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

1. Type of Action
   - A. Addition
   - B. Deletion
   - C. Modification:
     - in credits
     - in title
     - in number or alpha
     - in prerequisites or co-requisites
     - Other

2. New Alpha, Number and Title  Math 103 College Algebra  3. Credits 4 credits
4. Old Alpha, Number and Title  Math 27 Intermediate Algebra  5. Credits 3 credits
6. New Catalog Description
   Linear equations, inequalities, systems of equations, polynomials, functions, fractional expressions and equations, exponents, powers, roots, quadratic equations and functions; rational, exponential and logarithmic functions.

<table>
<thead>
<tr>
<th>Select box and type specific information in text box.</th>
<th>Student Contact Hours Per Week</th>
<th>Proposed Date of First Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites □ Corequisites or □ Recommended Preparation C or better in Math 25, Placement test or Instructor's consent</td>
<td>Lecture 4 hours Lecture/Lab Other (click to specify)</td>
<td>Semester Fall Year 2003</td>
</tr>
</tbody>
</table>

7. This course □ is proposed for the Liberal Arts Program Program. □ can fulfill Math or Logical Thinking If Other, specify

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

9. 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>KapiolaniCC</td>
<td>Math 103 College Algebra</td>
<td>FUNDAMENTOS DE ALGEBRA</td>
<td>(3)</td>
</tr>
<tr>
<td>LeewardCC</td>
<td>Math 103 College Algebra</td>
<td>Math 103 College Algebra</td>
<td></td>
</tr>
<tr>
<td>HonoluluCC</td>
<td>Math 103 College Algebra</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

10. 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 KCC, LCC and HonCC
   - Provide details of existing or desired articulation (date, colleges(s), purposes, pre-major or major, etc.) in this space:
   - □ Not yet appropriate for Articulation.

11. Reason for Initiating, Modifying or Deleting Courses or Other Pertinent Comment:
   - (1) To match similar offerings at KCC, LCC and HonCC and to benefit WCC students. (2) Four credits allow students to learn at a moderate pace, and to enhance students' retention and success. (3) Math 103 College Algebra covers more subjects than Math 27.

Requested by:  
Approved by:  

Date  2/7/03  
Date  3/18/03  
Date  4/3/03  
Date  10/10/03  
Date  10/10/03  

Amended for WCC use October 2002
University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course

Levels of Review of Course Proposal at Windward Community College

Course Alpha, Number, and Title: Math 103 College Algebra

<table>
<thead>
<tr>
<th>Signatures</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2/7/03</td>
</tr>
<tr>
<td></td>
<td>2/7/03</td>
</tr>
</tbody>
</table>

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

Was this course discussed in a department meeting? [ ] Yes [ ] No

2. Department

[Signature]

Department Chairperson

2/7/03

3. Division

[Signature]

2/10/03

4. Curriculum Committee Review

Approved [ ] 5-2

Disapproved [ ]

Reason:

[Signature]

Curriculum Committee Chairperson

3/11/03
WCC Form for Course Modifications

Course Math 103, College Algebra
Submitted by Wei-ling Landers
Date February 10, 2003

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

The course number is proposed to change from Math 27 to Math 103.
The course title is proposed to change from Intermediate Algebra to College Algebra.
The course content is proposed to fulfill the coverage for College Algebra, please see the course outline.

2. What is the rationale for the change?

1. Similar course offered at three other Community Colleges on Oahu
2. Since a major component in Math 103 is functions, it meets the expectations of a transfer-level course
3. This will benefit WCC students who plan to transfer to other colleges that offer and give transfer credit to College Algebra courses.
4. Four credits allow students to learn at a moderate pace, and to enhance students' retention and success.
5. Math 103 College Algebra covers more subjects than Math 27.

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?

No additional cost.
Existing math faculty will teach this course

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

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 103 College Algebra

Submitted by Wei-ling Landers

Date January 27, 2003

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.

None

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

Yes, Palomar College, Miami-Dade Community College

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.

CCCM #6100 (Amended for WCC use September 2002)
Original dated WCC 9/91
COURSE ARTICULATION FORM (GENERAL EDUCATION CORE)

ORIGINATING CAMPUS: Windward Community College    DATE SUBMITTED: January 28, 2003

COURSE ALPHA & NUMBER: Math 103    SEMESTER CREDITS: 3

COURSE TITLE: College Algebra

DATE OF OUTLINE: January 28, 2003    Year 2003

(** Representative outline, no multiple syllabi, please.)

1. Articulation committee to review this course:

   Standing Committees
   Written Communication
   Mathematical & Logical Thinking
   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>none</td>
<td>IB-QR</td>
</tr>
<tr>
<td>UH Manoa</td>
<td>none</td>
<td>FS</td>
</tr>
<tr>
<td>UH West Oahu</td>
<td>none</td>
<td>NS</td>
</tr>
<tr>
<td>Hawaii CC</td>
<td>none</td>
<td>QLR</td>
</tr>
<tr>
<td>Honolulu CC</td>
<td>Math 103</td>
<td>FS</td>
</tr>
<tr>
<td>Kapiolani CC</td>
<td>Math 103</td>
<td>Q/R</td>
</tr>
<tr>
<td>Kauai CC</td>
<td>none</td>
<td>QLR</td>
</tr>
<tr>
<td>Leeward CC</td>
<td>Math 103</td>
<td>M/L</td>
</tr>
<tr>
<td>Maui CC</td>
<td>none</td>
<td>QR</td>
</tr>
<tr>
<td>Windward CC</td>
<td>Math 103</td>
<td>Q/L</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.
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 conference 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 as 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
Windward Community College

Course Outline

Course Name: College Algebra
Course Number: Math 103
Course Credits: Four credits

Catalog Description:

Linear equations, inequalities, systems of equations, polynomials, functions, fractional expressions and equations, exponents, powers, roots, quadratic equations and functions; rational, exponential and logarithmic functions.

Prerequisites: Grade of “C” or better in Math 25 or equivalent, satisfactory placement test score, or consent of instructor.

Possible Required Textbook:

Algebra for College Students, by Allen R. Angel, Prentice Hall

Instructor: To be filled by instructor
Office: To be filled by instructor
Office Phone: To be filled by instructor
Office Hours: To be filled by instructor
Effective Date: Fall 2003
Goals of the Course
The goals of the course are:
1. To provide the student with mathematical background necessary to pursue advanced work in mathematics and in other areas.
2. To provide the student with fundamental concepts, properties, and applications of college algebra.
3. To provide the student with an introduction to functions.
4. To extend the student's understanding and ability to apply algebraic concepts beyond the level of elementary algebra.
5. To promote greater student appreciation and awareness of the role of algebra in the environment and culture.

Objectives of the Course.
Upon completion of the course the student will be able to:
1. Graph functions, rational functions and other relations.
2. Demonstrate proficiency in operations with quadratic equations and functions, inequalities, and polynomials.
3. Analyze and simplify fractional expressions and equations.
4. Use algebraic techniques to solve practical problems.
5. Identify, discuss, and apply the operations and properties of the exponential and logarithmic functions.
6. Identify the vertical and the horizontal asymptotes of a rational function. Graph and find the domain of a rational function.

MODE 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.

COURSE CONTENT AND APPROXIMATE TIME TO BE SPEND ON EACH TOPIC:
- Graphs and Functions (8 hours)
- System of equations and inequalities (5 hours)
- Polynomials and Polynomial Functions (5 hours)
- Rational Expressions and equations (7 hours)
- Roots, Radicals and Complex Numbers (5 hours)
- Quadratic Functions (6 hours)
- Exponential and Logarithmic Functions (5 hours)
- Conic Sections (4 hours)

EVALUATION
Methods of evaluation vary from instructor to instructor. Generally, methods of evaluation involve a combination (or all) of the following: homework, quizzes, exams, special projects, group activities and a comprehensive final exam.