# EXHIBIT II
## PROPOSAL TO INITIATE, MODIFY OR DELETE A COURSE

### UNIVERSITY OF HAWAII COMMUNITY COLLEGES

**CCCM #6100**

**(July 26, 1979)**

### TYPE OF ACTION (circle appropriate)

<table>
<thead>
<tr>
<th>A. Addition</th>
<th>B. Deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regular</td>
<td>B. Deletion</td>
</tr>
<tr>
<td>2. Experimental</td>
<td>B. Deletion</td>
</tr>
<tr>
<td>3. Other</td>
<td>B. Deletion</td>
</tr>
</tbody>
</table>

### NEW ALPHA, NUMBER AND TITLE

**CHEM 162-L General Chemistry Laboratory II**

### OLD ALPHA, NUMBER AND TITLE

**CHEM 171-L General Chemistry Laboratory**

### NEW DESCRIPTION

Second semester laboratory experiments illustrating fundamental principles of chemistry.

### PREREQUISITES OR RECOMMENDED PREPARATION

<table>
<thead>
<tr>
<th>Credit or registration in CHEM 162.</th>
</tr>
</thead>
</table>

### STUDENT CONTACT HOURS PER WEEK

<table>
<thead>
<tr>
<th>Lecture</th>
<th>3 Lab</th>
<th>Other (specify)</th>
</tr>
</thead>
</table>

### PROPOSED DATE OF FIRST OFFERING

Spring 1986

### THIS COURSE IS (REQUIRED)(ELECTIVE) FOR THE PROGRAM

**AA**

### THIS COURSE (INCREASES) (DECREASES) (MAKES NO CHANGE) IN THE NUMBER OF CREDITS REQUIRED FOR THE PROGRAM

### SIMILAR COURSES OFFERED ELSEWHERE

<table>
<thead>
<tr>
<th>College(s):</th>
<th>Numerous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha, Number, Title:</td>
<td>CHEM 162-L (Spring 1987)</td>
</tr>
<tr>
<td>College(s):</td>
<td>UH Manoa</td>
</tr>
<tr>
<td>Alpha, Number, Title:</td>
<td>CHEM 162-L (Spring 1987)</td>
</tr>
</tbody>
</table>

### THIS COURSE IS (ALREADY ARTICULATED) (APPROPRIATE FOR ARTICULATION) (NOT APPROPRIATE FOR ARTICULATION)

 PROVIDE DETAILS OF EXISTING OR DESIRED ARTICULATION (Date, college(s), purposes, pre-major or major, etc.): UH Manoa is implementing a similar change in their freshman chemistry course numbers in order to offer a two semester lecture-laboratory sequence.

### REASON FOR INITIATING, MODIFYING OR DELETING COURSE OR OTHER PERTINENT COMMENT:

The present system of offering Chem 171-L to accompany Chem 162 is confusing and it is logical to designate the second semester lab course as 162L since it will accompany Chem 162.

### REQUESTED BY

<table>
<thead>
<tr>
<th>Math/Science</th>
<th>Jean Okumura</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department/Division</td>
<td>Chairperson</td>
</tr>
</tbody>
</table>

### APPROVED BY

<table>
<thead>
<tr>
<th>Curriculum Committee</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Other required campus signature)</td>
<td>Date</td>
</tr>
<tr>
<td>Dean of Instruction</td>
<td>Date</td>
</tr>
</tbody>
</table>

### PROPOSED

WCC 3/85
WCC FORM FOR COURSE MODIFICATIONS

Course CHEM 162-L Submitted by C. S. Noble Date ________

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

The course content will be the same. The change in designation will enhance transferability of course credit and will be more appropriate since there is no Chem 171 at Windward Community College.

2. 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.

3. Provide details of any additional staff, equipment, facilities, library/media material and other financial considerations that would be required to implement this course modification. What has been done to provide for these additional costs?

None

4. 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.

5. Will the content of the "old" course be modified? No
If yes, attach a course outline for the "new" course. Your course outline should address all the items listed in the Guidelines for Course Outlines.
WCC FORM FOR TRANSFER COURSES

(To be completed for articulation with any 4-year UH campus)

Course ______ Submitted by ______ Date ______

Course: CHEM 162-L Submitted by: C. S. Noble Date ______

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.

Chem 162-L (Spring 1987). This is the second laboratory course to accompany the beginning chemistry course that is required for chemistry, biology and engineering majors, and for several pre-professional areas.

2. Is this course taught or accepted by major accredited colleges or universities?

Yes

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.
COURSE NAME: General Chemistry Laboratory
COURSE ALPHA: CHEM 162-L
CREDIT HOURS: 1
CATALOG DESCRIPTION: Laboratory experiments illustrating fundamental principles of chemistry.

REQUIREMENTS COURSE SATISFIES:
  AT WCC: Meets AA degree science requirements
  AT UH MANOA: May meet science requirements
PREREQUISITES: Credit or registration in Chem 162

RECOMMENDED BASIC SKILLS LEVELS: Credit or registration in Math 140
READING LEVEL OF TEXT(S): 13th grade

ACTIVITIES REQUIRED AT OTHER THAN REGULARLY SCHEDULED CLASS TIMES: None

INSTRUCTOR: Dr. Clyde Noble
OFFICE: Iolani 106
OFFICE PHONE: 235-0077 ext. 320
EFFECTIVE DATE: Spring Semester 1987
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; and,

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 the appropriate laboratory techniques and procedures. No credit will be awarded to the student for any unexcused absence; on the other hand, 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. These alternatives will be acceptable only if the projects are found to be relevant and of sufficient academic merit after consultation with the instructor. Minimum level of achievement will be established on a Cr/NC basis for this objective.

2. In order to evaluate the student's level of achievement for each experiment, two criteria will be considered: 1) quizzes, and 2) lab reports.

   QUizzes—Beginning with the 2nd lab period, weekly quizzes will be given at the start of the period. These quizzes are designed primarily to test the student's overall grasp of the previous week's experimental subject matter; however, these quizzes will also be used to test the student's level of preparation for that day's activities in the lab.

   Lab Reports—The student will write a report for each of the experiments performed, using the report form that will be presented in class or that which accompanies the purchased laboratory separate. The evaluation of the report will be based on the completeness and accuracy of the information contained in the report.

   Minimum level of achievement: 60% overall

C. Method of Grading:

Letter grades will be assigned as follows:

A—completion of 14 laboratory exercises with an average score on the criteria in objective 2 above of at least 90%
B—completion of 14 laboratory exercises with an average score on the criteria in objective 2 above of 80-89%
C—completion of 14 laboratory exercises with an average score on the criteria in objective 2 above of 70-79%
D—completion of 14 laboratory exercises with an average score on the criteria in objective 2 above of 60-69%
F—less than minimal passing achievement
Cr—See Windward Community College Catalog
NC—" " " " " "
I—" " " " " "
W—" " " " " 
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 the students wherever this is needed. In addition, demonstrations and films may be used to illustrate certain techniques and/or concepts.

E. Text Materials:
Laboratory Manual for General Chemistry. Principles and Structure, Beran and Brady, 3rd ed.

F. Other Information:

1. Course schedule----------See attached sheet.

2. SAFETY NOTE: Footwear is required in the lab at all times. Safety glasses must be worn

   Be sure that you know the location and procedure for operation of the safety shower and the fire extinguisher.

   At all times work carefully and follow the instructions given in the procedural sections of the lab separates and by the instructor.

   In view of the inherently dangerous activities implied here and on a separate safety guidelines sheet which will be distributed on the 1st day of class, each student will be required to sign an "Assumption of Risk and Release" form.
<table>
<thead>
<tr>
<th>Week</th>
<th>Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Check-in, Mole wt., #19</td>
</tr>
<tr>
<td>2</td>
<td>Molar volume, #20</td>
</tr>
<tr>
<td>3</td>
<td>Colorimetry, #23</td>
</tr>
<tr>
<td>4</td>
<td>Rate Laws, #25</td>
</tr>
<tr>
<td>5</td>
<td>LeChatelier's Principle, #26</td>
</tr>
<tr>
<td>6</td>
<td>Equilibrium Constant, #27</td>
</tr>
<tr>
<td>7</td>
<td>Aspirin Synthesis, #32</td>
</tr>
<tr>
<td>8</td>
<td>Ksp, #33</td>
</tr>
<tr>
<td>9</td>
<td>Nerst Equation, #35</td>
</tr>
<tr>
<td>10</td>
<td>Acid-Base Titration, #29</td>
</tr>
<tr>
<td>11</td>
<td>Acid-Base Titration, #29</td>
</tr>
<tr>
<td>12</td>
<td>Qualitative Analysis, handout</td>
</tr>
<tr>
<td>13</td>
<td>Qualitative Analysis, handout</td>
</tr>
<tr>
<td>14</td>
<td>Qualitative Analysis, handout</td>
</tr>
<tr>
<td>15</td>
<td>Check-out and make-up.</td>
</tr>
</tbody>
</table>