COMMUNITY COLLEGES
REQUEST FOR COURSE MODIFICATION/ADDITION

Instructions: Complete sections A-E. Submit this form to the Curriculum Specialist, Educational Services Division, by February 5 for the fall semester, and by October 21 for the spring semester. Attach required documentation.

A. Campus: Windward Community College

B. Catalog description: Elementary Survey of Chemistry Laboratory; CHEM 151 L

Experiments introducing laboratory techniques and illustrating chemical principles; supplemented by films and demonstrations

C. Is a similar course offered at another campus? [X] Yes □ No

If so, what campus(es)? (Include course alpha and number.) Honolulu, Kapiolani, Manoa, Hilo CHEM 151 L

Course is required for ____________________________ certificate or degree program
Elective specifically for _________ AA Degree ____________________________ certificate or degree program

This course replaces/deletes: ____________________________ (Attach course deletion form)

D. Proposed date of first offering: Fall Semester 1977 Year

E. Campus approval:
Curriculum Committee: ____________________________ Date: 9/3/77
Dean of Instruction: ____________________________ 8/4/77
Provost: ____________________________

FOR USE BY THE OFFICE OF THE CHANCELLOR

1. Assigned Dept/Div Alpha Assigned Course Number Assigned Semester Credit Hours Assigned Course Title
   CHEM 151 L 1 Elementary Survey of Chemistry Laboratory

2. Request not processed for following reason: ____________________________

Date: 9/3/77

Effective date: August 1976
WINDWARD COMMUNITY COLLEGE

OUTLINE OF COURSE OBJECTIVES

COURSE NAME: Elementary Survey of Chemistry Laboratory
COURSE ALPHA: CHEM 151 L
CREDIT HOURS: 1

CATALOG DESCRIPTION: Experiments introducing laboratory techniques and illustrating chemical principles; supplemented by films and demonstrations.

REQUIREMENTS COURSE SATISFIES:
   AT WWCC: Meets AA degree science requirements
   AT UH, MANOA: may meet science requirement

PREREQUISITES: Credit or registration in CHEM 151
RECOMMENDED SPECIAL PREPARATION: None.

RECOMMENDED BASIC SKILLS LEVELS:
   Reading level text: 13th grade
   Credit or registration in MATH 100

ACTIVITIES REQUIRED AT OTHER THAN REGULARLY SCHEDULED CLASS TIMES: No.
INSTRUCTOR: Pearl Takeuchi
OFFICE: Mahi 107
OFFICE PHONE: 235-0077 ext.
EFFECTIVE DATE: Fall semester 1977
A. Goals of the Course:

1. To provide the student with an opportunity to participate in the type of experimental processes and activities that are an essential part of the scientific process for the chemist.

2. To enable the student to gain skills in manipulating apparatus, making observations, and writing clear and accurate reports.

3. To provide opportunities for the student to observe and experience the relationship between chemical principles and the actual behavior of matter in the physical environment.

B. Objectives of the Course:

1. The student will complete a minimum of fourteen experiments, using appropriate laboratory techniques and procedures.

2. The student will write a report for each of the experiments performed, using the report form that will be presented in class. The evaluation of the report will be based on the completeness and accuracy of the information contained in the report. Students may rewrite their laboratory reports in order to achieve a higher level of clarity and accuracy and thus to raise their grade.

If a student has a legitimate reason for missing a laboratory class, special projects or field studies may be substituted for no more than two of the scheduled experiments. However, these alternatives will be acceptable only if the projects are found to be relevant and of sufficient academic merit after consultation with the instructor.

C. Method of Grading:

Letter grades will be assigned as follows:

A-- completion of 14 laboratory exercises with an average grade on the reports of at least 90%
B-- completion of 14 laboratory exercises with an average grade on the reports of 80-89%
C-- completion of 14 laboratory exercises with an average grade on the reports of 70-79%
D-- completion of 14 laboratory exercises with an average grade on the reports of 60-69%
Cr-credit, equivalent to the grade of D or better. Student must inform the instructor of the choice of this option by the 10th week of the semester.
W-- formal withdrawal from the course
I-- incomplete; the student agrees to complete the objectives within four weeks after the semester ends
N-- no grade assigned; unsatisfactory completion of objectives 1 and/or 2, or informal withdrawal from the course.
D. Mode of Instruction:
This course will involve individual students performing experiments in the laboratory, with class discussions of the techniques and results of the experiments. There will be individual help for students wherever this is needed. In addition, demonstrations and films will be used to illustrate certain techniques and concepts.

E. Textbook:
H.A. Neidig (ed.), Modular Laboratory Program in Chemistry:
Units: PROP-004, STOI-007, ANAL-037
Scientific American Offprints, Laboratory Studies in General Chemistry; Units: 1209, 1210, 1212, 1213, 1215, 1013, 1216, 1223, 1227, 1242

F. Other Information: Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Experiment Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>1</td>
<td>1209</td>
<td>Student Handbook</td>
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<tr>
<td></td>
<td>1210</td>
<td>Mass and Volume Relationships</td>
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<tr>
<td>2</td>
<td>1212</td>
<td>Some Common Physical Properties of Substances</td>
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<tr>
<td>3</td>
<td>1213</td>
<td>Some Common-Chemical Properties of Substances</td>
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<tr>
<td>4</td>
<td>1215</td>
<td>The Preparation of Pure Substances</td>
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<tr>
<td>5</td>
<td>Hand Out</td>
<td>Problem Session and Model Building</td>
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<tr>
<td>6</td>
<td>PROP-004</td>
<td>Molecular Mass Determination for A Compound</td>
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<tr>
<td>7</td>
<td>1223</td>
<td>The Molecular Weight of a Gas</td>
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<tr>
<td>8</td>
<td>1013</td>
<td>The Formula of a Hydrate</td>
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<tr>
<td>9</td>
<td>Hand Out</td>
<td>Problem Session</td>
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<tr>
<td>10</td>
<td>1216</td>
<td>The Formula of a Compound</td>
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<tr>
<td>11</td>
<td>STOI-007</td>
<td>Stoichiometry: Mole Ratio Study</td>
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<tr>
<td>12</td>
<td>1227</td>
<td>Ionic and Covalent Compounds</td>
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<tr>
<td>13</td>
<td>Hand Out</td>
<td>Problem Session</td>
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<tr>
<td>14</td>
<td>1242</td>
<td>The Qualitative Analysis of Some Common Anions</td>
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<tr>
<td>15</td>
<td>ANAL-037</td>
<td>A Beer's Law Study</td>
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<tr>
<td>16</td>
<td>Hand Out</td>
<td>Field Trip</td>
</tr>
</tbody>
</table>

Safety Note: Foot wear is required in the laboratory at all times. Safety glasses must be worn whenever experiments involving dangerous fumes or corrosive chemicals are being performed.