SYLLABUS

DATE OF LAST REVIEW: 02/2013
CIP CODE: 46.0201
SEMESTER: Departmental Syllabus
COURSE TITLE: Rigging Fundamentals
COURSE NUMBER: CONS0136
CREDIT HOURS: 3
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.

PREREQUISITES: KBOR approved Core Curriculum. OSHA 10. Math Level 3 Recommended

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com/, for the required tests for your particular class.

COURSE DESCRIPTION: This is the course in Rigging. It is aligned with NCCER (selected modules) and the Kansas Board of Regents. The course topics include: Environmental sustainability, Basic Rigging, Rigging Equipment and Rigging Practices.

METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. They may include but are not limited to lecture, multimedia, cooperative/collaborative learning, demonstrations, labs, on-the-job, internships, performance tests, and other learning experiences outside the classroom. Methodology will be selected to best meet student needs.
COURSE OUTLINE:

I. MODULE 00106-04 – BASIC RIGGING
   A. Common rigging hardware.
   B. Inspection techniques.
   C. Hitch configurations.
   D. Safety practices.
   E. American National Standards Institute (ANSI) hand signals.

II. MODULE 38101-05 – RIGGING EQUIPMENT
    A. Common rigging hardware.
    B. Safety inspections.
    C. Sling capacities.
    D. Rigging equipment, including:
       1. Block and tackle
       2. Chain hoists
       3. Come-alongs
       4. Jacks
       5. Tuggers
    E. Heavy rigging hardware.
    F. Knots used in rigging.

III. MODULE 38102-05 – RIGGING PRACTICES
     A. Hand signals.
     B. Rigging and crane safety.
     C. Pinch points.
     D. Environmental hazards.
     E. Rigging hardware.
     F. Lift plans.
     G. Sling tension calculations.

IV. MODULE 38204-06 – LIFT PLANNING
    A. Lift plans.
    B. Safe lifting.
    C. Additions and deductions.
    D. Special approval.
    E. Engineering considerations.
    F. Types of lift plans.
    G. Lift plan implementation.
    H. Adhering to a lift plan.
V. MODULE 38206-06 – PERSONNEL LIFTS
A. Federal regulations.
B. Consensus standards.
C. Inspections.
D. Operation techniques.

VI. 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.

EXPECTED LEARNER OUTCOMES:
A. Module 00106-04. The student will be able to identify and describe basic rigging methods, hardware and safety.
B. Module 38101-05. The student will be able to identify and describe the types of rigging equipment and knots.
C. Module 38102-05. The student will be able to identify and describe lift plans, safe rigging practices, signals, pinch points and hardware.
D. Module 38204-06. The student will be able to identify and describe the procedures for safe lifts and lift planning.
E. Module 38206-06. The student will be able to identify and describe the types of personnel lifts, inspections and regulations.
F. The student will identify and describe sound environmental practices for Riggers, including waste disposal, life cycle analysis, green practices and low impact.

COURSE COMPETENCIES:

Module 00106-04. The student will be able to identify and describe basic rigging methods, hardware and safety.

1. The student will be able to identify and identify and describe the use of slings and common rigging hardware.
2. The student will be able to identify and describe basic inspection techniques and rejection criteria used for slings and hardware.
3. The student will be able to identify and describe basic hitch configurations and their proper connections.
4. The student will be able to identify and describe basic load-handling safety practices.
5. The student will be able to identify and demonstrate proper use of American National Standards Institute (ANSI) hand signals.

Module 38101-05. The student will be able to identify and describe the types of rigging equipment and knots.

6. The student will be able to identify and identify and describe the uses of common rigging hardware and equipment.
7. The student will be able to identify and perform a safety inspection on hooks, slings, and other rigging equipment.
8. The student will be able to describe common slings and determine sling capacities and angles.
9. The student will be able to identify and select, inspect, use, and maintain special rigging equipment, including:
   a. Block and tackle
   b. Chain hoists
   c. Come-alongs
   d. Jacks
   e. Tuggers
10. The student will be able to identify and inspect heavy rigging hardware.
11. The student will be able to identify and tie knots used in rigging.

Module 38102-05. The student will be able to identify and describe lift plans, safe rigging practices, signals, pinch points and hardware.

12. The student will be able to identify and use the correct hand signals to guide a crane operator.
13. The student will be able to identify basic rigging and crane safety procedures and determine the center of gravity of a load.
14. The student will be able to identify the pinch points of a crane and explain how to avoid them.
15. The student will be able to identify site and environmental hazards associated with rigging.
16. The student will be able to identify and properly attach rigging hardware for routine lifts and pipe lifts.
17. The student will be able to identify the components of a lift plan.
18. The student will be able to identify and perform sling tension calculations.

Module 38204-06. The student will be able to identify and describe the procedures for safe lifts and lift planning.

19. The student will be able to identify and provide the necessary information requested on a lift plan.
20. The student will be able to identify and reference available material that will assist in a safe lifting operation.
21. The student will be able to identify and calculate additions and deductions involved in lifting operations.
22. The student will be able to identify and describe existing operations that need special approval.
23. The student will be able to identify engineering considerations in a lift plan.
24. The student will be able to identify the various types of lift plans and their differences.
25. The student will be able to identify the importance of lift plan implementation.
26. The student will be able to identify and describe the importance of following and adhering to a lift plan.

Module 38206-06. The student will be able to identify and describe the types of personnel lifts, inspections and regulations.

27. The student will be able to identify and identify which federal regulations apply to hoisting personnel.
28. The student will be able to identify and identify which consensus standards apply to hoisting personnel.
29. The student will be able to identify and visually inspect the platform, suspension system, and attachment points.
30. The student will be able to identify and define operation techniques for hoisting personnel near power lines.

The student will identify and describe sound environmental practices for Riggers, including waste disposal, life cycle analysis, green practices and low Impact.

31. The student will be able to identify and describe waste disposal methods for this industry according to EPA and industry guidelines.
32. The student will be able to identify and describe the process of life cycle analysis in this industry based on industry guidelines.
33. The student will be able to identify and identify recycled materials by label and industry practice.
34. The student will be able to identify and define “low emission” and give two examples.
35. The student will be able to identify and identify new “green” materials now being introduced or currently used in this industry.
36. The student will be able to identify and describe new “green” practices and methods being instituted or currently employed within this industry.
37. The student will be able to identify and identify and explain the term “low Impact” as it relates to the environment.
ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but not limited to, exams, written assignments, performance tests, and class participation.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center in Rm. 3354 or call (913) 288-7670.