

A. K. Smith Area Career Center
La Porte County Career and Technical Education
Course Syllabus
Core Curriculum, Introduction to Craft Skills - 1st Semester
School Year 2015-2016

Course Title: Core Curriculum, Introduction to Craft Skills, Year One - 1st Semester

Times: Monday through Friday
A.M. Session: 7:25AM - 9:45AM
P.M. Session: 11:35AM - 2:00PM

Office Hours: 10:30AM - 11:30AM

Instructor: Craig Lindgren (Indiana Professional Educators License)
(NCCER Certified)
(PLTW Certified)
(OSHA 10 Certified)
(CompTIA 'A+' Certified Professional)

Room 202

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Prerequisites: None

NCCER: The National Center for Construction Education and Research (NCCER) is a not-for-profit educational foundation established in 1995 by the world's largest and most progressive construction companies and national construction associations. It was founded to address the severe workforce shortage facing the industry and to develop a standardized training process and curricula. NCCER also maintains a National Registry that provides transcripts, certificates, and wallet cards to individuals who have successfully completed modules of NCCER

Contren Learning Series. Training programs must be delivered by an NCCER Accredited Training Sponsor.

Dual Credit: Dual credit courses are college based courses taken in high school for which the student earns both high school and college credit at the same time.

Text Book: Core Curriculum: Introductory Craft Skills NCCER Learning Series - Prentice Hall

Materials: Trainees must have a binder specifically for this class, that will include notebook paper, pencils, and a calculator (an ink pen is optional).

Cell Phone, MP3 Player, and Electronic Device Policy:

The MCAS policy is in effect at A. K. Smith Area Career Center. No phone calls or texting is allowed in the classroom. Cell phones will be asked for and turned in to the office.

Required Uniform: Trainees will wear short or long sleeve collared shirts, preferable cotton, solid colors of blue, grey, black, khaki, or white. Sweaters solid colors see above. Khaki or blue cotton pants or blue jeans are to be worn. (Note: No 'T' shirts, shorts, jackets, hoodies, coats, sandals, or warm up athletic clothes. All clothes are to be clean and hole free. Pants are to be worn at the waist, with a belt. Students will wear boots that cover the ankle (i.e. at least 6" high). Students may wear tennis shoes on lecture days, boots should be in the locker when not worn.

Grading: The MCAS grading scale will be used.

90% - 100% = A

80% - 89% = B

70% - 79% = C

60% - 69% = D

59% and lower is an F

All Math related assignments, quizzes, and tests will be completed in pencil and all work must be shown.

On all 'Core Curriculum, Introduction to Craft Skills' Tests the trainee must pass with a 70% or higher. A trainee will have three attempts to pass the test with review. Trainee's that cannot pass a 'Core Curriculum, Introduction to craft Skills' Test within three (3) tries will be dropped from the class.

Course Outline:

I. Basic Safety

A. Introduction to Safety and Accidents

1. Importance of Safety
2. Accidents: Causes and Results
3. Company Safety Policies and OSHA Regulations
4. Hazard Recognition, Evaluation, and Control

B. Working from Elevations

1. Elevated Work and Fall Protection
2. Ladders and Stairs
3. Scaffolds

C. Job Site Hazards

1. Struck by Hazards
2. Caught-in-Between Hazards
3. Electrical Hazards

D. Safety Precautions and Job-Site Hazards

1. Personal Protective Equipment (PPE)
2. Hazard Communication Standard

3. Other Job-Site Hazards

E. Review and Testing

1. Review materials

2. Module Examination; Trainee must score 70 percent or higher to receive recognition from NCCER and course credit.

3. Performance Testing; Trainee must perform each task to the satisfaction of the instructor to receive recognition from NCCER. Proficiency noted during laboratory exercises can be used to satisfy the Performance Testing requirements.

II. Introduction to Construction Math

A. Whole Numbers and Measurements

1. Whole Numbers

2. Working with Length Measurements

3. Other types of Scales

B. Fractions and Decimals

1. Reducing and Comparing Fractions

2. Adding and Subtracting Fractions

3. Multiplying and Dividing Fractions

4. Comparing Decimals

5. Adding and Subtracting Decimals

6. Multiplying and Dividing Decimals

C. Conversion and Geometry

1. Converting Fractions and Decimals

2. Converting Inches and Decimals

3. Introduction to Construction Geometry

4. Area of Shapes

5. Volume of Shapes

D. Review and testing

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III. Introduction to Hand Tools

A. Hand Tools Part One

1. Hammers, Ripping Bars, Nail Pullers, Chisels, Punches, and Screwdrivers

B. Hand Tools Part Two

1. Pliers, Wrenches, sockets, Ratchets, Torque Wrenches, Rules and other Measuring Tools, and Levels

C. Hand Tools Part Three

1. Squares, Plumb Bob, Chalk Lines, Utility Knives, Saws, Files, Rasps, and Clamps

D. Hand Tools Part Four

1. Chain Falls, Come-Alongs, Shovels, and Picks

E. Review and Testing

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IV. Introduction to Power Tools

A. Power Tools Part One

1. Electric, Pneumatic, and Hydraulic Tools, Power Drill, Cordless Drills, Hammer Drills, Electromagnetic Drills, and Pneumatic Drills

B. Power Tools Parts Two

1. Circular Saws, Saber Saws, Reciprocating Saws (SawZalls), Portable Handheld Bandsaw, Power Miter Saw, and Abrasive Cutoff Saw

C. Power Tools Part Three

1. Grinders, Sanders, Pneumatically Powered Nailers, Powder-Actuated Fastening Systems, Air Impact Wrench, Pavement Breaker, and Hydraulic Jack

D. Review and Testing

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V. Introduction to Construction Drawings

A. The Drawing Set and Types of Drawings, Part One

1. Basic Components of Construction Drawings
2. Civic Plans
3. Architectural Plans

B. Types of Construction Drawings, Part Two

1. Structural Plans

2. Mechanical Plans
3. Plumbing/Piping Plans
4. Electrical Plans
5. Fire Protection Plans
6. Specifications
7. Request for information

C. Construction Drawings

1. Scale
2. Lines of Construction
3. Abbreviations, Symbols, and Keynotes
4. Using Gridlines to Identify Plan Locations
5. Dimensions

D. Review and Testing

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VI. Basic Rigging

A. Introduction and Slings

1. Introduction
2. Tagging Requirements
3. Synthetic Slings
4. Alloy Steel Chain Slings

5. Wire Rope Slings

B. Hitches

1. Vertical Hitch
2. Choker Hitch
3. Basket Hitch

C. Rigging Hardware

1. Shackles
2. Eyebolts
3. Lifting Clamps
4. Rigging Hooks

D. Sling Stress and Hoists

1. Sling Stress
2. Operation of Chain Hoists
3. Hoist Safety and Maintenance

E. Rigging Operations and Practices

1. Rated Capacity
2. Sling Attachment
3. Hardware Attachment
4. Load Control

F. Review and Testing

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VII. Basic Communication Skills

A. The Communication Process; Listening and Speaking Skills

1. The Communication Process
2. Active Listening on the Job
3. Speaking on the Job

B. Reading and Writing Skills

1. Reading on the Job
2. Writing on the Job

C. Review and Testing

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VIII. Basic Employability Skills

A. Employability Skills, Part One

1. The Construction Business
2. Critical Thinking Skills

B. Employability Skills, Part Two

1. Computer Skills
2. Relationship Skills
3. Workplace Issues

C. Review and Testing

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IX. Introduction to Materials Handling

A. Materials-Handling Basics, Safety, and Equipment

1. Materials-Handling Basics
2. Materials-Handling Safety
3. Non-Motorized and Motorized Equipment

B. Hand Signals

1. Hand Signals

C. Review and Testing

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