Honolulu Community College
General Education – DIVERSIFICATION DESIGNATION
Certification and Recertification
Application Form
Spring 2012

APPLICANT: John K. DeLay

E-MAIL: delay@hawaii.edu

COURSE ALPHA and NUMBER: GEOG 101L

COURSE TITLE: The Natural Environment Laboratory

ESTIMATED NUMBER OF SECTIONS:
  Fall: 1
  Spring: 0

APPLICATION IS FOR:
  □ New Course   □ Modified Course   □ Existing Course   □ Re-designation
  □ Certification   ☑ Re-Certification. Date of last certification: 2009

DIVERSIFICATION AREA DESIGNATION SOUGHT:
  □ DA (Arts)...........................................□ DP (Physical Sciences)
  □ DB (Biological Sciences)........................□ DS (Social Sciences)
  □ DH (Humanities)...................................□ DY (Laboratory)
  □ DL (Literature and Language)

What percentage of the CONTENT of this course focuses on this diversification area? 90%

What percentage of CLASS MEETINGS focuses on this diversification area? 90%
1. **Hallmarks and SLOs.** Please explain how course-specific SLOs align with the diversification area's hallmarks.

**SLO's**

1. Demonstrate the ability to interpret and produce graphs and maps of physical phenomena and perform calculations related to map elements and metric measurements.
2. Use a variety of measuring instruments to gather environmental data and generate descriptive statistics in a spreadsheet application.
3. Define a problem for study, gather and record data, analyze the data, arrive at appropriate conclusions and report the findings in written form in a manner appropriate for submission to a peer reviewed journal.

**DY Hallmarks**

1. uses the laboratory methods of the biological or physical sciences;
2. involves processes and issues of design, testing, and measurement;
3. demonstrates the strengths and limitations of the scientific method.

**Relation**

**DY 1.** uses the laboratory methods of the biological or physical sciences;

1. Demonstrating the ability to interpret and produce graphs and maps of physical phenomena and perform calculations related to map elements and metric measurements requires the use of the laboratory methods of the biological or physical sciences such as calculating and plotting adiabatic lapse rates.

2. Using a variety of measuring instruments to gather environmental data and generate descriptive statistics in a spreadsheet application requires using the laboratory methods of the biological or physical sciences such as using sling psychrometers to measure and plot relative humidity in a variety of locations.

3. Defining a problem for study, gathering and recording data, analyzing the data, arriving at appropriate conclusions and reporting the findings in written form in a manner appropriate for submission to a peer reviewed journal requires using the laboratory methods of the biological or physical sciences such as evaluation radiation measurements for errors.

**DY 2.** involves processes and issues of design, testing, and measurement;

1. Demonstrating the ability to interpret and produce graphs and maps of physical phenomena and perform calculations related to map elements and metric measurements involves processes and issues of design, testing, and measurement such as dealing with issues of scale.
2. Using a variety of measuring instruments to gather environmental data and generate descriptive statistics in a spreadsheet application involves processes and issues of design, testing, and measurement such as deploying a rain gage with representative exposure and analyzing the data.

3. Defining a problem for study, gathering and recording data, analyzing the data, arriving at appropriate conclusions and reporting the findings in written form in a manner appropriate for submission to a peer reviewed journal involves processes and issues of design, testing, and measurement such as conducting a water balance study.

DY 3.

1. Demonstrating the ability to interpret and produce graphs and maps of physical phenomena and perform calculations related to map elements and metric measurements demonstrates the strengths and limitations of the scientific method such as recognizing the difference between accuracy and precision.

2. Using a variety of measuring instruments to gather environmental data and generate descriptive statistics in a spreadsheet application demonstrates the strengths and limitations of the scientific method such as scaling point data to the landscape scale.

3. Defining a problem for study, gathering and recording data, analyzing the data, arriving at appropriate conclusions and reporting the findings in written form in a manner appropriate for submission to a peer reviewed journal demonstrates the strengths and limitations of the scientific method such as building models of real systems.

2. Assessment strategies. Explain assessment strategies you have used (or plan to use) to measure the degree to which students exit the course with the course-specific SLOs. If there are multiple sections of the course taught by different instructors, please discuss how assessment is (or will be) carried out across instructors.

The course uses student performance on laboratory exercises and exams to assess student mastery of the SLOs. Exams include questions that cover all of the SLO's. Class discussions are also used to gage student perceptions of course effectiveness, and informal assessment takes place during class discussions. One instructor teaches the course.

3. Assessment of assessment. How have you used (or plan to use) the assessment findings to modify or improve this course? If there are multiple sections of the course taught by different instructors, please discuss how review of assessment results is (or will be) carried out across instructors.

I use student performances on laboratory exercises and exams as well as student course evaluations to assess the effectiveness of the methods and course content. I make adjustments to improve the course in subsequent semesters. I’m choosing embedded exam questions for use during future semesters to provide quantitative measures of SLO mastery. I will express SLO achievement as a percentage of correct responses from the sample.
DIVERSIFICATION BOARD DECISION:

☑ Approved
  Re-Certification Due: Fall 2017

☐ Not approved
  If not approved, reasons for disapproval:

________________________________________________________________________

Diversification Board Chair Signature: ________________________________
Date: 10/24/12
GEOGRAPHY 101L: THE NATURAL ENVIRONMENT LABORATORY:  
FALL 2012  
TR, 2:30-5:00, BLDG 7, 635

Instructor  John K. DeLay
Office/Hours BLDG 7, 619 M, W: 10:00-11:00  T, R: 1:00-2:00
Phone 845-9419
E-mail delay@hawaii.edu

Course Description

Geography 101L is a 1-credit course taught independently of the Geography 101 lecture. The material in the lecture and lab do complement one another. In this course, you will be introduced to techniques used to investigate the geographic distribution of physical phenomena on Earth. The laboratory exercises will include a number of examples from Hawai‘i, where unique combinations of global tectonic and atmospheric processes and geographic isolation have resulted in an extraordinary array of environmental and biotic diversity. This course fulfills the Science Laboratory diversification (DY) in general education for an associate degree at Honolulu Community College and that for a baccalaureate degree at the University of Hawai‘i at Mānoa.

Student Learning Objectives

Upon successful completion of GEOG 101L, the student should be able to:

1. Demonstrate the ability to interpret and produce graphs and maps of physical phenomena and perform calculations related to map elements and metric measurements.
2. Use a variety of measuring instruments to gather environmental data and generate descriptive statistics in a spreadsheet application.
3. Define a problem for study, gather and record data, analyze the data, arrive at appropriate conclusions and report the findings in written form in a manner appropriate for submission to a peer reviewed journal.

Laboratory Material

There is no laboratory manual for purchase. Instead, laboratory exercises will be sent via your UH e-mail account on Monday preceding the next laboratory meeting. Each student is responsible for reviewing, printing and bringing their hardcopy of the laboratory exercise to class every week. Other laboratory materials will be provided.

Useful Resources


Grading
Your grade in the course will be determined from your performance on weekly laboratory exercises and 3 exams based on analysis of environmental data. Attendance at the laboratory sessions is mandatory and you will not be able to turn in exercises or take quizzes outside of the scheduled laboratory time. Students who miss class sessions must provide documentation for their absence if they wish to make up the missed exercise or quiz. You are encouraged to work together to complete laboratory exercises, but provide your own interpretations to the exercise questions. Exams are an individual effort. The value of each component represents a given percentage of your combined score as shown below.

Laboratory Exercises (10) 50%
Exams (3) 50%

Laboratory Schedule
The laboratory schedule indicates the intended scope and timing of materials presented in the course. Should unanticipated events occur, the schedule will be modified accordingly.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/23</td>
<td>Introduction</td>
</tr>
<tr>
<td>8/30</td>
<td>Exercise 1: Latitude, Longitude, and Time</td>
</tr>
<tr>
<td>9/6</td>
<td>Exercise 2: Seasons and Insolation</td>
</tr>
<tr>
<td>9/13</td>
<td>Exercise 3: Field Mapping</td>
</tr>
<tr>
<td>9/20</td>
<td>Exercise 3: Field Mapping</td>
</tr>
<tr>
<td>9/27</td>
<td>Exam 1</td>
</tr>
<tr>
<td>10/4</td>
<td>Exercise 4: Topographic Maps I</td>
</tr>
<tr>
<td>10/11</td>
<td>Exercise 4: (cont.): Topographic Maps II</td>
</tr>
<tr>
<td>10/18</td>
<td>Exercise 5: GPS (Global Positioning System)</td>
</tr>
<tr>
<td>10/25</td>
<td>Exercise 6: Temperature / Adiabatic Lapse Rates</td>
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<tr>
<td>11/1</td>
<td>Exam 2</td>
</tr>
<tr>
<td>11/8</td>
<td>Exercise 7: Relative Humidity / Weather</td>
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<tr>
<td>11/15</td>
<td>Exercise 8: Hawai`i Island Climate</td>
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<tr>
<td>11/22</td>
<td>Holiday: Thanksgiving</td>
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<tr>
<td>11/29</td>
<td>Exercise 9: Conducting a Meteorological Field Study</td>
</tr>
<tr>
<td>12/6</td>
<td>Exercise 10: Analyzing Meteorological Field Data</td>
</tr>
<tr>
<td>12/11</td>
<td>Tuesday, December 11th 2:30-5:30 Exam 3</td>
</tr>
</tbody>
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* Schedule may be subject to change.