

APPLIED INDUSTRIAL TECHNOLOGY (AIT)

AIT-1010 Construction Measurements and Calculations **4 Credits**

Covers fundamental measuring and calculation skills essential to the skilled craftsperson working in the construction industry. Provides a basic level of knowledge and understanding of practical measurements used to establish building, wall and equipment locations as well as material sizes and quantities. Field application and measurement conversions are stressed. Basic mathematical concepts are explained and applied in job situations.

Lecture: 4 hours

Prerequisite(s): Eligibility for ENG-0985 Introduction to College Literacies, and MATH-0915 Basic Arithmetic and Pre-Algebra or qualified Math placement, and concurrent enrollment in the following courses: AIT-1020 Comprehension and Communication for Construction, AIT-1030 Basic Construction Language, AIT-1040 Spatial and Mechanical Reasoning, AIT-1050 Construction Industry Orientation, AIT-1060 Construction tools, and AIT-1120 Building Construction Trades Lab.

AIT-1020 Comprehension and Communication for Construction **2 Credits**

Covers basic skills necessary for reading factual information used in construction with concentration on supporting details, clarifying information, and end results needed for success in the construction industry.

Lecture: 2 hours

Prerequisite(s): Eligibility for ENG-0985 Introduction to College Literacies, MATH-0915 Basic Arithmetic and Pre-Algebra, or qualified Math placement; and concurrent enrollment in the following courses: AIT-1010 Construction Measurements and Calculations, AIT-1020 Comprehension and Communication for Construction, AIT-1040 Spatial and Mechanical Reasoning, AIT-1050 Construction Industry Orientation, AIT-1060 Construction Tools, and AIT-1120 Building Construction Trades Lab.

AIT-1030 Basic Construction Language **2 Credits**

Study of construction drawings to determine specifications, lines and line weights, measurements related to laying out, dimensioning, estimating and planning.

Lecture: 2 hours

Prerequisite(s): Eligibility for ENG-0985 Introduction to College Literacies, MATH-0915 Basic Arithmetic and Pre-Algebra or qualified Math placement, and concurrent enrollment in the following courses: AIT-1010 Construction Measurements and Calculations, AIT-1020 Comprehension and Communication for Construction, AIT-1040 Spatial and Mechanical Reasoning, AIT-1050 Construction Industry Orientation, AIT-1060 Construction tools, and AIT-1120 Building Construction Trades Lab.

AIT-1040 Spatial and Mechanical Reasoning **1 Credit**

Introduces the student to spatial development skills and mechanical reasoning. Included are practical applications of orthographic projections, figure conceptualization and cubic translation. Also covers mechanical analysis of pulley and gear systems and simple machines, including basic properties of physics.

Lecture: 1 hours

Prerequisite(s): Eligibility for ENG-0985 Introduction to College Literacies, MATH-0915 Basic Arithmetic and Pre-Algebra or qualified Math placement, and concurrent enrollment in the following courses: AIT-1010 Construction Measurements and Calculations, AIT-1020 Comprehension and Communication for Construction, AIT-1030 Basic Construction Language, AIT-1050 Construction Industry Orientation, AIT-1060 Construction tools, and AIT-1120 Building Construction Trades Lab.

AIT-1050 Construction Industry Orientation **3 Credits**

An introduction to the construction industry and to respective construction apprenticeship programs and respective entry requirements. Included are soft skills for industry success, introduction to green building techniques and apprenticeship training center visits. Instruction site exploration will be included whenever possible.

Lecture: 3 hours

Prerequisite(s): Eligibility for ENG-0985 Introduction to College Literacies, MATH-0915 Basic Arithmetic and Pre-Algebra or qualified Math placement, and concurrent enrollment in the following courses: AIT-1010 Construction Measurements and Calculations, AIT-1020 Comprehension and Communication for Construction, AIT-1030 Basic Construction Language, AIT-1040 Spatial and Mechanical Reasoning, AIT-1060 Construction Tools, and AIT-1120 Building Construction Trades Lab.

AIT-1060 Construction Tools **2 Credits**

Covers the hand tools and materials of the respective building trades. Introduces the student to basic operations of respective crafts using hand tools of the trade. In addition, construction safety will be covered in depth, and a certificate for an Occupational Safety and Health Administration (OSHA-10) card will be granted upon successful completion.

Lecture: 1 hour. Laboratory: 2 hours

Prerequisite(s): Eligibility for ENG-0985 Introduction to College Literacies, MATH-0915 Basic Arithmetic and Pre-Algebra or qualified Math placement, and concurrent enrollment in the following courses: AIT-1010 Construction Measurements and Calculations, AIT-1020 Comprehension and Communication for Construction, AIT-1030 Basic Construction Language, AIT-1040 Spatial and Mechanical Reasoning, AIT-1050 Construction Industry Orientation, and AIT-1120 Building Construction Trades Lab.

AIT-1120 Building Construction Laboratory

3 Credits

An introduction to work in building construction trades through discussion and hands-on training, providing an understanding of the history, practices, technologies, and factors of influences upon the industry. Extensive project work will include completion of masonry, carpentry, roofing, interior finishing, residential electrical, plumbing, and construction measurement. Construction site visits may be included.

Lecture: 2 hours. Laboratory: 3 hours

Prerequisite(s): Eligibility for ENG-0985 Introduction to College Literacies, MATH-0915 Basic Arithmetic and Pre-Algebra or qualified Math placement, and concurrent enrollment in the following courses: AIT-1010 Construction Measurements and Calculations, AIT-1020 Comprehension and Communication for Construction, AIT 1030-Building Construction Language, AIT-1040 Spatial and Mechanical Reasoning, AIT-1050 Construction Industry Orientation, and AIT-1060 Construction Tools.

AIT-2990 Contracting in a Diverse World

3 Credits

Capstone course in Applied Industrial Technology. Study of construction contracting principles, procedures and practices including estimating and subcontracting practices. Includes working with diverse workforce groups in union and non-union settings utilizing teamwork.

Lecture: 3 hours

Prerequisite(s): Departmental approval: completion of more than fifty percent of the respective trade apprenticeship.