UNIVERSITY OF HAWAI'I AT MĀNOA
UHM-1 FORM (ADD A COURSE)

See Guidelines for instructions and deadlines. For undergraduate courses, submit an original and 5 copies; graduate courses, submit an original and 6 copies. If cross-listed, include extra copies for cross-listed department(s) & college(s). List one course per form. Attach additional sheets as needed.

<table>
<thead>
<tr>
<th>1. Course Subject</th>
<th>2. Course Number</th>
<th>3. Effective Term (semester &amp; year)</th>
<th>4. Frequency (check all that apply)</th>
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<tbody>
<tr>
<td>FSHN</td>
<td>381L</td>
<td>Fall 2015</td>
<td>□ Fall semester</td>
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<td>□ Spring semester</td>
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<td>□ Alternate years</td>
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<td>□ Summer semester</td>
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6a. Full Course Title (Alpha courses: attach separate sheet & specify title for each alpha)
Experimental Foods Lab

6b. BANNER Course Title (30 characters max. including spaces/punctuation. Alpha courses: attach separate sheet & specify title for each alpha)
Experimental Foods Lab

5. Offering Status (check one)
□ Regular
□ Experimental
□ Single-term

7. Grade Option (check all that apply)
□ Letter Grade □ Satisfactory/Unsatisfactory (500, 700, 700F, 800, 800C only)
□ Credit/No Credit
□ Audit
□ Honors (Medicine only)

8. Gen Ed Core or Hawaiian/Second Language Requirement Designation (check one)
□ GEC Use:
□ Approve
□ Deny

13. Schedule
□ Lecture (LEC)
□ Laboratory (LAB)
□ Discussion (DIS)
□ Seminar (SEM)
□ Laboratory/Discussion combined (LED)
□ Lecture/Laboratory combined (LEL)
□ Thesis/Dissertation (THE)
□ Hybrid Technology Intensive (HTI)
□ Directed Reading or Research (DRR)
□ Field Experience/Internship/Practicum (FIA)

14. Co-requisite Course(s)
FSHN 381

15a. Major Restriction (as it should appear in Catalog)
none

15b. Banner codes of acceptable majors
16. Class Standing Restriction

17a. Prerequisite Course(s) (Use "and", "ors" and punctuation to indicate relationships between prerequisites. "Or consent" is implied for ALL prerequisites. "Consent" requirements can be implemented through your class schedules each semester.)
FSHN 181, FSHN 181L, CHEM 161, CHEM 161L

17b. Minimum required grade for prerequisites
D

17c. Blanket requirements listed in Catalog (if none, write "none")
none

18. Catalog Description (Limit 35 words: 85 words for alpha courses)
Experimental approach to study food preparation, food formulation, and sensory evaluation with laboratory exercises in a certified kitchen environment. Applying basic food science research design to conduct experiments, interpret data and write reports.

19. Justification
Attaches separate sheets and indicate the rationale for the request, expected course enrollment, program learning objectives and institutional learning objectives that the new course will meet, and a course syllabus specifying student learning objectives for the course. Syllabs are not required for "599" courses.

20. Cross-listed or Honors Course(s)

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<th>Chair/Director</th>
<th>Signature</th>
<th>Date</th>
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21. Requested By
I certify that the student learning objectives for the course are consistent with the learning objectives of each program under which the course is listed.

HNFAS
Brent Buckley for Halina Zaleski
Signature
Date

1st College or School
Dean
Signature
Date

2nd College or School
Dean
Signature
Date

General Education (Undergraduate courses numbered 100-499)
Director
Signature
Date

Graduate Division (600 level and above)
Dean
Signature
Date

Mānoa Chancellor's Office
Vice Chancellor for Academic Affairs
Signature
Date

Rev. 7/2013
Department of Human Nutrition, Food and Animal Sciences  
FSHN 381L Experimental Foods Laboratory (1 credit)  

Laboratory Time: Wednesday 1:30 – 4:20 pm  
Location: Agriculture Science Building, Food Lab (room 214)  

Instructor: Dr. Alvin Huang  
e-mail: ahuang@hawaii.edu  
Office: 314K, Agriculture Science Building  

Course Description: Application of basic food science principles and methodologies to conduct product development of dietetic foods. Emphasis is placed on problem solving, data interpretation, team work and report writing. Co-requisite: FSHN 381. Pre-requisite: FSHN 181, FSHN 181L, CHEM 161, CHEM 161L.  

Course Objectives: By the end of the course, students will have:  

1. Learned and practiced facilitation skills while working on group projects;  
2. Practiced using the scientific method;  
3. Read and analyzed scientific information on print and from internet media;  
4. Modified formulations and determined effects on the sensory attributes of products;  
5. Analyzed research data collected in the laboratory and wrote up experimental reports.  

Course Requirements:  

1. Each student, as part of a group, will design and write experimental protocol, search library and scientific literature on the internet for appropriate articles for each experiment, carry out food formulation work, and write reports.  
2. Students must participate in group discussions and in each scheduled laboratory. Because most of the laboratory experiments will involve group work, it will be impossible for an individual to make up laboratory work. If the student has not participated in a laboratory session, it will be marked absent.  
3. Attendance will be taken five (5) minutes after the beginning of laboratory session. If you arrived later than 5 minutes after the laboratory has started, you will be marked absent.  
4. Your laboratory work area must be clean after you have left for the day. Not doing so will result in 2% being taken off your final group report grade for each time you left behind a dirty work area.  
5. All students are required to wear a lab coat, long pants, closed-toe shoes, and a hairnet while in the food preparation laboratory – for health and safety reasons.  
6. All cellular phones and pagers must be turned off during the laboratory period.
Assignments, guidelines and expectations:

Each student will be responsible for writing three reports: analysis of a dietetic food formulation, sensory evaluation and one detailed experimental report on product development and evaluation (with the assistance of group members).

1. The format for the scientific article review should follow the guidelines for preparation of lab reports.
2. The sensory evaluation report: Each student will write up the results of the group’s sensory evaluation studies (guidelines are included with the laboratory instruction).
3. Group experimental lab report: Each student will be responsible for writing one group lab report and reading/critiquing two other reports:
   i. Each writer must make photocopies of his/her report and give a copy to each group member, and to the instructor.
   ii. Based on the feedback of peers and the instructor, the writer will then re-write the report and submit the report to the instructor for the final grade one week after receiving feedback.
   iii. The drafts corrected by the group members must be submitted with the final report.
   iv. To be certain that each team member is reading to understand the material and provide quality feedback, 35% of each student’s report grade will be based on the feedback provided to the team writer.
   v. Failure to meet the identified deadline results in a 10% reduction of the laboratory report grade. Final papers submitted past the identified deadline will not be accepted.

Course Grading:

| Report on analysis of a dietetic food formulation | 50 points |
| Report on sensory evaluation                      | 50 points |
| Group laboratory reports                          | 200 points |
| Peer grade (the instructor may contribute up to 35% of this grade) | 100 points |
| Oral Presentation (3 group presentations on products developed) | 300 points |
| Attendance                                         | 200 points |
| Laboratory notebook                                | 100 points |
| Total                                              | 1,000 points |

Grading Scale (number of points)

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
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<tr>
<td>930 – 1000</td>
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<tr>
<td>900 – 929</td>
<td>A-</td>
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<td>867 – 899</td>
<td>B+</td>
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<td>834 – 866</td>
<td>B</td>
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<td>800 – 833</td>
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<td>767 – 799</td>
<td>C+</td>
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<td>700 – 733</td>
<td>C-</td>
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<td>667 – 699</td>
<td>D+</td>
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<td>634 – 666</td>
<td>D</td>
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<td>600 – 633</td>
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Outline of Laboratory Exercises (tentative)

Week 1  Lab check-in, kitchen safety, group assignment

Week 2  Group discussion on a chosen dietetic formulation, nutritional analysis in CTAHR computer lab

Week 3  Sensory evaluation on salad dressing of local and national brands

Week 4 to 6  Product formulation of muffins at reduced calories

Week 7 to 9  Product formulation of low salt savory sauce

Week 10 to 12 Instrumental vs. sensory evaluation

Week 11 to 14 Product formulation of high fiber “Vegi-Burger”

Week 15  Final lab cleaning and check-out

Academic dishonesty (excerpted from UHM Student Conduct Code)

“Because UHM is an academic community with high professional standards, its teaching, research and service purposes are seriously disrupted and subverted by academic dishonesty. Such dishonesty includes cheating and plagiarism as defined below. Ignorance of these definitions will not provide an excuse for acts of academic dishonesty.

1. Cheating includes, but is not limited to giving or receiving unauthorized assistance during an examination; obtaining unauthorized information about an examination before it is given, submitting another’s work as one’s own; using prohibited sources of information during an examination; fabricating or falsifying data in experiments and other research; altering the record of any grade; altering answers after an examination has been submitted; falsifying any official university record; or misrepresenting of facts in order to obtain exemptions from course requirement.

2. Plagiarism includes but is not limited to submitting, in fulfillment of an academic requirement, any work that has been copied in whole or in part from another individual’s work without attributing that borrowed portion to the individual; neglecting to identify as a quotation another’s idea ad particular phrasing that was not assimilated into the student’s language and style or paraphrasing a passage so that the reader is misled as to the source; submitting the same written or oral or artistic material in more than one course without obtaining authorization from the instructors involved; or
“drylabbing” which included obtaining and using experimental data and laboratory write-ups from other sections of a course from previous terms.

3. Disciplinary sanctions. One or more of the following sanctions may be imposed whenever a student is found to have violated any of the rules contained in the Conduct Code: Warning, probation, restitution, rescission of grades, suspension, expulsion.”
Course Justification for FSHN 381L

Why is this course being requested or modified?
This course has previously existed as part of the required course, FSHN 381 Experimental Foods (4 credits), which included both the lectures and the laboratory session (3 hour per week). Because student numbers have increased substantially in the FSHN Dietetic Program as well as the FSHN Food Science/Culinology programs, and the laboratory has limited space in the Food Lab (a certified kitchen), it has become necessary to offer additional sections of the laboratory to enable all our students to progress through the program in a timely manner. The lecture portion of the course, however, does not require additional sections. In order to create additional laboratory sections, the laboratory is being split from the lecture, which will be required as a co-requisite. A UHM-2 form is being submitted to modify FSHN 381 to remove the laboratory and to require FSHN 381L as a co-requisite for the lecture course. These actions will remove a bottleneck for students pursuing a Dietetic curriculum.

How will the content be organized?
A syllabus is included with the student learning outcome and the topics to be covered throughout the semester.

What other courses at UHM closely parallel the proposed course and in what way will the latter make a distinct contribution?
This course closely parallels FSHN 381 and provides the laboratory exercises needed to support student learning of the material in FSHN 381. This is a reorganization of the existing combined lecture and laboratory course. The reorganization will remove a bottleneck for increased student numbers and enable the laboratory sessions operate safely in the certified kitchen (Food Lab).

Where or how does the proposed course fit into the current and future curriculum?
The existing combined course is a required food course that is a prerequisite for several 400 level FSHN courses. The separated lecture and laboratory courses will substitute for the existing combined course in the Dietetic as well as the Food Science/Culinology curriculum.

Why is the number of credits and level justified? Explain the prerequisites and the absence thereof.
This course has FSHN 381 as a co-requisite, therefore students will have to meet the prerequisites for FSHN 381: Pre: FSHN 181, FSHN 181L, CHEM 161, and CHEM 161L. The course is a 3-hour laboratory which justifies one-credit.

How will the course assist students to achieve the critical skills and competencies expected of CTAHR graduates?
This course addresses two of the CTAHR Critical Skills and Competencies:
Analytical/Problem Solving Skills - Students will evaluate the functionalities of selected ingredients and improve the product’s acceptability based on sensory results.

“Real World” Experience - Students will develop a critical technical skill needed in formulating dietetic foods of nutritional and health benefits.

How will students be evaluated?
Students will be evaluated by laboratory exercises in developing products and oral presentations of their finished products, two independently written scientific reports and 3 group reports.

What are the minimum qualifications for teaching this course? Is a qualified instructor now available?
Teaching of this course requires at a minimum a master’s degree in food sciences with at least two years related experience. An instructor is currently available, and, if the instructor becomes unavailable, a tenured food science faculty member is available.

How will the course be financed, assuming no further cutbacks?
This course will be financed using the existing funding committed to the combined FSHN 381 lecture and laboratory course, which will now be lecture only. Creating a separate laboratory course should result in overall savings because instead of offering additional sections of the 4-credit combined course, it will only be necessary to offer additional sections of the 1-credit laboratory course.

Has the course been offered before? Is there a demand for it?
The course has been offered before as part of the combined 4-credit FSHN 381 lecture and laboratory course. Student demand has exceeded the department’s ability to offer enough sections of the combined course, so the laboratory is being split off as a separate course to remove a bottleneck to student progress. The course is required and is a prerequisite for several 400-level FSHN courses.

Is the course cross-listed with another department?
The course is not cross-listed.