

Curriculum Action Request (CAR) Form

COURSE (New Course, Course Modification, Five Year Review)

University of Hawai'i Maui College

Curriculum Proposal # 2015.15

(for CURCOM use only)

1. Curriculum Action

New Course Course Modification Five Year Review

2. Proposer

Clifford Rutherford

3. Department

Allied Health Business & Hospitality Career & Tech Education
 English Humanities Social Science
 Science/Tech/Eng/Math

4. Course Alpha

MAIN

5. Course Number

50

6. Course Title

Plumbing I

7. If this is a course modification or a five year review, please check the curriculum items being modified.

1. Course Alpha 2. Course Number 3. Course Title
 4. Credits 5. Contact Hours 6. Course Description
 7. Prerequisites 8. Corequisites 9. Rec Prep
 10. Cross-list w other course 13. Grading Method 14. Repeatable for credit?
 15. SLOs 16. Course Competencies 17. Content & Timeline
 18. PLOs 19. CASLOs 21. Method of Delivery
 22. Text and Materials 23. Maximum Enrollment 29. Course Designation
 31. Catalog Modification
 Other

8. Proposed Semester

Fall 2015

9. Effective Semester (1 Year from Proposed Semester)

Fall 2016

University of Hawaii Maui College
MAIN 50 - Plumbing I

1. Course Alpha.

MAIN

2. Course Number.

50

3. Course Title/Catalog Title.

Plumbing I

4. Number of Credits.

2

5. Contact Hours/Type.

- Hour lecture/lab (3)

6. Course Description.

Introduces materials and explains techniques used to install and maintain plumbing lines, fixtures, and controls. Emphasizes effective maintenance procedures for commercial structures.

7. Pre-Requisites.

None

8. Co-requisites.

None

9. Recommended Preparation.

None

10. Is this a cross-listed course?

NO

11. Reason for Proposal. Why is this course being proposed or modified? This question requires specific information as part of the explanation.

Modification of existing course to reflect new PLOs, SLOs related to industry procedures, standards and specifications

12. Effective Semester and Year.

Fall 2016

13. Grading Method. What grading methods may be used for this course?

- Standard (Letter,Cr/NCr,Audit) (0)

14. Is this course repeatable for credit? How often can this course be counted toward a degree or certificate?

NO

15. Course Student Learning Outcomes (SLOs).

Course SLO/Competency	Identify various residential and commercial plumbing fixtures	Identify a wide variety of plumbing materials for buildings	Explain building drain, waste, and vent (DWV) systems	Perform accurate measurements of piping and fixture locations	Demonstrate the concept of level, plumb, and square in plumbing repair and installation	Apply daily, weekly, and monthly report writing to projects	Utilize hand and power tools for typical plumbing repair and maintenance projects	Develop good customer relations skills	Work with others in team approach to problem solving
Express knowledge of plumbing system design	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Identify materials for plumbing installation and repair	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Safely use hand and power tools for plumbing projects				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Explain how the concepts of level, plumb, and square apply to plumbing piping		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Complete repairs to plumbing systems and faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Write timely and accurate estimates on planned projects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Course SLO/PSLO	Use and maintain appropriate materials, tools, equipment, and procedures to carry out tasks performed on construction projects according to safety and industry standards.	Use math, computer, and oral and written communication skills to solve construction project problems.	Create and maintain accurate documentation of construction and maintenance projects.	Describe industry standards and Green Building practices in construction and maintenance projects.	Read and interpret blueprints, and/or schematics, and specifications to plan projects.	Demonstrate the craftsmanship standards of dependability, punctuality, and quality.	Examine and use proper mechanical, electrical and carpentry codes and standards applicable to construction and repair.
Express knowledge of plumbing system design	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Identify materials for plumbing installation and repair	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Safely use hand and power tools for plumbing projects	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Explain how the concepts of level, plumb, and square apply to plumbing piping	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Complete repairs to plumbing systems and faucets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Write timely and accurate estimates on planned projects		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

16. Course Competencies.

Competency
Identify various residential and commercial plumbing fixtures
Identify a wide variety of plumbing materials for buildings
Explain building drain, waste, and vent (DWV) systems
Perform accurate measurements of piping and fixture locations
Demonstrate the concept of level, plumb, and square in plumbing repair and installation
Apply daily, weekly, and monthly report writing to projects
Utilize hand and power tools for typical plumbing repair and maintenance projects
Develop good customer relations skills
Work with others in a team approach to problem solving

17. Recommended Course Content and Timeline. The course content facilitates the course competencies. Course content may be organized by weeks, units, topics or the like.

- Week 1: Introduction and measurement skills for piping
- 2-3 Weeks: Plumbing systems, fixtures and materials
- 2-4 Weeks: Use of hand and power tools for plumbing systems
- 2-3 Weeks: Drain, waste, and vent (DWV) systems and repairs
- 2-3 Weeks: Pressure piping systems and repairs
- 1 Week: Special plumbing systems: kitchen fire, wet stack, dry stack
- 1 Week: Commercial DWV: Tyler, solvay, gasketed systems
- 1 Week: Sewer systems and pump or lift stations
- 2-3 Weeks: Standardized fixtures and materials

18. Program Learning Outcomes.

Program SLO
Use and maintain appropriate materials, tools, equipment, and procedures to carry out tasks performed on construction projects according to safety and industry standards.
Use math, computer, and oral and written communication skills to solve construction project problems.
Create and maintain accurate documentation of construction and maintenance projects.
Describe industry standard Green Building practices in construction and maintenance projects.
Read and interpret blueprints, and/or schematics, and specifications to plan projects.
Demonstrate the craftsmanship standards of dependability, punctuality, and quality.
Examine and use proper mechanical, electrical, and carpentry codes and standards applicable to construction and repair.

19. College-wide Academic Student Learning Outcomes (CASLOs).

	Creativity - Able to express originality through a variety of forms.
<input checked="" type="checkbox"/>	Critical Thinking - Apply critical thinking skills to effectively address the challenges and solve problems. <input checked="" type="checkbox"/> Preparatory Level
	Information Retrieval and Technology - Access, evaluate, and utilize information effectively, ethically, and responsibly.
<input checked="" type="checkbox"/>	Oral Communication - Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes. <input checked="" type="checkbox"/> Preparatory Level
<input checked="" type="checkbox"/>	Quantitative Reasoning - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately. <input checked="" type="checkbox"/> Preparatory Level
	Written Communication - Write effectively to convey ideas that meet the needs of specific audiences and purposes.

20. Linking.

21. Method(s) of delivery appropriate for this course.

- Classroom/Lab (0)

Instructional methods may vary considerably with instructors and specific instructional methods will be at the discretion of the instructor teaching the course. Suggested techniques might include, but are not limited to:

Lecture, presentation, problem solving, and class exercises or readings

Class discussion or guest lecturers

Audio, visual, or internet presentations

Student class presentations

Group or individual projects

Shop exercises and/or projects (individual or group)

Interactive computer programs or websites

Other contemporary learning techniques e.g., Service Learning, Co-op, self-paced, etc.)

22. Text and Materials, Reference Materials, and Auxiliary Materials.

Appropriate text(s) and materials will be chosen at the time the course is offered from those currently available in the field. Open Source optional.

Example: Residential Construction Academy: Plumbing, Joyce, 2nd Edition, ISBN: 9781111307776, Publication Date: 2012.

Text may be supplemented with but not limited to videos, internet resources, workbooks, demonstration equipment and visual aids at the discretion of the instructor.

23. Maximum enrollment.

20 (Vocational Lab capacity)

24. Particular room type requirement. Is this course restricted to particular room type?

YES

Vocational Trades Lab

25. Special scheduling considerations. Are there special scheduling considerations for this course?

NO

26. Are special or additional resources needed for this course?

No

27. Does this course require special fees to be paid for by students?

NO

28. Does this course change the number of required credit hours in a degree or certificate?

No

29. Course designation(s) for the Liberal Arts A.A. degree and/or for the college's other associate degrees.

Degree	Program	Category
Associate in Arts:		
AS:		
AAS:	Sustainable Construction Technology	PR - Program Requirement
BAS:		
Developmental/Remedial:		

CO: Maintenance Plumbing

30. Course designation(s) for other colleges in the UH system.

Similar to FENG 23 Plumbing Basics and Repair, Kauai CC

31. Indicate the year and page # of UHMC catalog referred to. For new or modified courses, please indicate the catalog pages that need to be modified and provide a sheet outlining those changes.

No changes to UHMC 2015-2016 Catalog: Program Map, page 53; Course Information 129

32. College-wide Academic Student Learner Outcomes (CASLOs).

Standard 1 - Written Communication	
Write effectively to convey ideas that meet the needs of specific audiences and purposes.	
Outcome 1.1 - Use writing to discover and articulate ideas.	1
Outcome 1.2 - Identify and analyze the audience and purpose for any intended communication.	1
Outcome 1.3 - Choose language, style, and organization appropriate to particular purposes and audiences.	2
Outcome 1.4 - Gather information and document sources appropriately.	1
Outcome 1.5 - Express a main idea as a thesis, hypothesis, or other appropriate statement.	2
Outcome 1.6 - Develop a main idea clearly and concisely with appropriate content.	3
Outcome 1.7 - Demonstrate a mastery of the conventions of writing, including grammar, spelling, and mechanics.	1
Outcome 1.8 - Demonstrate proficiency in revision and editing.	1
Outcome 1.9 - Develop a personal voice in written communication.	0
Standard 2 - Quantitative Reasoning	
Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately.	
Outcome 2.1 - Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately.	2
Outcome 2.2 - Demonstrate mastery of mathematical concepts, skills, and applications, using technology when appropriate.	2
Outcome 2.3 - Communicate clearly and concisely the methods and results of quantitative problem solving.	2
Outcome 2.4 - Formulate and test hypotheses using numerical experimentation.	2
Outcome 2.5 - Define quantitative issues and problems, gather relevant information, analyze that information, and present results.	2
Outcome 2.6 - Assess the validity of statistical conclusions.	2
Standard 3 - Information Retrieval and Technology	
Access, evaluate, and utilize information effectively, ethically, and responsibly.	
Outcome 3.1 - Use print and electronic information technology ethically and responsibly.	1
Outcome 3.2 - Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology.	1
Outcome 3.3 - Recognize, identify, and define an information need.	2
Outcome 3.4 - Access and retrieve information through print and electronic media, evaluating the accuracy and authenticity of that	2

information.	
Outcome 3.5 - Create, manage, organize, and communicate information through electronic media.	0
Outcome 3.6 - Recognize changing technologies and make informed choices about their appropriateness and use.	0
Standard 4 - Oral Communication	
Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes.	
Outcome 4.1 - Identify and analyze the audience and purpose of any intended communication.	2
Outcome 4.2 - Gather, evaluate, select, and organize information for the communication.	2
Outcome 4.3 - Use language, techniques, and strategies appropriate to the audience and occasion.	3
Outcome 4.4 - Speak clearly and confidently, using the voice, volume, tone, and articulation appropriate to the audience and occasion.	2
Outcome 4.5 - Summarize, analyze, and evaluate oral communications and ask coherent questions as needed.	2
Outcome 4.6 - Use competent oral expression to initiate and sustain discussions.	2
Standard 5 - Critical Thinking	
Apply critical thinking skills to effectively address the challenges and solve problems.	
Outcome 5.1 - Identify and state problems, issues, arguments, and questions contained in a body of information.	3
Outcome 5.2 - Identify and analyze assumptions and underlying points of view relating to an issue or problem.	2
Outcome 5.3 - Formulate research questions that require descriptive and explanatory analyses.	1
Outcome 5.4 - Recognize and understand multiple modes of inquiry, including investigative methods based on observation and analysis.	3
Outcome 5.5 - Evaluate a problem, distinguishing between relevant and irrelevant facts, opinions, assumptions, issues, values, and biases through the use of appropriate evidence.	3
Outcome 5.6 - Apply problem-solving techniques and skills, including the rules of logic and logical sequence.	3
Outcome 5.7 - Synthesize information from various sources, drawing appropriate conclusions.	3
Outcome 5.8 - Communicate clearly and concisely the methods and results of logical reasoning.	2
Outcome 5.9 - Reflect upon and evaluate their thought processes, value system, and world views in comparison to those of others.	0
Standard 6 - Creativity	
Able to express originality through a variety of forms.	
Outcome 6.1: Generate responses to problems and challenges through intuition and non-linear thinking.	1
Outcome 6.2: Explore diverse approaches to solving a problem or addressing a challenge.	2
Outcome 6.3: Sustain engagement in activities without a preconceived purpose.	0
Outcome 6.4: Apply creative principles to discover and express new ideas.	0
Outcome 6.5: Demonstrate the ability to trust and follow one's instincts in the absence of external direction	2
Outcome 6.6: Build upon or adapt the ideas of others to create novel expressions or new solutions.	0

33. Additional Information