**COURSE SYLLABUS**

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| **LAST REVIEW** | Fall 2022 |
| **COURSE TITLE** | Introductory Craft Skills |
| **COURSE NUMBER** | CONS 0106 |
| **DIVISION** | Career and Technical Education |
| **DEPARTMENT** | CONS |
| **CIP CODE** | 46.0201 |
| **CREDIT HOURS** | 3 |
| **CONTACT HOURS/WEEK** | Class: 1 Lab: 4 Clinical: |
| **PREREQUISITES** | KBOR approved Core Curriculum. OSHA 10, Math Level 3 Recommended |

**COURSE DESCRIPTION**

This is an introduction to the construction trades. It is in alignment with NCCER and the Kansas Board of Regents. It is also a component (in part) of the Core Curriculum for the KCKCC Construction Technology program and the KCKCC Building and Property Maintenance program. The course topics include: Environmental sustainability, Basic Safety, Introduction to Construction Math, Introduction to Hand Tools, Introduction to Power Tools, Construction Drawings, Basic Rigging, Basic Communication Skills, Basic Employability Skills, and Introduction to Materials Handling.

**PROGRAM LEARNING OUTCOMES**

1. Demonstrate appropriate safety practices and procedures.
2. Demonstrate proper methods for building a structure using provided blueprints.
3. Demonstrate proper installation of windows, doors, and stairs.

**TEXTBOOKS**

http://kckccbookstore.com/

**METHODS OF INSTRUCTION**

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

**COURSE OUTLINE**

I. Basic Safety (Core)
   A. Safety and its importance.
   B. Causes of accidents.
   C. OSHA safety.
   D. OSHA's General Duty Clause.

E. Hazard recognition.
F. Fall protection.
G. Struck-by hazards.
H. Caught-in-between hazards.
I. Safe work procedures.
J. Appropriate personal protective equipment (PPE).
K. Hazard communications (HazCom) and Material Safety Data Sheets (MSDSs).
L. Other construction hazards.

II. Introduction to Construction Math (Core)
A. Add, subtract, multiply, and divide whole numbers.
B. Standard ruler, a metric ruler, and a measuring tape.
C. Add, subtract, multiply, and divide fractions.
D. Add, subtract, multiply, and divide decimals.
E. Convert decimals.
F. Convert fractions.
G. Metric system.
H. Metric units of length, weight, volume, and temperature.
I. Basic shapes in the construction industry.

III. Introduction to Hand Tools (Core)
A. Basic hand tools.
B. Visually inspection of hand tools.
C. Hand tool use.

IV. Introduction to Power Tools (Core)
A. Power tools commonly construction.
B. Power tools safely.
C. Maintaining power tools.

V. Introduction to Construction Drawings (Core)
A. Basic construction drawings.
B. Relating information on construction drawings.
C. Different classifications.
D. Interpreting dimensions.

VI. Basic Rigging (Core)
A. Use of slings.
B. Inspection techniques.
C. Hitch configurations.
D. Load-handling safety practices.
E. American National Standards Institute (ANSI) hand signals.

VII. Basic Communication Skills (Core)
A. Interpreting information.
B. Verbal and written skills.
C. Electronic communication devices.

VIII. Basic Employability Skills (Core)
A. Role of an employee.
B. Critical thinking skills.
C. Computer systems.
D. Relationship skills.
E. Workplace issues.

IX. Introduction to Materials Handling

A. Define a load.
B. Pre-task plan.
C. Materials-handling techniques.
D. Materials-handling equipment.
E. Safety procedures for materials handling.

X. Environmental Sustainability
A. Environmentally safe waste disposal.
B. Life cycle analysis.
C. Recycled material.
D. Low VOC emissions.
E. New “green” materials.
F. New “green” methods and practices.
G. “Low impact” designs.

**COURSE LEARNING OUTCOMES AND COMPETENCIES**

Upon successful completion of this course, the student will:

A. *Identify and describe the various types of hazards in the workplace, basic safety, and procedures.*
1. Identify and explain the idea of a safety culture and its importance in the construction crafts.
2. Identify causes of accidents and the impact of accident costs.
3. Identify and explain the role of OSHA in job-site safety.
4. Identify and explain OSHA’s *General Duty Clause* and 1926 CFR Subpart C.
5. Identify and recognize hazard recognition and risk assessment techniques.
6. Identify and explain fall protection, ladder, stair, and scaffold procedures and requirements.
7. Identify struck-by hazards and demonstrate safe working procedures and requirements.
8. Identify caught-in-between hazards and demonstrate safe working procedures and requirements.
9. Identify and define safe work procedures to use around electrical hazards.
10. Identify and demonstrate the use and care of appropriate personal protective equipment (PPE).
11. Identify and explain the importance of hazard communications (HazCom) and Material Safety Data Sheets (MSDSs).
12. Identify and other construction hazards on your job site, including hazardous material exposures, environmental elements, welding and cutting hazards, confined spaces, and fires.

B. *Understand and demonstrate a knowledge of the math related to construction.*
13. Identify, add, subtract, multiply, and divide whole numbers, with and without a calculator.
14. Identify and use a standard ruler, a metric ruler, and a measuring tape to measure.
15. Identify, add, subtract, multiply, and divide fractions.
16. Identify, add, subtract, multiply, and divide decimals, with and without a calculator.
17. Identify and convert decimals to percentages and percentages to decimals.
18. Identify and convert fractions to decimals and decimals to fractions.

19. Identify and explain what the metric system is and how it is important in the construction trade.
20. Identify and recognize and use metric units of length, weight, volume, and temperature.
21. Identify and recognize some of the basic shapes used in the construction industry and apply basic geometry to measure them.

C. *Identify and describe the types of hand and power tools used in the trades.*
22. Identify and recognize and identify some of the basic hand tools and their proper uses in the construction trade.
23. Identify and visually inspect hand tools to determine if they are safe to use.
24. Identify and safely use hand tools.

D. *Identify and describe and perform specific uses of power tools. curriculum: introductory craft skills*
25. Identify power tools commonly used in the construction trades.
26. Identify and use power tools safely.
27. Identify and explain how to maintain power tools properly.

E. *Identify types and uses of construction drawings.*
28. Identify and recognize and identify basic construction drawing terms, components, and symbols.
29. Identify and relate information on construction drawings to actual locations on the print.
30. Identify and recognize different classifications of construction drawings.
31. Identify, interpret and use drawing dimensions.

F. *Identify and describe the types of basic rigging.*
32. Identify and describe the use of slings and common rigging hardware.
33. Identify and describe basic inspection techniques and rejection criteria used for slings and hardware.
34. Identify and describe basic hitch configurations and their proper connections.
35. Identify and describe basic load-handling safety practices.
36. Identify and demonstrate proper use of American National Standards Institute (ANSI) hand signals.

G. *Demonstrate proper basic communication skills.*
37. Identify and interpret information and instructions presented in both verbal and written form.
38. Identify and communicate effectively in on-the-job situations using verbal and written skills.
39. Identify and communicate effectively on the job using electronic communication devices.

H. *Identify and develop basic employability skills.*
40. Identify and explain the role of an employee in the construction industry.
41. Identify and demonstrate critical thinking skills and the ability to solve problems using those skills.

42. Identify and demonstrate knowledge of computer systems and explain common uses for computers in the construction industry.
43. Identify and define effective relationship skills.
44. Identify and recognize workplace issues such as sexual harassment, stress, and substance abuse.

I. *Identify and describe how to safely handle and store material.*
45. Identify and define a load.
46. Identify and establish a pre-task plan prior to moving a load.
47. Identify and use proper materials-handling techniques.
48. Identify and choose appropriate materials-handling equipment for the task.
49. Identify and recognize hazards and follow safety procedures required for materials handling.

J. *Identify and describe sound environmental practices for construction workers , including waste disposal, life cycle analysis, green practices and low impact.*
50. Identify and describe waste disposal methods for this industry according to EPA and industry guidelines.
51. Identify and describe the process of life cycle analysis in this industry based on industry guidelines.
52. Identify recycled materials by label and industry practice.
53. Identify and define “low emission” and give two examples.
54. Identify new “green” materials now being introduced or currently used in this industry.
55. Identify and describe new “green” practices and methods being instituted or currently employed within this industry.
56. Identify and explain the term “low Impact” as it relates to the environment.

**ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES**
Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor’s course information document.

**COLLEGE POLICIES AND PROCEDURES**
*Student Handbook*
https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

*College Catalog*
https://www.kckcc.edu/academics/catalog/index.html

*College Policies and Statements*
https://www.kckcc.edu/about/policies-statements/index.html

*Accessibility and Accommodations*
https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.