

# University of Hawaii Maui College

## CULN 100 - Math for the Culinary Arts

**1. Course Alpha. Please click on the ? to the right for help.**

CULN

**2. Course Number. Please click on the ? to the right for help.**

100

**3. Course Title/Catalog Title. Please click on the ? to the right for help.**

Math for the Culinary Arts

**4. Number of Credits. Please click on the ? to the right for help.**

3

**5. Contact Hours/Type. Please click on the ? to the right for help.**

- Hour lecture (3)

**6. Course Description. Please click on the ? to the right for help.**

Introduces the quantitative methods, reasoning, and operations necessary to perform tasks and solve problems needed by culinary professionals. The quantitative methods covered include computation measurement, ratio, proportion, and percent; conversions, recipe scaling, yield percent, and recipe costing; baker's percent and kitchen ratios; purchasing, and proportioning. Applications include interpretation and analysis of quantitative information needed in culinary situations. The course is designed for Culinary Arts degrees and certificates but does not satisfy the Foundation Symbolic Reasoning (FS) core requirement of an Associate in Arts degree.

**7. Pre-Requisites. Please click on the ? to the right for help.**

MATH 22 with grade C or better or placement at least MATH 82, or consent.

**8. Co-requisites.**

**9. Recommended Preparation.**

**10. Is this a cross-listed course? Please click on the ? to the right for help.**

NO

**11. Reason for Proposal. Why is this course being proposed or modified? This question requires specific information as part of the explanation. Please click on the ? to the right for help.**

CULN 100 will be a requirement for the Culinary Arts CA and Culinary Arts AAS degree programs. CULN 100 will replace MATH 50H as a requirement for Culinary Arts CA and Culinary Arts AAS degree programs. This change is in response to an ACCJC recommendation to ensure that the level of rigor of courses needed to fulfill degree requirements is appropriate to higher education. The CULN program and MATH 50H have an established history of strong demand.

**12. Effective Semester and Year.** For new or modified courses, the effective year is one year from the semester proposed. For example, if proposed in Spring 2012, the effective semester is Spring 2013. Please click on the ? to the right for help.

Fall 2015

**13. Grading Method.** What grading methods may be used for this course? Please click on the ? to the right for help.

- 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? Please click on the ? to the right for help.**

NO

**15. Course Student Learning Outcomes (SLOs).** DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "COURSE LEARNING OUTCOMES" and enter in that screen. Please click on the ? to the right for help.

Course SLO/Competency	Convert units of measure within weight or within volume; convert between weight and volume.	Scale recipes based on either desired yield or constraining ingredients.	Calculate yield percent, EP quantities, and AP quantities.	Calculate AP quantities needed for portion sizes or recipe quantities needed in purchasing and portioning.	Cost recipes	Use ratios and percents to calculate Baker's percents.
Perform numeric, algebraic, and geometric calculations needed in culinary arts professions.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Apply mathematical skills and concepts to the interpretation and analysis of quantitative information in order to solve culinary problems such as unit measurement and conversions, recipe scaling, yield percent, recipe costing, baker's percent and kitchen ratios, purchasing and portioning.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Demonstrate ability to apply skills in dimensional analysis, judge reasonableness, and communicate quantitative information specific to culinary applications.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

Course SLO/PSLO	Explain, examine and demonstrate principles and concepts of quality	Identify and practice the basic principles of culinary service,	Demonstrate skills in various areas of the culinary hierarchy:	Discuss the standards of restaurant regulations involving	Practice standards in behavior, ethics, grooming and dress

	food procurement and identification, food and baking preparation and cost controls, service, and proper use of tools and equipment to produce and serve a variety of professional food items.	organization and structure, sanitation and safety in a food service operation to maintain the optimum health and satisfaction of the consumer.	human relations, leadership and personnel management, ethical decision making.	liquor protocol and health and safety regulations.	appropriate to culinary industry professionals.
Perform numeric, algebraic, and geometric calculations needed in culinary arts professions.	<input checked="" type="checkbox"/>				
Apply mathematical skills and concepts to the interpretation and analysis of quantitative information in order to solve culinary problems such as unit measurement and conversions, recipe scaling, yield percent, recipe costing, baker's percent and kitchen ratios, purchasing and portioning.	<input checked="" type="checkbox"/>				
Demonstrate ability to apply skills in dimensional analysis, judge reasonableness, and communicate quantitative information specific to culinary applications.	<input checked="" type="checkbox"/>				

**16. Course Competencies. DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "COURSE COMPETENCIES/ISSUES/SKILLS" and enter text in that screen. Course competencies are smaller, simpler tasks that connect to and facilitate the SLOs.**

<b>Competency</b>
Convert units of measure within weight or within volume; convert between weight and volume.
Scale recipes based on either desired yield or constraining ingredients.
Calculate yield percent, EP quantities, and AP quantities.
Calculate AP quantities needed for portion sizes or recipe quantities needed in purchasing and portioning.
Cost recipes
Use ratios and percents to calculate Baker's percents.

**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.**

Content
Measurement and conversions - 3 weeks
Recipe scaling and yield percent - 3 weeks
Purchasing and Portioning - 2 weeks
Recipe costing - 4 weeks
Kitchen ratios - 3 weeks

**18. Program Learning Outcomes. DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "PLOs" and enter text in that screen. Program Student Learning Outcomes (PLOs) supported by this course. If you are not a "program" use the Liberal Arts PLOs, view them by clicking on ? icon to the right.**

Program SLO
Explain, examine and demonstrate principles and concepts of quality food procurement and identification, food and baking preparation and cost controls, service, and proper use of tools and equipment to produce and serve a variety of professional food items.
Identify and practice the basic principles of culinary service, organization and structure, sanitation and safety in a food service operation to maintain the optimum health and satisfaction of the consumer.
Demonstrate skills in various areas of the culinary hierarchy: human relations, leadership and personnel management, ethical decision making.
Discuss the standards of restaurant regulations involving liquor protocol and health and safety regulations.
Practice standards in behavior, ethics, grooming and dress appropriate to culinary industry professionals.

**19. College-wide Academic Student Learning Outcomes (CASLOs). FIRST, fill out the CASLO grid located in the UHMC tab above. Click on the HELP icon for tips on determining support for the CASLOs and indicate your choices below by clicking on the box in front of each supported CASLO. NOTE: Our campus does not use the Preparatory Level, Level 1 and Level 2 designations in the chart below.**

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

**GenED SLO**

Quantitative Reasoning - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately.

**20. Linking. CLICK ON CHAIN LINK ICON IN UPPER RIGHT HAND CORNER TO BEGIN LINKING. Please click on the ? to the right for help.**

**21. Method(s) of delivery appropriate for this course. Please click on the ? to the right for help.**

- Cable TV (0)
- Classroom/Lab (0)
- HITS/Interactive TV (0)
- Hybrid (0)
- Online (0)

**22. Text and Materials, Reference Materials, and Auxiliary Materials. Please click on the ? to the right for help.**

The Culinary Institute of America - Math for the Professional Kitchen by Laura Dreesen, Michael Nothnagel, Susan Wysocki; Wiley Publications

**23. Maximum enrollment. Please click on the ? to the right for help.**

35

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

click on the ? to the right for help.

NO

25. **Special scheduling considerations. Are there special scheduling considerations for this course? Please click on the ? to the right for help.**

NO

26. **Are special or additional resources needed for this course? Please click on the ? to the right for help.**

No

27. **Does this course require special fees to be paid for by students? Please click on the ? to the right for help.**

NO

No

28. **Does this course change the number of required credit hours in a degree or certificate? Please click on the ? to the right for help.**

No

29. **Course designation(s) for the Liberal Arts A.A. degree and/or for the college's other associate degrees. Please click on the ? to the right for help.**

Degree	Program	Category
Associate in Arts:	Liberal Arts	LE - Elective
AS:		
AAS:	Culinary Arts - All	QR - Quantitative Reasoning
BAS:		
Developmental/ Remedial:		

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

This course is unique to this campus

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.**

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32. **College-wide Academic Student Learner Outcomes (CASLOs). Please click on the HELP icon for more information.**

<b>Standard 1 - Written Communication</b> Write effectively to convey ideas that meet the needs of specific audiences and purposes.		
Outcome 1.1 - Use writing to discover and articulate ideas.		0
Outcome 1.2 - Identify and analyze the audience and purpose for any intended communication.		0
Outcome 1.3 - Choose language, style, and organization appropriate to particular purposes and audiences.		1
Outcome 1.4 - Gather information and document sources appropriately.		0
Outcome 1.5 - Express a main idea as a thesis, hypothesis, or other appropriate statement.		0
Outcome 1.6 - Develop a main idea clearly and concisely with appropriate content.		0
Outcome 1.7 - Demonstrate a mastery of the conventions of writing, including grammar, spelling, and mechanics.		0
Outcome 1.8 - Demonstrate proficiency in revision and editing.		0
Outcome 1.9 - Develop a personal voice in written communication.		0
<b>Standard 2 - Quantitative Reasoning</b> 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.		3
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.		0
Outcome 2.5 - Define quantitative issues and problems, gather relevant information, analyze that information, and present results.		3
Outcome 2.6 - Assess the validity of statistical conclusions.		0
<b>Standard 3 - Information Retrieval and Technology.</b> Access, evaluate, and utilize information effectively, ethically, and responsibly.		
Outcome 3.1 - Use print and electronic information technology ethically and responsibly.		0
Outcome 3.2 - Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology.		0
Outcome 3.3 - Recognize, identify, and define an information need.		0
Outcome 3.4 - Access and retrieve information through print and electronic media, evaluating the accuracy and authenticity of that information.		1
Outcome 3.5 - Create, manage, organize, and communicate information through		0

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



<b>Outcome 6.4: Apply creative principles to discover and express new ideas.</b>		0
<b>Outcome 6.5: Demonstrate the ability to trust and follow one's instincts in the absence of external direction</b>		0
<b>Outcome 6.6: Build upon or adapt the ideas of others to create novel expressions or new solutions.</b>		0

### 33. Additional Information

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