

# Industrial Technology

## INDU 123 Electronic Devices

Prerequisite: INDU 125 Fundamentals of Electronics I w/Lab or Instructor's permission, INDU 167 Fundamentals of Electronics II w/Lab or Instructor's permission

Credit Hours: 3

This course will provide a fundamental knowledge of DC Power Supplies, Diodes, Transistors, Amplifiers and Troubleshooting. Operational Amplifiers, Oscillators, Integrated Circuits, Thyristors, Switch Mode Regulators, and AM/FM Radio Circuits

## INDU 125 Fundamentals of Electronics DC/AC

Prerequisite: None

Credit Hours: 3

This course provides a fundamental knowledge of analysis techniques used to solve for current, voltage, wattage, and resistance in various DC/AC circuits.

## INDU 127 Digital Logic Circuits

Prerequisite: INDU 125 Fundamentals of Electronics I-DC w/Lab or Instructor's Permission

Credit Hours: 3

This course provides knowledge in theory with building block circuits in logic systems and computers. Small scale ICs are used to learn the basic fundamentals of these systems and subsystems. Analysis techniques are taught to build the student's ability to troubleshoot. Binary mathematics and Boolean concepts are introduced and explained as needed.

## INDU 131 Engineering Graphics

Prerequisite: None

Credit Hours: 3

This course is an introduction to the fundamental principles of graphic communication. It is also an introduction in the use of computer aided design software to produce 3-D geometry, assemblies, and dimensioned 2-d orthographic views. Traditional drawing techniques including manual drafting tools and equipment will be utilized as well. Orthographic projection, dimensioning techniques, tolerance methods, fits and allowances, and sectioning methods are covered.

## INDU 155 OSHA Safety 10

Reading Placement Test Level: None

Prerequisite: None

Credit Hours: 1

This course will include OSHA standards assuring proper safety techniques for all types of circuits and components.

## INDU 167 Fundamentals of Electronics DC/AC Lab

Prerequisite: Enrolled in INDU 125 Fundamentals of Electronics I w/Lab

Credit Hours: 3

Provides a fundamental knowledge of analysis techniques used to solve for current, voltage, wattage, resistance, and impedance in various AC Circuits.

## INDU 168 Electronic Devices Lab

Prerequisite: INDU 125 Fundamentals of Electronics DC/AC or Instructor's permission, INDU 167 Fundamentals of Electronics DC/AC Lab or Instructor's permission, Co-enrolled in, or successful completion of INDU 123 Electronic Devices

Credit Hours: 3

The course will include DC Power Supplies, Diodes, Transistors, Amplifiers, Troubleshooting, Operational Amplifiers, Oscillators, Integrated Circuits, Thyristors, Switch Mode Regulators, and AM/FM Radio Circuits.

## INDU 169 Digital Logic Circuits Lab

Prerequisite: INDU 125 Fundamentals of Electronics I-DC w/Lab or Instructor's Permission, INDU 167 Fundamentals of Electronics DC/AC Lab or Instructor's Permission, and Co-enrolled in, or successful completion of INDU 127 Digital Logic Circuits, Co-enrolled in, or successful completion of INDU 155 OSHA Safety 10

\*Refer to the Placement Testing Procedure 3.22, page 25 \*\* Refer to Course Transfer, page 20

Credit Hours: 3

This course will provide lab practices of course INDU 127 with building block circuits in logic systems and computers in a hands-on environment. Small scale IC's are used to learn the basic fundamentals of these systems and subsystems. Analysis techniques are taught to build the student's ability to troubleshoot. Students will also successfully obtain an OSHA 10 certificate from an online source during the course.

INDU 210 Computer Aided Drafting & Design

Prerequisite: INDU 131 Engineering Graphics

Credit Hours: 3

This course will include the use of computer aided design software to generate complex 3-D geometry for the purpose of communicating the following: manufacturing information, detail design information, dimensioning and tolerance data, and surface finish. This course will teach the student more advanced drafting skills. It will take the skills developed in Engineering Graphics I and further develop those skills in the art of drafting. The student will be expected to develop acceptable skills in the art of drafting. Additionally, the following areas will be covered: geometric tolerances, auxiliary views, threads and fasteners, assembly and working drawings, the design process, and pictorial drafting techniques.

## Management

MNGM 152 Leadership Training Techniques I

Prerequisite: None

Credit Hours: 3

Develop effective management/leadership skills through the study of various management philosophies, team building concepts, and the leadership characteristics of past and present prominent leaders.

## Mathematics

MATH 88 (0811) Foundations of Math

Prerequisite: Placement Test Recommendation

Credit Hours: 3

This course is designed to help students improve their mathematical skills in the areas of whole numbers, fractions, decimals, measurement, and percents. The basic operations of addition, subtraction, multiplication, and division will be stressed in all areas. (Non transferable)

MATH 106 (1707) Applied Mathematics

Prerequisite: Placement Test Recommendation *or* C or better in MATH 88, Foundations of Math

Credit Hours: 3

This course is designed to help vocational students and other career minded students develop and refine job-related mathematical skills. The course includes material on arithmetic operations, problem solving techniques, estimation of answers, measurement skills, and geometry.

MATH 96 (1717) Beginning Algebra

Prerequisite: Placement Test Recommendation *or* C or better in MATH 88, Foundations in Math

Credit Hours: 3

This course will build skills in basic algebra concepts. Topics covered in the course will include the basic language and terms of algebra, rules for signed numbers, techniques for solving linear, quadratic, and literal equations, rules and properties of exponents as applied to algebraic expressions, and the graphing and solving of linear equations and linear systems in two unknowns. (Non transferable)

MATH 100 (1718) Intermediate Algebra

Prerequisite: Placement Test Recommendation *or* C or better in MATH 96, Beginning Algebra

Credit Hours: 3

\*Refer to the Placement Testing Procedure 3.22, page 25 \*\* Refer to Course Transfer, page 20