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<th>02/2013</th>
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<td><strong>CIP CODE:</strong></td>
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<td><strong>SEMESTER:</strong></td>
<td>Departmental Syllabus</td>
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<tr>
<td><strong>COURSE TITLE:</strong></td>
<td>Plumbing (Level 1)</td>
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<td><strong>COURSE NUMBER:</strong></td>
<td>CONS0142</td>
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<td><strong>CREDIT HOURS:</strong></td>
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<td><strong>INSTRUCTOR:</strong></td>
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<td><strong>TELEPHONE:</strong></td>
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<td><strong>EMAIL:</strong></td>
<td>KCKCC issued email accounts are the official means for electronically communicating with our students.</td>
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<td><strong>PREREQUISITES:</strong></td>
<td>KBOR approved Core Curriculum. OSHA 10. Math Level 3 Recommended</td>
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**REQUIRED TEXT AND MATERIALS:** Please check with the KCKCC bookstore, [http://www.kckccbookstore.com/](http://www.kckccbookstore.com/), for the required tests for your particular class.

**COURSE DESCRIPTION:** This is the basic plumbing course. It is in alignment with NCCER (selected modules) and the Kansas Board of Regents. The course topics include: Environmental sustainability, Introduction to the Plumbing Profession, Plastic Pipe and Fittings, Copper Pipe and Fittings, Fixtures and Faucets, Introduction to Drain - Waste - and Vent (DWV) Systems, and Introduction to Water Distribution Systems.

**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 02101-05 – INTRODUCTION TO THE PLUMBING PROFESSION
   A. History of the profession.
   B. Responsibilities of worker.
   C. Personal characteristics.
   D. Stages of progress.

II. MODULE 02106-05 – PLASTIC PIPE AND FITTINGS
   A. Materials and schedules.
   B. Applications of plastic piping.
   C. Types of fittings.
   D. Hangers and supports.
   E. Techniques for hanging and supporting.
   F. Measure, cut, and join.
   G. Handling, storage, and protection.

III. MODULE 02107-05 – COPPER PIPE AND FITTINGS
   A. Types of materials and schedules used with copper piping.
   B. Material properties, storage, and handling.
   C. Types of fittings and valves.
   D. Techniques used in hanging and supporting.
   E. Measure, ream, cut, and join.
   F. Hazards and safety.

IV. MODULE 02111-05 – FIXTURES AND FAUCETS
   A. Types of materials.
   B. Types of sinks, lavatories, and faucets.
   C. Types of bathtubs, bath-shower modules, shower stalls, and shower baths.
   D. Types of toilets, urinals, and bidets.
   E. Types of drinking fountains and water coolers.
   F. Types of garbage disposals and domestic dishwashers.

V. MODULE 02112-05 – INTRODUCTION TO DRAIN, WASTE, AND VENT (DWV) SYSTEMS
   A. How waste moves.
   B. Major components of a drainage system.
   C. Types of traps.
   D. Types of drain, waste, and vent (DWV) fittings.
E. Code and health issues.

VI. MODULE 02113-05 – INTRODUCTION TO WATER DISTRIBUTION SYSTEMS
A. Municipal, residential, and private water systems.
B. Components of a water distribution system.
C. Relationships between components.

VII. 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 02101-05. The student will be able to identify and describe the qualities of a plumber and career progression.
B. Module 02106-05. The student will be able to identify and describe the types of plastic pipe and fittings, hazards, and storage.
C. Module 02107-05. The student will be able to identify and describe the types of copper pipe and fittings steel tubing, hazards, and storage.
D. Module 02111-05. The student will be able to identify and describe the types of materials, fixtures and faucets.
E. Module 02112-05. The student will be able to identify and describe codes, health issues, and types of drain, waste, and vent (dwv) systems.
F. Module 02113-05. The student will be able to identify and describe the types and components of water distribution systems.
G. The student will identify and describe sound environmental practices for plumbers, including waste disposal, life cycle analysis, green practices and low impact.

COURSE COMPETENCIES:

Module 02101-05. The student will be able to identify and describe the qualities of a plumber and career progression.

1. The student will be able to identify and describe the history of the plumbing profession.
2. The student will be able to identify the responsibilities of a person working in the construction industry.
3. The student will be able to identify and state the personal characteristics of a professional.
4. The student will be able to identify the stages of progress within the plumbing profession and its positive impact on society.
Module 02106-05. The student will be able to identify and describe the types of plastic pipe and fittings, hazards, and storage

5. The student will be able to identify types of materials and schedules of plastic piping.
6. The student will be able to identify proper and improper applications of plastic piping.
7. The student will be able to identify types of fittings and valves used with plastic piping.
8. The student will be able to identify and determine the kinds of hangers and supports needed for plastic piping.
9. The student will be able to identify the various techniques used in hanging and supporting plastic piping.
10. The student will be able to identify and properly measure, cut, and join plastic piping.
11. The student will be able to identify and explain proper procedures for the handling, storage, and protection of plastic pipes.

Module 02107-05. The student will be able to identify and describe the types of copper pipe and fittings steel tubing, hazards, and storage.

12. The student will be able to identify the types of materials and schedules used with copper piping.
13. The student will be able to identify the material properties, storage, and handling requirements of copper piping.
14. The student will be able to identify the types of fittings and valves used with copper piping.
15. The student will be able to identify the techniques used in hanging and supporting copper piping.
16. The student will be able to identify and properly measure, ream, cut, and join copper piping.
17. The student will be able to identify the hazards and safety precautions associated with copper piping.

Module 02111-05. The student will be able to identify and describe the types of materials, fixtures and faucets.

18. The student will be able to identify the basic types of materials used in the manufacture of plumbing fixtures.
19. The student will be able to identify and discuss common types of sinks, lavatories, and faucets.
20. The student will be able to identify and discuss common types of bathtubs, bath-shower modules, shower stalls, and shower baths.
21. The student will be able to identify and discuss common types of toilets, urinals, and bidets.
22. The student will be able to identify and describe common types of drinking fountains and water coolers.
23. The student will be able to identify and discuss common types of garbage disposals and
domestic dishwashers.

Module 02112-05. The student will be able to identify and describe codes, health issues, and types of drain, waste, and vent (DWV) systems.

24. The student will be able to identify and explain how waste moves from a fixture through the drain system to the environment.
25. The student will be able to identify the major components of a drainage system and describe their functions.
26. The student will be able to identify the different types of traps and their components, explain the importance of traps, and identify the ways that traps can lose their seals.
27. The student will be able to identify the various types of drain, waste, and vent (DWV) fittings and describe their applications.
28. The student will be able to identify significant code and health issues, violations, and consequences related to DWV systems.

Module 02113-05. The student will be able to identify and describe the types and components of water distribution systems.

29. The student will be able to identify and describe the process in which water is distributed in municipal, residential, and private water systems.
30. The student will be able to identify the major components of a water distribution system, and describe the function of each component.
31. The student will be able to identify and explain the relationships between components of a water distribution system.

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

32. The student will be able to identify and describe waste disposal methods for this industry according to EPA and industry guidelines.
33. The student will be able to identify and describe the process of life cycle analysis in this industry based on industry guidelines.
34. The student will be able to identify recycled materials by label and industry practice.
35. The student will be able to identify and define “low emission” and give two examples.
36. The student will be able to identify new “green” materials now being introduced or currently used in this industry.
37. The student will be able to identify and describe new “green” practices and methods being instituted or currently employed within this industry.
38. The student will be able to 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:
The 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.