University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course

1. Type of Action
   A. Addition ☐ Regular or ☐ Experimental or ☐ Other (click and type to specify)
   ☐ B. Deletion
   ☐ C. Modification: ☒ in credits ☒ in title ☒ in number or alpha
   ☒ in prerequisites or co-requisites ☒ Other description (click to specify)

2. New Alpha, Number and Title
   Math III - Mathematics for Elementary Teachers I

3. Credits
   3 credits

4. Old Alpha, Number and Title
   Math 111 - Mathematics for Prospective Elementary School Teachers

5. Credits
   3 credits

6. New Catalog Description
   Math 111 is the first of a two-course sequence designed to give prospective elementary education majors the depth of understanding necessary to teach mathematics in the elementary classroom. Topics include number (natural numbers, integers, fractions, and real numbers) and operations, sets, patterns, functions and algebra. Emphasis will be on communication, connections and problem solving, representations, and reasoning and proof.

7. Select box and type specific information in text box.
   ☒ Prerequisites ☐ Corequisites or
   ☐ Recommended Preparation
   "C" or better in Math 25 or placement in Math 100 or
   "C" or better in Eng 22 or placement in Eng 100, or consent of instructor

8. Student Contact Hours Per Week
   Lecture 3 hours
   Lecture/Lab
   Lab
   Other (click to specify)

9. Proposed Date of First Offering
   Semester Fall
   Year 2006

10. This course ☒ is proposed for the Liberal Arts Program
    can fulfill Math or Logical Thinking
    If Other, specify Foundation Symbolic Reasoning

11. This course Makes No Difference in the number of credits required for the program/core.

12. Equivalent or similar courses offered in the UH System:

<table>
<thead>
<tr>
<th>Campus</th>
<th>Alpha, Number, Title</th>
<th>Campus</th>
<th>Alpha, Number, Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HawaiiCC</td>
<td>Math 107 - Mathematics for Education I</td>
<td>UHManoa</td>
<td>Math 111 - Mathematics for Elementary Teachers I</td>
</tr>
<tr>
<td></td>
<td>(4 credits)</td>
<td></td>
<td>(3 credits)</td>
</tr>
<tr>
<td>KapiolaniCC</td>
<td>Math 111 - Mathematics for Elementary Teachers I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LeewardCC</td>
<td>Math 111 - Math for Elementary Teachers I</td>
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<tr>
<td></td>
<td>(3 credits)</td>
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<td></td>
</tr>
<tr>
<td>MauiCC</td>
<td>Math 111 - Mathematics for Elementary Teachers I</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(3 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UH Hilo</td>
<td>Math 107 - Mathematics for Education I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4 credits)</td>
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<td></td>
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</tbody>
</table>

13. This course ☐ is (check one and click in appropriate textbox and provide details):
   ☐ Already articulated with
   Provide details of existing or desired articulation (date, college(s), purposes, pre-major, etc.) in this space:
   ☒ Appropriate for Articulation with UH M, UH H, HawCC, KapCC, LCC, and MCC.
   Provide details of existing or desired articulation (date, colleges(s), purposes, pre-major or major, etc.) in this space:
   ☐ Not yet appropriate for Articulation.

14. Reason for Initiating, Modifying or Deleting Courses or Other Pertinent Comment:
   To align and articulate with similar offerings at LCC, KapCC, MCC, UH Hilo, and UH Manoa (systemwide agreement, September 18, 2004).

Requested by: [Signature]
Department Chairperson
Date: 12/16/05

Approved by: [Signature]
Curriculum Committee Chairperson
Date: February 14, 2006

CCHM #6100 (Amended for WCC use October 2002)
University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course
Dean of Instruction

Provost

Date

CCCM #6100 (Amended for WCC use October 2002)
Course Alpha, Number, and Title: Math 111 - Mathematics for Elementary Teachers I

### Levels of Review of Course Proposal at Windward Community College

<table>
<thead>
<tr>
<th>Signatures</th>
<th>Dates</th>
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<tbody>
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</tbody>
</table>

1. **Department Area (more than one departmental instructor’s signature required)**

   - [Signature]
   - [Signature]
   - [Signature]
   - [Signature]

   **Dates:**
   - 12/16/05
   - 12/16/05
   - 12/16/05
   - 12/16/05

2. **Department Chairperson**

   - [Signature]

   **Department Chairperson**

   **Was this course discussed in a department meeting?**
   - ☑ Yes
   - ☐ No

   **Dates:**
   - 12/16/05
   - 12/16/05

3. **Division**

   - [Signature]

   **Dates:**
   - 12/16/05

4. **Curriculum Committee Review**

   - Approved ☑
   - Disapproved ☐

   **Reason:**

   - [Signature]

   **Curriculum Committee Chairperson**

   **Dates:**
   - February 14, 2006

CCCM #6100 (Amended for WCC use October 2002)
University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course
Course Modification Form – Go to next page for Articulation Form

WCC Form for Course Modifications

Course Math 111-Mathematics for Elementary Teachers I
Submitted by Clayton K. Akatsuka
Date December 16, 2005

1. What change is proposed in the course? Provide specific information comparing both the "new" and "old" course.

There is an old course, Math 111-Mathematics for Prospective Elementary School Teachers, on the books that addressed a study of the structure and basic concepts of the number systems used in elementary mathematics. According to the Conference Board of the Mathematical Sciences (CBMS), "Teaching elementary mathematics requires both considerable mathematical knowledge and a wide range of pedagogical skill. Prospective teachers need mathematics courses that develop a deep understanding of the mathematics they will teach." The modification of the old Math 111 is an attempt to develop deeper understanding of the mathematics that the prospective elementary school teacher would teach in the classroom today.

The modified Math 111 course will be the first of a two-course sequence. Students will explore mathematical ideas, problem solving, quantitative and symbolic reasoning. Emphasis will be on communicating, connections and problem solving, representations, reasoning and proof. This course may be offered as WI.

2. What is the rationale for the change?

There will be a new math requirement for the UH Manoa College of Education's Elementary Educ. program. Beginning with Fall 2007 admissions, Math 112-Mathematics for Elementary Teachers II will be required for the Symbolic Reasoning (FS) requirement for the B. Ed. in Elementary Education core. Math 111 is the prerequisite course for Math 112.

3. Is the change substantive enough to require a change in course identification? If so, explain thoroughly.

No.

4. Is the course articulated with any 4-year program? No

If yes, give details of the agreement(s) and explain any impact the proposed modifications may have on articulation.

5. Provide details of any additional staff, equipment, facilities, library/media material, faculty preparation and other financial considerations that would be required to implement this course modification. What has been done to provide for these additional costs? Who will teach the course? Is additional preparation needed?

This course will be taught by the current math faculty. No additional costs are anticipated at this time.

6. Will this course modification result in any alterations in the number of hours required to attain a certificate or degree? No If yes, provide details and justification for these alterations.

7. If the course is renumbered to 100 or above, does it meet the criteria for transfer level courses? (Go to next page for transfer course criteria.) Yes

CCCM #6100 (Amended for WCC use September 2002)
Original dated WCC 9/91
WCC Form for Transfer Courses
(To be completed for articulation with any 4-year UH campus)
(This sheet was originally blue.)

Course Alpha and Number Math 111-Mathematics for Elementary Teachers I

Submitted by Clayton K. Akatsuka

Date December 16, 2005

1. List the counterpart to this course on any 4-year UH campus. Describe the relationship between the course and any related baccalaureate program area.

   Similar courses are offered at UH Manoa: Math 111-Mathematics for Elementary Teachers I (3 credits) and UH Hilo: Math 107-Mathematics for Education I (4 credits).

   This course is designed to be equivalent to the course Math 111 at UH Manoa which fulfills the Symbolic Reasoning (FS) requirement of UH Manoa's General Education Core.

   This course is the prerequisite course for Math 112 which is the new math requirement for the College of Education Elementary Education program (effective Fall 2007).

2. Is this course taught or accepted by major accredited colleges or universities? Give one or two examples.

   Yes. Loyola Marymount University in Southern California offers a two-course sequence: Math 106-Mathematics for Elementary Teachers I and Math 107-Mathematics for Elementary Teachers II.

3. Please attach a complete course outline if you have not done so already. Your course outline should address all the items listed in the Guidelines for Course Outlines.
University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course
Articulation with 4-year UH Campus Form

COURSE ARTICULATION FORM (GENERAL EDUCATION CORE)

ORIGINATING CAMPUS: Windward Community College DATE SUBMITTED: December 16, 2005
COURSE ALPHA & NUMBER: Math 111 SEMESTER CREDITS: 3
COURSE TITLE: Mathematics for Elementary Teachers I
DATE OF OUTLINE: December 16, 2005 Year *

(** Representative outline, no multiple syllabi, please.)
1. Articulation committee to review this course:

   Standing Committees
   Written Communication
   Mathematical & Logical Thinking X
   World Civilizations
   Languages
   Arts & Humanities
   Natural Science
   Social Science

2. The information in this item is required by the reviewing committee so that it has a starting point for reviewing the course. It is the responsibility of the submitting campus to do the necessary research to provide this information.

   In the opinion of the originating campus, this course is equivalent to the following and/or meets the criteria for the indicated core categories. Every core category space, except your own campus, must be filled in (can include ‘none’). An equivalent course, if known, may be helpful to committee members but is not required.

<table>
<thead>
<tr>
<th>Receiving Campus</th>
<th>Equivalent Course (Alpha and Number)</th>
<th>Core Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH Hilo</td>
<td>Math 107</td>
<td>Quantitative Reasoning</td>
</tr>
<tr>
<td>UH Manoa</td>
<td>Math 111</td>
<td>Symbolic Reasoning (FS)</td>
</tr>
<tr>
<td>UH West Oahu</td>
<td>None</td>
<td>General Education Core - Math and Natural Science</td>
</tr>
<tr>
<td>Hawaii CC</td>
<td>Math 107</td>
<td>Logical Reasoning (FS)</td>
</tr>
<tr>
<td>Honolulu CC</td>
<td>None</td>
<td>Symbolic Reasoning (FS)</td>
</tr>
<tr>
<td>Kapiolani CC</td>
<td>Math 111</td>
<td>Symbolic Reasoning (FS)</td>
</tr>
<tr>
<td>Kauai CC</td>
<td>None</td>
<td>Quantitative and Logical Reasoning</td>
</tr>
<tr>
<td>Leeward CC</td>
<td>Math 111</td>
<td>Mathematics and Logical Reasoning</td>
</tr>
<tr>
<td>Maui CC</td>
<td>Math 111</td>
<td>Quantitative Reasoning</td>
</tr>
<tr>
<td>Windward CC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. If submitted electronically, I understand that this outline will be posted to a publicly accessible web site to enable open access for reviewing committees and campuses. The outline will be taken off the site upon completion of the review.

   ____________________________________________
   Typed Name or Signature

Note: If possible submit coversheet and course outline electronically as e-mail attachments (preferably in ‘pdf’ format). If submitting in printed form, 20 copies of coversheet and course outline are required for distribution for appropriate review.

Note: UCA Clearinghouse
John Muth, Office of the Chancellor for Community Colleges, is acting as staff to the University Council on Articulation and is responsible for tracking all courses submitted for articulation.

Revised 1/29/2001
University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course
Articulation with 4-year UH Campus Form

COMMITTEE LEVEL:

1. When the committee has completed its review of a course, the “ARTICULATION RECOMMENDATION FORM” (revised 1/18/2001) should be filled in and attached to the outline. The committee chair should also sign the form.

2. If the committee choice is “accept,” indicate receiving campus core area. If the committee choice is “not recommended,” a reason must be provided. Outlines with missing or incomplete recommendation forms will be returned to the committee.

If a committee requires updated or more complete outlines, such requests should be made through the UCA Clearinghouse so that the new outline material can be tracked and placed in the file. If a committee requires more general supporting information, this should be requested through the course’s supporting campus representative on the committee.

3. All committee recommendations should be sent to the UCA Clearinghouse for recordation and dissemination to the campuses. DO NOT SEND THE RECOMMENDATIONS DIRECTLY TO ANY CAMPUS.

RECEIVING CAMPUS:

1. Courses will be sent to each campus for consideration after they come out of committee. Each campus has its own internal process for the approval of courses for its general education core.

2. In all cases where a campus accepts a course into its general education core, it must also indicate which area or part of its core the course fits.

3. In all cases where a campus does not accept a course for articulation, it must supply a reason (even it is “we agree with the committee”).

4. When campus actions are completed, these actions should be conveyed back to the UCA Clearinghouse for recordation and publication.

5. The Community College Policy on Acceptance of UCA Reviewed Courses is a follows:

   (a) All Community Colleges agree to accept positive UCA committee recommendations for core, including core categories assigned by the committee.

   (b) All Community Colleges agree to accept the UCA committee judgment of not-Recommended (nR) without further review.

   (c) This policy is retroactive to the time the current articulation effort started.

   (d) The Community Colleges reserve the right to review and modify core category assignments as necessary to insure appropriate categorization and to realign such assignments if changes are made to the campus core structure. Such modifications shall not interfere with the timely publication of the student transfer handbook.

Note: UCA Clearinghouse
John Muth, Office of the Chancellor for Community Colleges, is acting as staff to the University Council on Articulation and is responsible for tracking all courses submitted for articulation.

Revised 1/29/2001
University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course
Articulation with 4-year UH Campus Form

ARTICULATED COURSE
CHANGE IN ALPHA/NUMBER/TITLE

Old Course

Course Alpha & Number:
Title:

Revised Course

Course Alpha & Number:
Title:
Semester and Year when the revised course was/will be first offered:
Reason for the change in Alpha/Number/and/or Title:

Note: A current outline of the course must be submitted with this form. Undated outlines are not acceptable.

I certify that this course has had its alpha, number, and/or title changed, but that it is substantially the same course as the course that was reviewed and approved for articulation.

Campus: Windward Community College
Certifying Authority (Typed Name or Signature and Title)
Date:

SUBMIT TO: UCA Clearinghouse, Attn: John Muth
Chancellor's Office for CC, 2327 Dole Street
Revised 1/19/01
Windward Community College
COURSE OUTLINE

Note: Delete all italicized instructions before saving.

COURSE/CATALOG DESCRIPTION
Math 111 is the first of a two-course sequence designed to give prospective elementary education majors the depth of understanding necessary to teach mathematics in the elementary classroom. Topics include numbers (natural numbers, integers, fractions, and real numbers) and operations, sets, patterns, functions and algebra. Emphasis will be on communication, connections and problem solving, representations, and reasoning and proof.

COURSE NAME
Mathematics for Elementary Teachers I

COURSE ALPHAL
Math 111

CREDIT/CONTACT HOURS
3 credits/3 hours lecture per week
List hours per week of lecture, lab, and/or other activities and total student contact hours per week.

PREREQUISITES REQUIRED
"C" or better in Math 25 or placement in Math 100 or equivalent, and "C" or better in Eng 22 or placement in Eng 100.

RECOMMENDED PREPARATION AND BASIC SKILLS
At least 11th grade reading skills.

If the course involves the use of mathematics, indicate the level of quantitative reasoning required.

Upon successful completion of the course, the student should be able to:
1. Explain and utilize numbers, ways of representing numbers, relationships among numbers, and number systems.
2. Explain the meaning of operations and how they relate to each other.
3. Describe various types of patterns and functional relationships.
4. Utilize symbolic forms to represent, model, and analyze mathematical situations.
5. Communicate mathematical ideas verbally, in writing, and through mathematical representations to various audiences.

What knowledge and/or skills will successful completion of the course develop in the student?
METHOD OF INSTRUCTION
The mode of instruction varies from instructor to instructor. Generally, the mode of instruction is primarily discussion-problem solving where the initial portion of each class period may be utilized to discuss and clarify any questions from the preceding class meeting and/or assignment, and the remaining portion is used to discuss new material. Lectures, directed student explorations, group work, reports, Internet research, appropriate technologies, and projects will also be used as appropriate.

COURSE CONTENT AND APPROXIMATE TIME TO BE SPENT ON EACH TOPIC
Unit 1: Operations and their Properties (2 weeks)
Unit 2: Lists (3-4 weeks)
Unit 3: Sets (3-4 weeks)
Unit 4: Counting (3-4 weeks)
Unit 5: Data Factories (3-4 weeks)

A proposed semester schedule is acceptable.

TEXT(S)
By University of Hawaii Systemwide Agreement on September 18, 2004, campuses agreed to use materials created by Joel Weiner (Mathematics) with support of Neil Pateman (College of Education, Elementary Education). WCC supports this agreement to facilitate systemwide articulation of Math 111.

Additional material/possible texts:

List text(s) to be used and reading level of text. Contact Learning Skills Center to determine reading level. List text(s) to be used. If there is no text, so state. Indicate approximate percentage of text to be used if less than 75 percent.

REFERENCE AND SUPPLEMENTARY MATERIALS
List materials that may be found in the library that will contribute to the course.

COURSE REQUIREMENTS
List any projects, field trips, experiments, reports, independent work, etc., which will be required or expected of students for the course.

EVALUATION
Methods of evaluation vary from instructor to instructor. Generally, methods of evaluation involve a combination (or all) of the following: in-class work, quizzes, homework assignments, projects, group activities, unit exams, and a final exam.
Suggested grading scale:
90-100%    A
80-89%     B
70-79%     C
60-69%     D
Less than 60%  F

Whatever method of evaluation is used, it is understood that the instructor reserves the right to make necessary and reasonable adjustments to the evaluation policies outlined. It is to be understood that every instructor will clearly inform students on the course syllabus what percentages are to be used to weight the course work and the grading scale used.

Identify methods of evaluation which will be employed to determine if the course objectives are being met (e.g., written examinations, attendance, projects). Specify the grading procedure to be used in the course.
From: Patti Chong <chongpat@hawai. edu>
Subject: Re: MATH 111 Clarification
To: Kim Kiyono <kkiyono@hawai. edu >

All!

MATH 111 does not appear on the articulation page
to fulfill FS at UHM. UHM has discontinued allowing their MATH 111 to fulfill the FS requirement as of Summer 2005. I don't think that we would need to resend this because if they don't take their own class, they will not take our class.

Thanks!
Patti

At 08:36 AM 5/19/2006, Kim Kiyono wrote:

Good Morning All!

Just seeking a little clarification . . .

A modification for MATH 111 passed through the CAAC process. The box "Appropriate for Articulation" was checked off. I was under the impression that this course was already articulated with UHM. Am I incorrect? If it's not, I believe we'll have to go through the same process that we went through MATH 112 (foundations form, etc.). Let me know what I should do...

Thanks in advance for everyone's advice!

KK ☺

m Kiyono
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