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

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

2. New Alpha, Number and Title  
   MET 101L  

3. Credits 1 credit

4. Old Alpha, Number and Title
   Introduction to Meteorology Lab

5. Credits *

6. New Catalog Description
   Introduction to Meteorology Lab (MET 101L) is an introductory lab intended for non science majors and prospective science teachers. This lab includes exercises with meteorological data and measurement systems. Characteristics of Hawaiian winds, temperatures, and rainfall will be covered.

7. Select box and type specific information in text box.
   ☐ Prerequisites ☐ Corequisites or 
   ☐ Recommended Preparation 

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

9. Proposed Date of First Offering
   Semester Spring 
   Year 2007

10. This course ☒ is proposed for the Liberal Arts Program Program. ☐ can fulfill Nat Sci: Physical

11. This course  

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>UH Manoa</td>
<td>MET 101-L: Introduction to Meteorology Lab</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>HonoluluCC</td>
<td>MET 101-L: Introduction to Meteorology Lab</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>UH Manoa</td>
<td>MET 101-L: Introduction to Meteorology Lab</td>
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<td>*</td>
<td>*</td>
</tr>
</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 Manoa
   ☐ Provide details of existing or desired articulation (date, college(s), purposes, pre-major or major, etc.) in this space:
   ☐ MET 101L is taught at UH Manoa. The proposed lab is geared for both science and non-science majors and prospective science teachers. It fulfills the Diversification Requirement (DY: Laboratory (Science)).
   ☐ Not yet appropriate for Articulation.

14. Reason for Initiating, Modifying or Deleting Courses or Other Pertinent Comment:
   This lab will be offered as a DE online lab (may also be offered as a face-to-face lab later). It will expand our offerings in the area of natural science lab, especially those offered online. As a DE online lab, it will provide access for a wider range of students. It also provides additional lab options (under appropriate approval) for a variety of certificate programs (Hawaiian Studies; Marine Option Program; Environmental Studies, etc.).

Requested by: 
Approved by:

CCCMM #6100 (Amended for WCC use October 2005)
Levels of Review of Course Proposal at Windward Community College

Course Alpha, Number, and Title: MET 101L: Introduction to Meteorology Lab

Signatures

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

[Signature]

[Date: 8-23-06]

2. Department

[Signature]

[Date: 8/23/06]

Department Chairperson

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

[Date: 8/16/06]

3. Division

[Signature]

[Date: 8/28/06]

4. Curriculum Committee Review

Approved ☑

Disapproved ☐

Reason:

[Signature]

[Date: Sept. 28, 2006]

Curriculum Committee Chairperson

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

WCC Form for New Course Proposals
(This sheet was originally pink.)

1. How is this course related to the education needs and goals of the College/Department/Community as reflected in the EDP/ADP?

There is an unmet need for students to learn about our vital and rapidly changing atmospheric environment. MET 101L will fulfill this need, and enrich and enhance the teaching at WCC by diversifying our offerings in the area of Natural Science Labs. Moreover, this lab will be offered as a DE online lab and provide access for a wider range of students. It may also be offered as a face-to-face lab later. It will also contribute to certificate programs (eg. Marine Option Program) of the college.

2. Provide details of any additional staff, equipment, facilities, library/media material, faculty preparation and other financial support that would be required to implement this course. (Include an estimate of the actual cost of supplies and equipment.) What has been done to provide for these additional costs for the proposed date of offering? Who will teach the course?

The lab will be taught by existing faculty. For online offering, already annually-licensed online materials are available. If the course will be taught face-to-face in the future, existing equipment used in GEOG 101L is available. If other equipment becomes necessary, it will be purchased using EIF or other available funds.

3. Is a similar course taught elsewhere in the UH system? Yes If yes, provide details of how this course differs from existing similar courses.

MET 101L is offered at UH Manoa and HCC (off-campus at the Kalaeloa Airport). UH Manoa has 3 lab sections, HCC has one section, and they are all face-to-face labs. At WCC, in contrast, the lab will be offered as a DE online lab to provide access for a wider range of students. Also, the lab will be regularly (if possible) offered at WCC.

4. Is this course experimental and/or unique to Windward Community College? No If yes, provide rationale and details of its impact on the College Curriculum

5. Is a similar course taught in the upper division level by a 4-year UH college? No If yes, explain why this course is appropriate at the lower division or how it differs from its upper division counterpart.

6. Please attach a complete course outline. Your course outline should address all the items listed in the Guidelines for Course Outlines.

7. If this course is numbered 100 or above or appropriate for transfer to a 4-year college, complete and attach WCC Form for Transfer Courses (blue). See criteria for transfer courses.
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 MET 101L

Submitted by Toshi Ikagawa

Date August 23, 2006

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

MET 101L is taught at UH Manoa. The proposed lab is geared for both science and non-science majors and prospective science teachers. It fulfills the Diversification Requirement (DY: Laboratory (Science).

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

Yes. It is taught at (1) UH Manoa as MET 101L, (2) Arizona State University as GPH 214, and at (3) numerous other universities.

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
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: August 23, 2006

COURSE ALPHA & NUMBER: MET 101L       SEMESTER CREDITS: 1

COURSE TITLE: Introduction to Meteorology Lab

DATE OF OUTLINE: August 23, 2006       Year 2006

(** 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 [X]
   - 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>NA</td>
<td>Natural Science Lab</td>
</tr>
<tr>
<td>UH Manoa</td>
<td>MET 101-L</td>
<td>DY: Laboratory (Science)</td>
</tr>
<tr>
<td>UH West Oahu</td>
<td>NA</td>
<td>General Education</td>
</tr>
<tr>
<td>Hawaii CC</td>
<td>NA</td>
<td>Natural Science Lab</td>
</tr>
<tr>
<td>Honolulu CC</td>
<td>MET 101-L</td>
<td>Understanding Natural Environment</td>
</tr>
<tr>
<td>Kapiolani CC</td>
<td>NA</td>
<td>DY: Laboratory (Science)</td>
</tr>
<tr>
<td>Kauai CC</td>
<td>NA</td>
<td>Natural Science Lab</td>
</tr>
<tr>
<td>Leeward CC</td>
<td>NA</td>
<td>Natural Science Lab</td>
</tr>
<tr>
<td>Maui CC</td>
<td>NA</td>
<td>Natural Science Lab</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
Meteorology 101L  Introduction to Meteorology Lab
01
Online: WebCT

INSTRUCTOR: Toshi Ikagawa, Ph.D.
OFFICE: Na'auao 116
OFFICE HOURS: MWF 12:30-1:30
TELEPHONE: 236-9216
EFFECTIVE DATE: Spring 2007

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

Introduction to Meteorology Lab (MET 101L) is an introductory lab intended for non science majors and prospective science teachers. This lab includes exercises with meteorological data and measurement systems. Characteristics of Hawaiian winds, temperatures, and rainfall will be covered.

Activities Required at Scheduled Times Other Than Class Times

None

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are:

1. **Apply the scientific method to study** Earth’s atmosphere: Define a problem for a study, gather and record data, analyze the data, arrive at appropriate conclusions, and report the findings in written or other appropriate form.

2. **Use various meteorological data**, such as satellite imagery, radar imagery, Stuve diagrams and surface pressure maps, to analyze the atmosphere and forecast weather.

3. **Use** the metric system, scientific notation, graphs, and meteorological and basic statistical measurements.

4. **Write** a lab report using the standard scientific format.
COURSE TASKS

Assignments:
Weekly, a student completes two (2) lab exercises from the Investigations Manual, and two (2) online exercises from the Current Weather Studies on the American Meteorological Society web site. It is assumed that a student reads and understands all the appropriate parts of the textbook before conducting the lab tasks.

PREREQUISITES/COREQUISITES

Credit or concurrent enrollment in MET 101

ASSESSMENT TASKS AND GRADING

Student Evaluation:
The evaluation is based on the lab exercises and the online exercises mentioned above.

Grading uses the standard scale:
A: 90.0-100.0%, B: 80.0-89.9%; C: 70.0-79.9%, D: 60.0-69.9%, F: 0-59.9%.

For Cr/NC options, Incomplete (“I” grade), and “W” grade, see the WCC College Catalog.

There is no “N” grade in this class.

NOTE: There is NO extra credit work.

LEARNING RESOURCES


COURSE CONTENT

There are two Weather Investigation topics per week.

1A Air pressure and wind
1B Surface air pressure patterns
2A Surface weather maps
2B The atmosphere in the vertical

3A Weather satellite imagery
3B Sunlight throughout the year

4A Temperature and air mass advection
4B Heating degree-days and wind chill

5A Air pressure change
5B Atmospheric pressure in the vertical

6A Clouds, temperature, and air pressure
6B Rising and sinking air

7A Precipitation patterns
7B Doppler radar

8A Surface weather maps and forces
8B Upper-air weather maps

9A Westerlies and the jet stream
9B El Niño

10A The extra-tropical cyclone
10B Extra-tropical cyclone track weather

11A Thunderstorms
11B Tornadoes

12A Hurricanes
12B Hurricane wind speeds and pressure changes

13A Weather instruments and observations
13B Weather forecasts

14A Optical phenomena
14B Atmospheric refraction

15A Visualizing climate
15B Local climatic data

Additional Information

Legal assumptions:

It is hereby assumed that all students will strictly follow the WCC Code of Student Conduct (see Student Affairs, WCC Course Catalogue).