stationary heavy machinery. The selection and operation of both machinery and equipment will be practiced. Safety practices for all mechanical areas will be covered and stressed.

Grade Modes: Letter Graded

Field Trips: Will be required

Degree Applicability: Applies to Associate Degree

AA/AS GE: None

Transfer Credit: CSU

UC Credit Limitations: None

CSU GE-Breadth: None

IGETC: None

AIT V02 Small Gasoline and Compact Diesel Engines 3 Units

In-Class Hours: 35 lecture, 52.5 laboratory

This course is an introduction to the fundamentals of two-stroke and four-stroke engines in relationship to oils, lubrication, safety inspections, precision measurements, and related mathematics.

Grade Modes: Letter Graded

Field Trips: May be required

Degree Applicability: Applies to Associate Degree

AA/AS GE: None

Transfer Credit: CSU

UC Credit Limitations: None

CSU GE-Breadth: None

IGETC: None

AIT V03 Fluid Power: Hydraulics and Pneumatics 3 Units

In-Class Hours: 35 lecture, 52.5 laboratory

This course provides an introduction to hydraulic and pneumatic principles, fluid safety, system components, and applications. The course will explore principles of physics as they pertain to fluid power and differences in hydraulics and pneumatics, as well as the characteristics of liquids and gases. Students will study schematics and blueprints, industrial standards, and the technical language of fluid power.

Grade Modes: Letter Graded

Field Trips: May be required

Degree Applicability: Applies to Associate Degree

AA/AS GE: None

Transfer Credit: CSU

UC Credit Limitations: None

CSU GE-Breadth: None

IGETC: None

AIT V04 Industrial Electrical Systems 3 Units

In-Class Hours: 35 lecture, 52.5 laboratory

This course introduces the theory of electricity and the relationship of voltage, current, resistance, and power in electrical circuits; develops an understanding of AC and DC fundamentals; and applies formulas to analyze the operation of AC and DC circuits. This course also addresses the common symbols used in motor control circuits; the fundamentals of electrical schematics and wiring diagrams; the principles of relays, motor starters, switches, pilot devices, sensing devices, and indicator lights; and introduces the different types and operations of basic motor control circuits.

Grade Modes: Letter Graded

Field Trips: May be required

Degree Applicability: Applies to Associate Degree

AA/AS GE: None

Transfer Credit: CSU

UC Credit Limitations: None

CSU GE-Breadth: None

IGETC: None

AIT V05 Introduction to Agricultural and Industrial Systems 4 Units

In-Class Hours: 43.75 lecture, 78.75 laboratory

Prerequisites: AIT V04 with a grade of C or better or concurrent enrollment

This course is an introductory survey of agricultural and industrial technology systems utilized within local industries. It prepares students with skills and knowledge to successfully adhere to mechanical power transmission safety rules. The course places a focus on installation, alignment, lubrication, process control, and troubleshooting techniques as applied to power transmission through chains, belts, bearings, and gear trains. The overall objective is to prepare students to install, adjust and maintain electro-mechanical assemblies and related components of industrial systems.

Grade Modes: Letter Graded

Field Trips: Will be required

Degree Applicability: Applies to Associate Degree

AA/AS GE: None

Transfer Credit: None

- Heavy Equipment and Industrial Systems Operation and Maintenance, Certificate of Achievement (<http://catalog.vcccd.edu/ventura/programs-courses/applied-industrial-technology/heavy-equipment-industrial-systems-operation-maintenance-coa/>)
- Industrial Technology and Fabrication, Certificate of Achievement (<http://catalog.vcccd.edu/ventura/programs-courses/applied-industrial-technology/industrial-technology-and-fabrication-coa/>)