



Senate Meeting
MEETING MINUTES

MEETING DATE: Feb 8, 2016
LOCATION: Gil 212/Zoom
ATTENDANCE: [P = Present; A = Absent; E = Excused]

MEMBERS		MEMBERS		MEMBERS		GUESTS	TIME
Hua Zan	P	Alvin Huang	A	Brent Sipes	p	Ken Grace	3:20
Jenjira Yahirun	P	Eun Sung Kan	P	Janice Uchida	P	Charly Kinoshita	3:58
Nancy Ooki	P	Brad Porter	A	Zhiqiang Cheng	P	Kelvin Sewake	3:58
Michael Cheang	P	Ryo Kubota	E	Jensen Uyeda	P	Mark Wright	3:58
Rebecca Settlage	A	Susan Crow	P	Ted Radovich	A		
Ju-Young Kang	E	James Leary	P	Alton Arakaki	A		
Rajesh Jha	P	Kirsten Oleson	P	Kent Kobayashi	P		
Maria Stewart	P	Catherine Chan	A	Kheng Chea	E		
Jinan Banna	E	Michael Kawate	P				
Alan Titchenal	P	MiaoYang Tian	P				
Brent Buckley	a	Koon Hui Wang	P				

20/30

SUBJECT	DISCUSSION / INFORMATION	ACTION / STRATEGY / RESPONSIBLE PERSON
CALL TO ORDER	3:00 Rajesh Jha called to order (Senate Chair)	
MINUTES	Alan Titchenal noted that his name was misspelled	MOTION to approve: Janice Uchida Koon-hui Wang second
Leadership Report	<p>Provided by Ken Grace: CTAHR admin has been providing verbal and written testimony at the legislative session. Some bills may provide funds to DoA and DLNR for purposes that CTAHR faculty are involved with. A bill has been proposed to renovate the maps in St. Johns Lobby. Official testimony occurs under the letterhead of UH- needs lots of approval before it can be considered official. Faculty can provide testimony as personal testimony, but it cannot be on letter head. Its ok to identify that the individual works at UH.</p> <p>From Charly Kinoshita- UHM will roll out the STAR GPS system which will make the student registration process much more restricted to major courses. For Fall 2016 registration (in Spring 2016), all students in CTAHR must meet with advising office. "Manoa Promise" is that if students follow the degree curriculum, students can graduate in 4 years.</p> <p>Kirsten Oleson suggested more walk-in hours.</p> <p>Alan Titchenal expressed concern about students who don't want to/can't complete the degree requirements in 4 years.</p>	



SUBJECT	DISCUSSION / INFORMATION	ACTION / STRATEGY / RESPONSIBLE PERSON
MFS report	Foundations Quantitative Reasoning (FQ) General Education definition and hallmarks have been approved. FQ will replace FS as the “math requirement” in gen ed. CTAHR faculty are encouraged to apply for this designation. Applications will be open Fall 2016.	
Committee reports	<p>Research (Koon Hui Wang): Associate Dean inputs on Use and Needs of Experiment Station survey. A National survey confirmed that this is a common problem.</p> <p>Extension committee: no report</p> <p>Instruction committee: no report</p> <p>Personnel committee: no report</p> <p>Election committee (Michael Cheang): elections committee will organize the next election soon. We request assistance from dept chairs to facilitate the voting process.</p>	
Dietetics BS	<p>Discussion:</p> <p>Brent Sipes question: what will the impact of Dietetics BS be on FSHN BS enrollment?</p> <p>Maria Stewart responded that the enrollment in FSHN BS would drop due to students transferring to Dietetics. However, the department is discussing the revised admission criteria that would allow more students to enter FSHN.</p> <p>Janice Uchida (Instruction Committee Chair/liaison) read resolution</p>	<p>MOTION to endorse the motion (Janice)</p> <p>Unanimous vote in favor of resolution</p>
TPSS/PEPS merger	<p>Discussion:</p> <p>Janice Uchida (Instruction Committee Chair/liaison) Committee recommendations were presented (see attached file).</p>	<p>MOTION to endorse the motion (Janice)</p> <p>Unanimous vote in favor of resolution</p>
New business		
UH-Hilo CAFNRM	<p>Discussion:</p> <p>Rajesh Jha presented UH-Hilo CAFNRM resolution.</p> <p>Maria Stewart noted that Dean and Associate Dean Grace were surprised by the agenda item- was the administration aware of this?</p> <p>Associate Dean Kinoshita confirmed that CTAHR admin had not been consulted and did not endorse the UH-Hilo CAFNRM resolution.</p> <p>Brent Sipes: Dean from CAFNRM was present at CAFNRM senate meeting</p> <p>Alan Titchenal: “pursuant to a request from UH Hilo CAFNRM Dean Mathews and UH Manoa College of Tropical Agriculture and Human Resources (CTAHR) Dean Gallo,” could be interpreted in different ways</p> <p>Susan Crow: the phrase “reorganization and merger” is a pretty serious statement.</p> <p>Associate Dean Kelvin Sewake: talks in the past were to bring CTAHR to UH-Hilo. CAFNRM may be under pressure. The administrators need to communicate with each other.</p>	<p>MOTION</p> <p>Brent Sipes: senate chair will express appreciation for the outreach and we want to explore collaboration and collegiality with UH Hilo CAFNRM</p> <p>Unanimous vote in favor of motion</p> <p>MOTION</p> <p>Maria Stewart: senate chair will request that CTAHR admin discuss collegiality and</p>



SUBJECT	DISCUSSION / INFORMATION	ACTION / STRATEGY / RESPONSIBLE PERSON
	We will informally communicate with CAFNRM senate that we are interested in the discussion of collegiality and collaboration. We request that	collaboration with CAFNRM administration Unanimous vote in favor of motion
ADJOURNMENT	3:58 pm	

Respectfully submitted by Maria Stewart

Approved on April 12, 2016 with 16 votes in favor of approval and 0 against.

Presented to the CTAHR Faculty Senate on February 8, 2016

Resolution in support of the Dietetics BS program

Whereas, there is an established demand for undergraduate training in Dietetics based on the number of students currently enrolled in the FSHN BS- Dietetics option (ca 100 students); and

Whereas, the FSHN BS-Dietetics option is the only accredited program of coursework in the state to prepare students for careers as Registered Dietitian Nutritionists; and

Whereas, nutrition is a critical component of health and disease prevention in our state; and

Whereas, there are numerous employment opportunities for individuals trained in Dietetics to fill positions in Hawaii, nationally and internationally in clinical care, long-term care, food service, community and government offices, industry, and education; and

Whereas, an undergraduate program in Dietetics will support the continued accreditation of our educational program to meet the needs and interests of existing and potential undergraduate students;

Therefore, be it resolved that the CTAHR Faculty Senate approves the modification of FSHN BS to designate Dietetics BS as a separate degree program; and

Therefore, be it further resolved that this resolution be forwarded to the CTAHR Dean, the Vice Chancellor for Academic Affairs, and the Manoa Faculty Senate.

Endorsed by CTAHR Faculty Senate, 20 in favor, 0 opposed, 0 abstain (2/8/16)



UNIVERSITY
of HAWAII
MĀNOA

College of Tropical Agriculture and Human Resources
Department of Human Nutrition, Food and Animal Sciences

January 14, 2016

MEMORANDUM

To: Maria Gallo
Dean, CTAHR

From: Halina M. Zaleski
Chair, Human Nutrition, Food and Animal Sciences

Subject: Proposal for a BS in Dietetics

I am pleased to present the attached proposal for a BS in Dietetics. The proposed degree provides an opportunity to better meet ACEND accreditation requirements, as well to increase student numbers in the HNFAS department. The proposal has been reviewed and approved by the HNFAS Curriculum Committee. The proposal has been discussed at faculty meetings, and in the HNFAS Department meeting on January 8, 2016 the faculty voted overwhelmingly in favor of proceeding with the proposal (11 for, 1 opposed, out of 18 instructional faculty).

We would be happy to address any comments from CTAHR Administration. In order to meet an ambitious timeline, we ask that you transmit by January 27 the revised document and comments from Administration to the CTAHR Faculty Senate SEC and Instruction Committee for their review.

Finally, I thank Maria Stewart for leading the effort to develop first the authorization to plan and now this document.

Please contact me if you have any questions. Thanks.

Cc Charles Kinoshita
Maria Stewart

1955 East-West Road, Agricultural Science 216
Honolulu, Hawai'i 96822
Telephone: (808) 956-7095 Fax: (808) 956-4024
Email: hnfas@ctahr.hawaii.edu Website: www2.ctahr.hawaii.edu

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PROPOSAL FOR A BACHELOR OF SCIENCE DEGREE IN DIETETICS
DEPARTMENT OF HUMAN NUTRITION, FOOD AND ANIMAL SCIENCES
COLLEGE OF TROPICAL AGRICULTURE AND HUMAN RESOURCES
UNIVERSITY OF HAWAI'I at MĀNOA

Locus (Unit/School/College): Department of Human Nutrition, Food and Animal Sciences,
College of Tropical Agriculture and Human Resources

Convener of Planning Committee: Maria Stewart

Program Category: New

Department Unit/Program: Department of Human Nutrition, Food and Animal Sciences

Level of Program: Undergraduate

Degree and Certificate Proposed: Bachelor of Science in Dietetics

Proposed Date of Implementation: Academic Year 2017-18

Date submitted: January 27, 2016

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INTRODUCTION

The University of Hawai'i at Mānoa is the only institution of higher education in the state of Hawai'i to offer academic training for students wishing to become Registered Dietitian Nutritionists (RDN). Students with RDN credentials find employment in hospitals and health care clinics (inpatient and outpatient), long-term care facilities, K-12 schools, government agencies such as Women Infants and Children clinics, and the food industry, just to name a few. This course work currently exists as an accredited, didactic degree option (Dietetics) within the Food Science and Human Nutrition (FSHN) major, hereinafter referred to as FSHN-Dietetics. Accreditation is granted by the Accreditation Council for Education in Nutrition and Dietetics (ACEND), the educational accrediting agency for the Academy of Nutrition and Dietetics. This accreditation is necessary to train students in Dietetics, a professional healthcare field. The course requirements for an accredited program in Dietetics include courses in food and nutrition sciences, foodservice systems management, business, economics, culinary arts, sociology, communications, biochemistry, physiology, microbiology, anatomy and chemistry. Students who complete the current, accredited degree option, FSHN-Dietetics, and complete a professional internship after graduation are eligible to take the Dietetics Registration Exam and earn Registered Dietitian Nutritionist credentials. The FSHN-Dietetics option is one of 6 degree options offered in FSHN. Being housed under FSHN, and not existing as a stand-alone degree program, has compromised our FSHN-Dietetics degree option, especially in the context of retaining our accreditation.

The purpose of this proposal is to convert the existing FSHN-dietetics degree option into a new major: Bachelor of Science in Dietetics. The main impacts of the separating FSHN-Dietetics into a stand-alone degree program are to (1) maintain accreditation of our didactic program in Dietetics, (2) provide students with recognition for completing an accredited program of coursework by designating this on their diploma and transcript, (3) increase visibility and search ability of our accredited didactic program in dietetics and (4) attract more students into FSHN BS (non-dietetics options) by revising admission requirements.

JUSTIFICATION

Maintaining accreditation through improved student tracking

Implementation of the Dietetics BS program will positively impact the accreditation status of our didactic program in Dietetics. A component of our accreditation is based on student successes after graduation. Our existing FSHN-Dietetics option is evaluated based on the number of graduates who complete Dietetic Internship, which is a competitively awarded internship. Because Dietetics is currently a degree option within the FSHN major, we have to count all of our FSHN majors as prospective RDNs. The students who never intend to apply for Dietetic Internship (and in fact are pursuing a different degree option) are counted as “failures” in the eyes of the accrediting agency because they don't pass the RDN milestones described above. This issue will be easily resolved by developing Dietetics into a standalone major. Students whose career goal is to become a RDN will be classified in STAR and BANNER as such, and we will use these student reports for our accreditation documentation.

Maintaining accreditation with students of high academic abilities

Additionally, successful completion of the internship and registration exam milestones require that students have high academic ability. We have admission criteria in place for all students transferring into FSHN because college GPA is a good indicator of Dietetic Internship acceptance and Dietetic Registration Exam pass rates. We cannot selectively admit students into

the FSHN-Dietetics *degree option*; the admission occurs at the major level, only. To be admitted to FSHN, transfer students must have a minimum cumulative GPA of 3.0, a C or higher in CHEM 161+L, CHEM 162+L, PHYL 141+L, PHYL 142+L, MATH 140 or higher, and a B or higher in FSHN 185. The average GPA of students accepted into Dietetic Internship is greater than 3.0, which justifies our current admission requirements into the degree program. Currently, we admit freshmen to the FSHN major directly because there are no data correlating high school achievement or standardized test scores and success with internship placement or registration exam completion. This results in an unfortunate inconsistency in our current admission requirements.

The current admission requirements for FSHN were implemented Fall 2011, after ACEND cited the program for not meeting Dietetics Registration Exam pass-rate expectations. Since implementing the current admission requirements, our students are successfully passing the Dietetics Registration Exam and earning RDN credentials. In 2014, 100% of our graduates who completed Dietetic Internship and took the Dietetics Registration Exam passed the exam. The current admission requirements are necessary to maintain a strong Dietetics degree option, and we are under continual pressure from ACEND to meet these high expectations. We can uniformly apply these admission requirements to all Dietetics students if Dietetics is developed into its own major.

Admission requirements for accredited Dietetics programs are typical, and our current, noncompetitive admission criteria are consistent with peer and benchmark institutions. Of UH-Mānoa's ten peer and benchmark institutions with accredited dietetics programs, three institutions have competitive admission requirements, three institutions have noncompetitive admission requirements, and four institutions do not have admission requirements for Dietetics.

Student recognition

Another issue that has arisen recently is recognition for completing the accredited program in Dietetics (FSHN-Dietetics). The degree option not currently conveyed on student transcripts. Only the major, Food Science and Human Nutrition, is noted on the transcript. A student raised this concern with the program and the Registrar's office. We believe that the student's concern is justified. A separate major of Dietetics will clearly communicate that the student completed the accredited Dietetics program of coursework. This will inform prospective employers that the student fulfilled the academic requirements for Dietetics.

Opportunities to support students prior to Dietetics BS admission and to grow FSHN BS

The proposed Dietetics BS program will admit students who meet admission requirements prior to the start of their junior (3rd) year. We will maintain the current admission requirements for Dietetics BS as described below, but the criteria will be revised for FSHN. The revised FSHN admission criteria will provide opportunities to grow student enrollment in our other FSHN degree options. Students wishing to enroll in a nutrition degree program prior to their 3rd year of course work, who do not meet Dietetics admission requirements, or who do not wish to become an RDN will have the option to declare FSHN BS as their major and pursue one of the existing degree options listed below. Tables 1 and 2 provide examples of careers or post-baccalaureate study that students may pursue upon completion of the Dietetics BS and FSHN BS.

Current FSHN Program structure:

FSHN BS

Freshmen are admitted directly to FSHN. Transfer students must meet admission requirements. Students select 1 of 6 degree options to fulfill degree requirements: *Dietetics*, Pre-professional Nutrition, Sports and Wellness Nutrition, Pre-Professional Food Science, Business Food Science, Culinology® (2+2 program with KCC). Total enrollment is 132 (Fall 2015 3rd week data).

Proposed Dietetics and FSHN Program structure:

Dietetics BS

Students are admitted only as transfer students (from FSHN, other majors, other institutions) if admission requirements are met: minimum cumulative GPA 3.0, C or higher in CHEM 161+L, CHEM 162+L, PHYL 141+L, PHYL 142+L, MATH 140 or high, and B or higher in FSHN 185; completion of 60 credits of college coursework.

FSHN BS

Freshmen and transfer are admitted under revised admission criteria to FSHN. Students select 1 of 5 degree options to fulfill degree requirements: Pre-professional Nutrition, Sports and Wellness Nutrition, Pre-professional Food Science, Business Food Science, Culinology® (2+2 program with KCC). The department will evaluate the academic success of FSHN students admitted after admission requirements, to ensure that students are successfully completing the academic requirements and attaining career and/or graduate/professional school goals.

Table 1. Example careers for students completing Dietetics BS

Dietetics Practice Areas	Example Careers
Clinical Nutrition	Hospital inpatient care, outpatient care, nutrition counseling, long-term care facilities, rehab facilities
Community Nutrition	Federal agencies/programs (WIC, SNAP), state and local agencies/programs (Dept of Health), nonprofit health programs
Food Service	Public and private K-12 schools, higher education, hospital food service
Any practice area	Graduate education, professional schools (medical school, dental school, pharmacy school, physician assistant school)

Table 2. Example careers for students completing FSHN BS

FSHN Degree Option	Example Careers
Pre-professional Nutrition	Graduate school admission, professional school admission (medical school, pharmacy school), nutrition support staff in health care facility, nutrition policy (government), nutrition journalism, food industry
Sports and Wellness Nutrition	Nutrition support staff in health care facility, health coach, independent nutrition consultant, nutrition policy (local, state, federal government), nutrition journalism
Pre-professional Food Science	Graduate school admission, food industry research and development, food policy (local, state, federal government), food quality assurance
Business Food Science	Entrepreneur, small business owner, food policy (local, state, federal government), food quality assurance
Culinology®	Certified Research Chef

Developing FSHN-Dietetics into a standalone major will have a positive impact on the existing FSHN major (non-dietetics options). We cannot selectively admit students into the FSHN-Dietetics *degree option*; the admission occurs at the major level, only. As a result, we deny many transfer applicants each year, many of whom wish to pursue non-dietetics degree options within FSHN. In Academic Year 2013-2014 we denied 94 students admission to FSHN, and in Academic Year 2014-2015, we denied 108 students admission to FSHN. The FSHN-Business Food Science, FSHN-Pre-Professional Food Science, and FSHN-Culinology options are most negatively affected by our major-level admission requirements. These degree options do not include PHYL 141, PHYL 141L, PHYL 142, or PHYL 142L as degree program requirements, yet these courses are the advertised admission requirements to the entire FSHN major. We currently work with students on a case-by-case basis to admit them selectively into the FSHN- Food Science and Culinology degree options. The existing program structure substantially limits the number of students we admit to the FSHN major, which limits our training capacity and limits tuition revenues.

PROGRAM OBJECTIVES AND JOB OUTLOOK

The program of course work for the proposed Dietetics BS currently exists as a degree option within the FSHN major. *The FSHN-dietetics degree option is the only accredited didactic program in dietetics within the state of Hawai`i.* The proposed Dietetics BS will replace the FSHN-Dietetics degree option as the accredited didactic program in dietetics.

We serve the state by training students in the practice of dietetics. Many of our graduates obtain their RDN credentials and practice dietetics in Hawai`i and the greater Pacific region, thus contributing to the health and well-being of the state and region. The existing FSHN-dietetics degree option is in high demand. Seventy percent of the students enrolled in the FSHN BS program are pursuing the FSHN-Dietetics degree option. Currently, 100 students are enrolled in the FSHN-Dietetics option. Since 2010, enrollment in the FSHN program has increased nearly 100%, even with the demanding admission requirements. In Spring 2015, we graduated 27 students in the FSHN-dietetics option. The existing program has high student demand, and we have seen increased enrollment in all of our degree option, particularly FSHN-dietetics.

The program learning outcomes are consistent with the Dietetics Knowledge Requirements put forth by the Accreditation Council for Education in Nutrition and Dietetics (ACEND), the accrediting agency for the Academy of Nutrition and Dietetics (see Appendix A). These Knowledge Requirements must be met by all accredited Didactic Programs in Dietetics. The UH-Mānoa FSHN-Dietetics degree option currently has ACEND accreditation, which is valid through 12/31/2017.

The Dietetics BS will meet the following departmental learning outcomes:

1. Know, apply and critically analyze and evaluate concepts related to the science of food and nutrition with a focus on humans.
2. Develop written & oral skills commensurate with the ability to summarize, evaluate, synthesize, and appropriately communicate scientific concepts to a variety of audiences.
3. Acquire personal characteristics and leadership, management, and human relations skills appropriate to professional practice in careers related to food science and human nutrition.
4. Recognize and use appropriate technologies, such as computer applications and/or food and nutrition laboratory methodologies.
5. Identify and develop skills to gain successful admission into entry level careers or post-graduate education.
6. Develop problem-solving and critical thinking skills.
7. Demonstrate participation in community service.
8. Identify community issues from local to global levels.

The proposed Dietetics BS degree program will meet the UHM ILOs as described below:

Know: Breadth and Depth of Knowledge: The proposed Dietetics BS degree program will meet all Foundations, Diversifications, and Focus requirements put forth in the UHM General Education requirements. The program includes 103 required credits (supporting courses, major core). Students are educated on Hawaiian Culture via the “H” focus, and through content integrated into major courses such as FSHN 389.

Do: Intellectual and Practical Skills: The required major courses include FSHN 381 and FSHN 381L Experimental Foods (lecture and lab), which is taught via “problem-based learning” and includes laboratory research; FSHN 485 and FSHN 486 Nutritional Biochemistry 1 and 2, which introduce students to scientific literature and scientific inquiry; FSHN 467 and 468 Medical Nutrition Therapy 1 and 2 which train students in clinical nutrition care, a practical skill; FSHN 469 Nutrition Counseling Skills, which fosters the development of oral communication in the counseling setting; and FSHN 389 Nutrition Assessment, which develops student writing skills within the discipline of dietetics.

Value: Personal and Social Responsibility: FSHN 492 Field Experience is the capstone course for Dietetics seniors. In this course, students engage in 100 hours of work experience. Students develop their own Gantt Chart to identify their own learning objectives during their work experience. The learning objectives are evaluated by their preceptor. Students will complete one “H” focus course that addresses Hawaiian culture. Additionally, culturally relevant food and policy topics are addressed in FSHN 389 and FSHN 451 Community Nutrition and Nutrition Education. Students engage in community service and/or service learning as part of several courses: FSHN 370 Lifespan Nutrition, FSHN 381, FSHN 451. Additional service opportunities are available through student organizations such as FSHN Council and CTAHR

Club.

The proposed Dietetics BS aligns with the UH System Strategic Initiatives and the UHM Strategic initiatives as described below:

UH System’s 2015-2021 strategic initiatives addressed by the Dietetics BS

“HGI Action Strategy 2: Implement structural improvements that promote persistence to attain a degree and timely completion.”

The sample 4-year plan demonstrates how students can complete years 1 and 2 at a UH Community College prior to enrolling in year 3 Dietetics at UHM.

“HGI Action Strategy 3: Anticipate and align curricula with community and workforce needs.”

Careers in food and nutrition are of local importance to the state of Hawai`i, and nationally, careers these areas, especially nutrition and dietetics, are expect to grow in the next 8 years.

“HI2 Action Strategy 3: Invest internal resources and seek external resources for strategic infrastructure requirements and hires that leverage our location and strengths as well as address critical gaps” <specifically bulleted Health and Wellness>

The proposed Dietetics BS program will prepare students for critical careers in preventative healthcare as well as disease treatment as Registered Dietitian Nutritionists. The existing FSHN BS program will grow and continue to train students for successful admission into health professions programs such as medical school and pharmacy school.

“HPMS Action Strategy 2: Increase opportunity and success for students and overall cost-effectiveness by leveraging academic resources and capabilities across the system.”

The Dietetics BS and FSHN BS will have good articulation between UHM and the UH Community College to facilitate efficient student transfer to Dietetics and FSHN.

UHM’s 2015-2021 strategic initiatives addressed by the Dietetics BS

“Enhancing Student Success” and “Recruiting a Vibrant, Prepared Student Body” will be addressed by preparing students for current careers in fields that are predicted to experience substantial growth in the future. With the revision of admission requirements to FSHN, we will be able to provide better mentoring and academic advice to all students interested in FSHN and Dietetics. Many of our students who are currently designated as “prospective” will have an academic home in FSHN and CTAHR which will provide a vital community for academic support.

As mentioned in the previous section, UH-Mānoa is the only institution in the state of Hawai`i to offer an accredited program in Dietetics. It is critical that UH-Mānoa maintains a high-quality, accredited Dietetics program to train future health care providers in the state and greater Pacific region. Diet is associated with 80% of chronic diseases, so proper diet education and dietary treatments are an integral component of today’s medical care. Our graduates in Dietetics make a meaningful contribution towards patient quality of life as well as the general profession of health care. Careers in nutrition and food science are also gaining traction within the state and region. Students can attain many other careers by completing one of the five degree options in FSHN, aside from Dietetics. For example,

with the addition of food safety inspection requirements for restaurants, professionals are needed to inspect and enforce food safety regulations. One of our recent FSHN- Pre-professional Nutrition graduates is currently working as a Food Inspector for the State Department of Health. The FSHN BS program and our proposed Dietetics BS program are critical for training students to work in the areas of food and health.

The US Bureau of Labor Statistics Occupational Outlook predicts 21% growth in jobs available for dietitians and nutritionists 2012-2022, which is “faster than average.” For national labor statistics see:

<http://www.bls.gov/ooh/healthcare/dietitians-and-nutritionists.htm> Within the state of Hawai`i, jobs for dietitians are expected to grow 13.6% (2008-2018), thus demonstrating continued demand for trained professionals in dietetics. For state labor statistics see:

http://www.manoa.hawaii.edu/ovcaa/planning_approval/pdf/Long-Term%20Projections%202008-18.pdf

PROGRAM REQUIREMENTS, ADMISSION, AND ADVISING

The program worksheet and sample 4-year plan are provided in Appendix B. All of the required courses for the Dietetics BS currently exist. We do not need to develop new courses.

Students will be admitted to Dietetics upon completion of admission criteria. Admission criteria are as follows: completion of the following courses with a grade of C or better (not C-): CHEM 161, CHEM 161L, CHEM 162, CHEM 162L, PHYL 141, PHYL 141L, PHYL 142, PHYL 142L, MATH 140+ (precalculus or higher); completion of the following course with a grade of B or better (not B-): FSHN 185; minimum cumulative GPA of 3.0. These are the current admission criteria for FSHN (based on required academic performance for students wishing to pursue FSHN-Dietetics). Students are also expected to have completed 60 or more credits by the end of the semester in which they apply (end of sophomore year for traditional students). Students admitted to Dietetics are expected to be at year 3 of the sample 4-year plan and are expected to graduate within 2 academic years of admission. Applications will be accepted in Spring (tentative deadline March 15). Students will submit an application to the Dietetics Program Director (sample application here: http://fscn-prd.cfans.umn.edu/sites/fscn.cfans.umn.edu/files/dpd_application_updated_sept_2015.doc). Applications will be reviewed by a committee convened by the Dietetics Program Director. Students deemed inadmissible to Dietetics can continue coursework in FSHN to complete their BS degree requirements.

Academic advising will be provided via the College of Tropical Agriculture and Human Resources Undergraduate Advisors. Career advising will be provided by the Dietetics Program Director.

PROGRAM ENROLLMENT

We expect that students enrolled in the FSHN-Dietetics degree option will enroll in the Dietetics major. We will remove the FSHN-Dietetics degree option upon shortly after the approval of the Dietetics major. We expect 50 students to enroll in the Dietetics BS program immediately upon implementation. This is based on the number of students in their junior and senior years in the FSHN-Dietetics degree option, currently. Students who enroll in this major will be primarily interested in health care careers. The number of students in FSHN-Dietetics has grown from approximately 55 in 2010 to 100 in 2015. We expect student interest to continue to increase. This program will serve majors, only. Major courses for this program are currently listed as FSHN courses. Some of these courses will continue to be available to non-majors (outside of Dietetics and FSHN).

One might expect a reduction in FSHN BS enrollments after 50 students at junior and senior status are transferred into the new Dietetics BS. We actually expect to offset the potential decreased enrollment by admitting more students to FSHN BS. With revised admission requirements to FSHN, we expect that approximately 50 students will meet revised admission requirements and will be immediately admitted to FSHN. This is based on the number of prospective FSHN students we currently advise. Students who cannot currently be admitted to the major because they have not met admission criteria are considered prospective students. Many of these students are enrolled at UH-Mānoa, but are forced to remain “undeclared” or to stay in their previously declared major until admission criteria are met. Other prospective students are transfer students from other institutions who receive an admission denial letter from the college office. We expect to send fewer admission denial letters after FSHN adopts revised admission criteria.

RESOURCES AND COST ANALYSIS

Nine faculty in the Department of Human Nutrition, Food and Animal Sciences (HNFAS) currently teach courses required for the FSHN-Dietetics degree option. These faculty will continue to teach the same courses in the Dietetics BS program. Below is a listing of current HNFAS faculty with the courses they will teach in the Dietetics BS program.

Jinan Banna, PhD, RD—FSHN 185, FSHN 451

Yong Li, PhD—FSHN 440

Michael Dunn, PhD—FSHN 486

Marie Kainoa Fialkowski, PhD, RD—FSHN 185, FSHN 389

Alvin Huang, PhD—FSHN 381, FSHN 381L

Mark Segobiano, MS, CEC, CCE, CHE—FSHN 181, FSHN 181L, FSHN 311,
FSHN 312, FSHN 322

Anne Shovic, PhD, RD—FSHN 370, FSHN 488, FSHN 492

Maria Stewart, PhD—FSHN 185, FSHN 370, FSHN 485, FSHN 486

C. Alan. Titchenal, PhD—FSHN 185, FSHN 480, FSHN 485

Note: these faculty also teach graduate courses and courses for other FSHN degree options, which are not included in this listing.

We are requesting two faculty positions (1.2 FTE instruction) and one graduate teaching assistant position (0.5 FTE, 9 mo appointment) to support a quality Dietetics BS program. The faculty positions will be responsible for teaching required courses that are currently taught by lectures or part-time faculty (FSHN 467, FSHN 468, FSHN 469) or taught by current faculty who are exceeding their instructional FTE (FSHN 381, FSHN 381L). These two faculty positions are critical for maintaining our accreditation status. This graduate teaching assistant will support our writing intensive and laboratory courses. With increased sections of these limited enrollment courses, we will need an additional graduate teaching assistant to provide instructional support. See Program Cost Template Dietetics BS worksheet.

We are requesting an additional faculty position (0.6 FTE instruction) to support increased student enrollment in the FSHN BS program. This is a conditional request, pending increased student enrollments as a result of revising our admission criteria to FSHN BS. The Program Cost Template for FSHN BS reflects the costs and tuition revenues due to *increased* student enrollment. Because the FSHN major currently exists, we only captured the change in costs and revenues due to revising the admission

requirements. See Program Cost Template FSHN BS worksheet.

In year 2 of the proposed program changes, the FSHN student enrollment would increase by 36% (additional 50 students admitted). The cost template reflects the increase in enrollment (Appendix C). FSHN 370 and FSHN 389, which are both taught as writing intensive, are taught in multiple sections to meet the current student demand. We anticipate adding one to two sections more sections each academic year, due to increased enrollment. Some of the current sections are taught by lecturers. We need a tenure-track faculty member to provide reliable instruction for these critical classes which are required for both Dietetics BS and FSHN BS. We are also requesting one graduate teaching assistant (0.5 FTE, 9 mo). This graduate teaching assistant will support our writing intensive and laboratory courses. With increased sections of these limited enrollment courses, we will need an additional graduate teaching assistant to provide instructional support. The total cost of the graduate teaching assistant for FSHN in year 1 will be \$21,000. See Program Cost Template FSHN BS worksheet.

The department will need faculty offices for the three new faculty. This will be addressed when the faculty are hired.

The annual accreditation fee for the Didactic Program in Dietetics is \$1900. No additional resources are required.

The instructional cost per student semester hour in the Dietetics BS program will be \$103 in year 1, and we expected this number to decrease over the 6 year provisional period due to increased enrollment (50 students year 1, 70 students year 5). This is substantially less than the Bachelors of Social Work program at UH-Mānoa, which was used for comparison (\$385/SSH). We expect the net revenue for the Dietetics BS program in year 1 to be \$419,375.

The additional instructional cost per student semester hour in the FSHN BS program, with the removal of the Dietetics degree option will be \$98 in year 2, and we expected this number to decrease over the 6 year Dietetics BS provisional period due to increased enrollment (50 students year 2, 140 students year 6). This is substantially less than the Bachelors of Social Work program at UH-Mānoa, which was used for comparison (\$385/SSH). We expect the net revenue for the FSHN BS program in year 1 to be \$228,685.

With the addition of two faculty positions (1.2 FTE), we expect average class sizes to remain moderate within the major. The average upper division class size in FSHN was 17 students in 2011. Due to expected enrollment increases, we expect this class size to increase, unless we receive the additional faculty position requested (0.6 FTE). The average upper division class size in the Social Work BSW program is 20 students/class. The average UHM class size is 20 students/class.

PROGRAM ASSESSMENT

The Dietetics major will undergo the annual, required program assessment. We will use the dietetics knowledge areas associated with each of the major courses as criteria for evaluating student learning. We will seek student and instructor input regarding the quality of teaching and student learning in the major.

We expect that at least 25 students will graduate from this program after the first year of implementation. This is consistent with our current enrollment in the FSHN-Dietetics degree option. We expect the number of graduates to increase to 30 in Year 3 and 35 in Year 5. This is a conservative estimate based on program growth over the past 7 years.

We will determine effectiveness of our academic program and placement of graduates based on two metrics (1) the number of student who apply for dietetic internship and are accepted to dietetic internship and (2) the number of students who pass the Dietetics Registration Exam and earn their RDN credentials. These data are available through AND and ACEND. The Dietetics Program Director will be responsible for reporting these data to the department and

college.

Our next program accreditation will occur in 2017. We expect to be reaccredited, especially with the designation of Dietetics as a stand-alone major. We are currently working the CTAHR Academic and Student Affairs Office to develop an alumni database. We will use this database to track graduates and follow up with them regarding career placement. We will also use the Hawai`i Academy of Nutrition and Dietetics membership list as a means to track students who practice dietetics in the state of Hawai`i.

IMPACT

The proposed Bachelors of Science in Dietetics will meet the needs of current and future students at UH-Mānoa. This program will also train students to enter the health care work force. Professionals who are currently practicing dietetics support our new Dietetics BS program. See Appendix D. The Bachelors of Science in Dietetics will strengthen our accreditation status, provide students with the recognition they deserve for completing a rigorous accredited didactic program in dietetics, and improve the health of Hawaii by training our future healthcare professionals

APPENDIX A: Dietetic Program Foundation Knowledge Requirements (KR), Support Knowledge (SK) and Expected Learning Outcomes

Source: Accreditation Council for Education in Nutrition and Dietetics

1. Scientific and Evidence Base of Practice: integration of scientific information and research into practice

KR 1.1: The curriculum must reflect the scientific basis of the dietetics profession and must include research methodology, interpretation of research literature and integration of research principles into evidence-based practice.

KR 1.1.a: Expected Learning Outcome: Students are able to demonstrate how to locate, interpret, evaluate and use professional literature to make ethical evidence-based practice decisions

KR 1.1.b: Expected Learning Outcome: Students are able to use current information technologies to locate and apply evidence-based guidelines and protocols, such as the ADA Evidence Analysis Library, Cochrane Database of Systematic Reviews and the U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, National Guideline Clearinghouse Web sites.

2. Professional Practice Expectations: beliefs, values, attitudes and behaviors for the professional dietitian level of practice.

KR 2.1: The curriculum must include opportunities to develop a variety of communication skills sufficient for entry into pre-professional practice.

KR 2.1.a: Expected Learning Outcome: Students are able to demonstrate effective and professional oral and written communication and documentation and use of current information technologies when communicating with individuals, groups and the public.

KR 2.1.b: Expected Learning Outcome: Students are able to demonstrate assertiveness, advocacy and negotiation skills appropriate to the situation.

KR 2.2: The curriculum must provide principles and techniques of effective counseling methods.

KR 2.2.a: Expected Learning Outcome: Students are able to demonstrate counseling techniques to facilitate behavior change.

KR 2.3: The curriculum must include opportunities to understand governance of dietetics practice, such as the ADA Scope of Dietetics Practice Framework, the Standards of Professional Performance and the Code of Ethics for the Profession of Dietetics; and interdisciplinary relationships in various practice settings.

KR 2.3.a: Learning Outcome: Students are able to locate, understand and apply established guidelines to a professional practice scenario.

KR 2.3.b: Expected Learning Outcome: Students are able to identify and describe the roles of others with whom the Registered Dietitian collaborates in the delivery of food and nutrition services.

3. Clinical and Customer Services: development and delivery of information, products and services to individuals, groups and populations

KR 3.1: The curriculum must reflect the nutrition care process and include the principles and methods of assessment, diagnosis, identification and implementation of interventions and strategies for monitoring and evaluation.

KR 3.1.a: Expected Learning Outcome: Students are able to use the nutrition care process to make decisions, to identify nutrition-related problems and determine and evaluate nutrition interventions, including medical nutrition therapy, disease prevention and health promotion.

KR 3.2: The curriculum must include the role of environment, food, nutrition and lifestyle choices in health promotion and disease prevention.

KR 3.2.a: Students are able to apply knowledge of the role of environment, food and lifestyle choices to develop interventions to affect change and enhance wellness in diverse individuals and groups

KR 3.3: The curriculum must include education and behavior change theories and techniques.

KR 3.3.a: Expected Learning Outcome: Students are able to develop an educational session or program/educational strategy for a target population.

4. Practice Management and Use of Resources: strategic application of principles of management and systems in the provision of services to individuals and organizations

KR 4.1: The curriculum must include management and business theories and principles required to deliver programs and services.

KR 4.1.a: Expected Learning Outcome: Students are able to apply management and business theories and principles to the development, marketing and delivery of programs or services.

KR 4.1.b: Expected Learning Outcome: Students are able to determine costs of services or operations, prepare a budget and interpret financial data.

KR 4.1.c: Expected Learning Outcome: Students are able to apply the principles of human resource management to different situations

KR 4.2: The curriculum must include content related to quality management of food and nutrition services.

KR 4.2.a: Expected Learning Outcome: Students are able to apply safety principles related to food, personnel and consumers.

KR 4.2.b: Expected Learning Outcome: Students are able to develop outcome measures, use informatics principles and technology to collect and analyze data for assessment and evaluate data to use in decision-making

KR 4.3: The curriculum must include the fundamentals of public policy, including the legislative and regulatory basis of dietetics practice.

KR 4.3.a: Expected Learning Outcome: Students are able to explain the impact of a public policy position on dietetics practice.

KR 4.4: The curriculum must include content related to health care systems.

KR 4.4.a: Expected Learning Outcome: Students are able to explain the impact of health care policy and administration, different health care delivery systems and current reimbursement issues, policies and regulations on food and nutrition services

5. Support Knowledge (SK): knowledge underlying the requirements specified above.

SK 5.1: The food and food systems foundation of the dietetics profession must be evident in the curriculum. Course content must include the principles of food science and food systems, techniques of food preparation and application to the development, modification and evaluation of recipes, menus and food products acceptable to diverse groups.

SK 5.2: The physical and biological science foundation of the dietetics profession must be evident in the curriculum. Course content must include organic chemistry, biochemistry, physiology, genetics, microbiology, pharmacology, statistics, nutrient metabolism, and nutrition across the lifespan

SK 5.3: The behavioral and social science foundation of the dietetics profession must be evident in the curriculum. Course content must include concepts of human behavior and diversity, such as psychology, sociology or anthropology



University of Hawai'i at Mānoa

College of Tropical Agriculture and Human Resources Program Sheet 2017-2018

.....Bachelor of Science (BS) in Flggykleu

Admissions: Transfer = Min. Criteria Process: Declaration

(Min. Total Credits: 120 in core and major)

UHM General Education Core Requirements
Foundations
<input type="checkbox"/> FW ENG 100, 100A, 190, or ESL 100
<input type="checkbox"/> FS MATH 140 or above
<input type="checkbox"/> FG (A / B / C)
<input type="checkbox"/> FG (A / B / C)
Diversification
<input type="checkbox"/> DA COMG 151 or 251
<input type="checkbox"/> DH / DL
<input type="checkbox"/> DB BIOL 171
<input type="checkbox"/> DP CHEM 161
<input type="checkbox"/> DY BIOL 171L
<input type="checkbox"/> DS
<input type="checkbox"/> DS
<i>* See degree, college and major requirements for courses that can also fulfill these.</i>
UHM Graduation Requirements
Focus
<input type="checkbox"/> H
<input type="checkbox"/> E (300+)
<input type="checkbox"/> O (300+)
<input type="checkbox"/> W
<input type="checkbox"/> W
<input type="checkbox"/> W
<input type="checkbox"/> W (300+)
<input type="checkbox"/> W (300+)
Hawaiian / Second Language
<ul style="list-style-type: none"> The Hawaiian or Second Language requirement is not required for students admitted to the Food Science and Human Nutrition program.
Credit Minimums
<ul style="list-style-type: none"> 120 total applicable 30 in residence at UHM 45 upper division (300+ level) credits
Grade Point Average
<ul style="list-style-type: none"> 2.0 cumulative or higher (<i>Note: Other GPAs may be required</i>) Good academic standing

College Requirements
CTAHR Required Set of Interrelated Courses
<input type="checkbox"/> NREM 310
<input type="checkbox"/> Internship or capstone course (FSHN 492)
Credit Minimums
<ul style="list-style-type: none"> 120 total applicable

*This program sheet was prepared to provide information and does not constitute a contract. See back for major requirements.
 Meet regularly with your major advisor.*

Major Requirements for BS in Food Science and Human Nutrition

Admission: Min. entrance GPA of 3.0 and have taken FSHN 185 (B or better) and CHEM 383/383N/cpf/384/384N, PHYL 141/141L and 142/142L, and MATH 140 (or higher) (C or better). Ego r ngvgf '82"etgf ku'qh'eqmgi g'eqwtugy qtnf)

Application: F wg'q'f gr ctvo gpv'O ctej '37.'ugg'f gr ctvo gpv'y gdukg'ht'cr r decvqp'htto 0

Min. major credits: 103

Requirements

Required Supporting Courses (34-36 credits)

- | | |
|---|---|
| <input type="checkbox"/> BIOL 171* ^{DB} / <input type="checkbox"/> 171L* ^{DY} | <input type="checkbox"/> MBBE 375 |
| <input type="checkbox"/> CHEM 161* ^{DP} / <input type="checkbox"/> 161L* ^{DY} | <input type="checkbox"/> PHYL 141* ^{DB} / <input type="checkbox"/> 141L* ^{DY} or 301 / 301L |
| <input type="checkbox"/> CHEM 162* ^{DP} / <input type="checkbox"/> 162L* ^{DY} | <input type="checkbox"/> PHYL 142* ^{DB} / <input type="checkbox"/> 142L* ^{DY} or 302 / 302L |
| <input type="checkbox"/> CHEM 272* ^{DP} | <input type="checkbox"/> MATH 140 or above |
| <input type="checkbox"/> COMG 151 or 251 | |

Core Courses (23 credits)

All of the following:

- | | | | |
|---|--|-----------------------------------|-----------------------------------|
| <input type="checkbox"/> FSHN 181 / 181L* ^{DY} | <input type="checkbox"/> FSHN 185* ^{DB} | <input type="checkbox"/> FSHN 370 | <input type="checkbox"/> FSHN 389 |
| <input type="checkbox"/> FSHN 485 | <input type="checkbox"/> FSHN 486 | <input type="checkbox"/> FSHN 492 | |

Elective Courses (46-48 credits)

- | | | |
|--|--|---|
| <input type="checkbox"/> (46-48 credits) | All of the following: | |
| | <input type="checkbox"/> BIOL 340 or CMB 411 | <input type="checkbox"/> SOC 100* ^{DS} |
| | <input type="checkbox"/> PHRM 203 | <input type="checkbox"/> PSY 100* ^{DS} |
| | All of the following: | |
| | <input type="checkbox"/> FSHN 311 or BUS 315 or TIM 369I | <input type="checkbox"/> FSHN 312 |
| | <input type="checkbox"/> FSHN 322 or BUS 312 | <input type="checkbox"/> FSHN 381 |
| | <input type="checkbox"/> FSHN 440 or MICR 130/140L | <input type="checkbox"/> FSHN 451 |
| | <input type="checkbox"/> FSHN 467 | <input type="checkbox"/> FSHN 468 |
| | <input type="checkbox"/> FSHN 480 | <input type="checkbox"/> FSHN 488 |

Notes

CTAHR Academic Advising Office:
 Gilmore 1st floor; ctahradv@hawaii.edu
 Appointments are required to see an advisor; please visit ctahradv.youcanbook.me/ to schedule an appointment.
 CTAHR Office of Academic and Student Affairs:
 Gilmore 210, (808) 956-8183/(808) 956-6733; www.ctahr.hawaii.edu/ugadvising



University of Hawai'i at Mānoa – Four-Year Academic Plan 2017-2018
Colleges of Tropical Agriculture and Human Resources
Bachelor of Science (BS) in Dietetics

SAMPLE

This is a sample academic plan. Students should meet with an academic advisor prior to registration to formulate their own plan.

Year 1		Year 2		Year 3		Year 4	
Fall		Fall		Fall		Fall	
BIOL 171 (DB)	3	PHYL 141/141L or PHYL 301/301L	4	MBBE 375	3	FSHN 312	3
BIOL 171L (DY)	1	CHEM 272	3	FSHN 381	3	FSHN 451	4
CHEM 161 (DP)	3	PSY 100 (DS)	3	FSHN 381L	1	FSHN 467	3
CHEM 161L	1	COMG 151 or 251 (DA)	3	FSHN 440	3	BIOL 340 or CMB 411	3
FW	3	FG (A/B/C)	3	FSHN 485	3	FSHN 488	3
FG (A/B/C)	3			NREM 310	3		
Credits	14	Credits	16	Credits	16	Credits	16
Spring		Spring		Spring		Spring	
FSHN 181	3	PHRM 203	3	FSHN 311 or BUS 315	3	FSHN 468	3
FSHN 181L	1	PHYL 142/142L or PHYL 302/302L	4	FSHN 389	2	FSHN 492	4
FSHN 185	3	SOC 100	3	FSHN 480	3	FSHN 322 or BUS 312	3
CHEM 162	3	DH/DL	3	FSHN 486	3	FSHN 469	2
CHEM 162L	1	Elective	3	FSHN 370	3	Elective	2
Precal or higher MATH (FS)	3						
Credits	14	Credits	16	Credits	14	Credits	14
Summer		Summer		Summer		Summer	
Credits	0	Credits	0	Credits	0	Credits	0
Total Credits	28	Total Credits	60	Total Credits	90	Total Credits	120

Notes:

- Students must take placement exams to be able to register for CHEM 161 and MATH 140.
- See Dietetics Student Handbook provided by the FSHN department for additional information.
- Students must incorporate all focus requirements into this plan. Focus designations (i.e., W, E, O, H) are CRN specific & semester specific.
- Minimum 45 upper division (300+ course) credits are required.

Appendix C

Dietetics BS Program Cost Template

	A	B	C	D	E	F	G	H	I	J	K
1	Academic Cost and Revenue Template - New Program (adjust template for appropriate number of years) (Updated 06/12/12)										
2											
3	ENTER VALUES IN YELLOW CELLS ONLY										
4	CAMPUS/Program		MANOA/BS in Dietetics								
5	Provisional Years (2 yrs for Certificate, 3 yrs for Associate Degree, 6 yrs for Bachelor's Degree 3 yrs for Masters Degree, 5 yrs for Doctoral Degree)										
6			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6			
7	ENTER ACADEMIC YEAR (i.e., 2011-2012)		2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023			
8	Students & SSH										
9	A. Headcount enrollment (Fall)		50	55	60	65	70	70			
10	B. Annual SSH		1,175	1,300	1,410	1,535	1,645	1,645			
11	Direct and Incremental Program Costs Without Fringe										
13	C. Instructional Cost without Fringe		\$ 90,000	\$ 93,600	\$ 97,344	\$ 101,238	\$ 105,287	\$ 109,499			
14	C1. Number (FTE) of FT Faculty/Lecturers		1.20	1.20	1.20	1.20	1.20	1.20			
15	C2. Number (FTE) of PT Lecturers										
16	D. Other Personnel Costs		\$ 21,000	\$ 21,840	\$ 22,714	\$ 23,622	\$ 24,567	\$ 25,550			
17	E. Unique Program Costs		\$ 1,900	\$ 1,900	\$ 1,900	\$ 1,900	\$ 1,900	\$ 1,900			
18	F. Total Direct and Incremental Costs		\$ 112,900	\$ 117,340	\$ 121,958	\$ 126,760	\$ 131,754	\$ 136,948			
19											
20	Revenue										
21	G. Tuition		\$ 532,275	\$ 588,900	\$ 638,730	\$ 695,355	\$ 745,185	\$ 745,185			
22	Tuition rate per credit		\$ 453	\$ 453	\$ 453	\$ 453	\$ 453	\$ 453			
23	H. Other										
24	I. Total Revenue		\$ 532,275	\$ 588,900	\$ 638,730	\$ 695,355	\$ 745,185	\$ 745,185			
25											
26	J. Net Cost (Revenue)		-419,375	-471,560	-516,772	-568,595	-613,431	-608,237			
27											
28											
29											
30	Program Cost per SSH With Fringe										
31	K. Instructional Cost with Fringe/SSH		\$ 103	\$ 97	\$ 93	\$ 89	\$ 86	\$ 90			
32	K1. Total Salary FT Faculty/Lecturers		\$ 90,000	\$ 93,600	\$ 97,344	\$ 101,238	\$ 105,287	\$ 109,499			
33	K2. Cost Including Fringe of K1		\$ 121,500	\$ 126,360	\$ 131,414	\$ 136,671	\$ 142,138	\$ 147,823			
34	K3. Total Salary PT Lecturers										
35	K4. Cost Including fringe of K3										
36	L. Support Cost/SSH		\$ 467	\$ 467	\$ 467	\$ 467	\$ 467	\$ 467			
37	Non-Instructional Exp/SSH		\$ 534	\$ 534	\$ 534	\$ 534	\$ 534	\$ 534			
38	System-wide Support/SSH		\$ 68	\$ 68	\$ 68	\$ 68	\$ 68	\$ 68			
39	Organized Research/SSH		\$ 135	\$ 135	\$ 135	\$ 135	\$ 135	\$ 135			
40	M. Total Program Cost/SSH		\$ 570	\$ 564	\$ 560	\$ 556	\$ 553	\$ 557			
41	N. Total Campus Expenditure/SSH		\$ 971	\$ 971	\$ 971	\$ 971	\$ 971	\$ 971			
42											
43	Instruction Cost with Fringe per SSH										
44	K. Instructional Cost/SSH		\$ 103	\$ 97	\$ 93	\$ 89	\$ 86	\$ 90			
45	O. Comparable Cost/SSH		\$ 385	\$ 385	\$ 385	\$ 385	\$ 385	\$ 385			
46	Program used for comparison.		Social Work BSW								
47											
48	Reviewed by campus VC for Administrative Affairs:										(signature and date)
49											

	A	B	C	D	E	F	G	H	I	J	K
50	Instructions										
51	Please include an explanation of this template in your narrative.										
52	A.	Headcount Enrollment: Headcount enrollment of majors each Fall semester. Located at url: http://www.hawaii.edu/iro/maps.php?category=Enrollment Campus data may be used when majors are a subset of enrollment reported in IRO reports.									
53	B.	Annual SSH: Course Registration Report located at url: http://www.hawaii.edu/iro/maps.php?title=Course+Registration+Report Add the SSH for the Fall and Spring reports to obtain the annual SSH. This is all SSH taught by the program, including to non-majors. Adjust if majors are subset of SSH reported.									
54	C.	Instructional Cost without Fringe (automated calculation): Direct salary cost for all faculty and lecturers teaching in the program. *Formula for column D: =IF(OR(D32<>"",D32+D34,""))									
55	C1. Number of full time faculty and lecturers who are >= .5 FTE.										
56	C2. Number of part time lecturers who are <.5 FTE.										
57	D.	Other Personnel Cost: Salary cost (part or full time) for personnel supporting the program (APT, clerical lab support, advisor, etc.) This includes personnel providing necessary support for the program who may not be directly employed by the program and may include partial FTEs. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.									
58	E.	Unique Program Cost: Costs specific to the program for equipment, supplies, insurance, etc. For provisional years, this would be actual cost. For established years, this would be projected costs using amortization for equipment and add 4% per year for inflation thereafter.									
59	F.	Total Direct and Incremental Cost: C + D + E *Formula for column D: =IF(OR(D13<>"",D16<>0,D17<>0),SUM(D13,D16,D17),"")									
60	G.	Tuition: Annual SSH X resident tuition rate/credit *Formula for column D: =IF(D10>0,D10*D22,"")									
61	H.	Other: Other sources of revenue including grants, program fees, etc. This should not include in-kind contributions unless the services or goods contributed are recorded in the financial records of the campus and included in Direct and Incremental Costs in this template.									
62	I.	Total Revenue: G + H *Formula for column D: =IF(OR(D21<>"",D23<>0),SUM(D21,D23),"")									
63	J.	Net Cost: F - I This is the net incremental cost of the program to the campus. A negative number here represents net revenue (i.e., revenue in excess of cost.) If there is a net cost, please explain how this cost will be funded. *Formula for column D: =IF(AND(D18<>"",D24<>""),D18-D24,"")									
64	K.	Instructional Costs with Fringe/SSH: (K2 + K4) / B *Formula for column D: =IF(D10<>""),(SUM(D33,D35)/D10,"")									
65	K1. Salaries without Fringe of Full Time Faculty and Lecturers who are >= .5 FTE based on FTE directly related to the program. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.										
66	K2. K1 X 1.35 Formula for column D: =IF(D32="","",D32*1.35)										
67	K3. Salaries without Fringe for Lecturers who are < .5 FTE based on FTE directly related to the program. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.										
68	K4. K3 X 1.05 Formula for column D: =IF(D34="","",D34*1.05)										
69	L.	Support Cost/SSH:The campus' non instructional expenditure/ssh + systemwide support – organized research (UHM only) as provided by UH Expenditure Report (http://www.hawaii.edu/budget/expand.html) *Formula for column D: =IF(OR(D37>0,D38>0,D39>0),D37+D38-D39,"")									
70											
71	For example, from the 2010-11 UH Expenditure Report (http://www.hawaii.edu/cgi-bin/iro/maps?esuhyf1011.pdf), the support expenditure/ssh per campus is:										
72											
73	UHM	\$507.00 + \$56 - \$128 for organized research	= \$435								
74	UHH	\$437.00 + \$45	= \$482								
75	UHWO	\$230.00 + \$28	= \$258								
76	Haw CC	\$155.00 + \$34	= \$189								
77	Hon CC	\$234.00 + \$44	= \$278								
78	Kap CC	\$123.00 + \$29	= \$152								
79	Kau CC	\$328.00 + \$59	= \$387								
80	Lee CC	\$123.00 + \$27	= \$150								
81	Maui CC	\$160.00 + \$35	= \$195								
82	Win CC	\$264.00 + \$40	= \$304								
83											
84	M.	Total Program Cost/SSH: K + L *Formula for column D: =IF(OR(D31<>"",D36<>""),D31+D36,"")									
85	N.	Total Campus Expenditure/SSH: Taken from UH Expenditures Report For example, for 2009-2010: UHM = \$923-131 (organized research) = \$792, UHH = \$682, UHWO = \$501, HawCC = \$408, HonCC = \$505, KapCC = \$316, KauCC = \$703, LeeCC=\$300, Maui CC= \$396, WinCC=\$457									
86	O.	Comparable Program/Division Instructional Cost/SSH: Taken from UH Expenditures Report (http://www.hawaii.edu/budget/expand.html) or campus data, as available. Please note in the space provided, the program used for the comparison.									
87											
88	Rev. 06.12.12										

FSHN BS Program Cost Template (reflecting enrollment increases only)

	A	B	C	D	E	F	G	H	I	J	K
1	Academic Cost and Revenue Template - New Program (adjust template for appropriate number of years) (Updated 06/12/12)										
2											
3	ENTER VALUES IN YELLOW CELLS ONLY										
4	CAMPUS/Program		MANOA/BS in FSHN- increase								
5	Provisional Years (2 yrs for Certificate, 3 yrs for Associate Degree, 6 yrs for Bachelor's Degree 3 yrs for Masters Degree, 5 yrs for Doctoral Degree)										
6			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6			
7	ENTER ACADEMIC YEAR (i.e., 2011-2012)		2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023			
8	Students & SSH										
9	A. Headcount enrollment (Fall)		0	50	95	130	140	140			
10	B. Annual SSH		0	645	1,120	1,480	1,580	1,580			
11											
12	Direct and Incremental Program Costs Without Fringe										
13	C. Instructional Cost without Fringe		\$ 45,000	\$ 46,800	\$ 48,672	\$ 50,619	\$ 52,644	\$ 54,749			
14	C1. Number (FTE) of FT Faculty/Lecturers		0.60	0.60	0.60	0.60	0.60	0.60			
15	C2. Number (FTE) of PT Lecturers										
16	D. Other Personnel Costs		\$ 21,000	\$ 21,840	\$ 22,714	\$ 23,622	\$ 24,567	\$ 25,550			
17	E. Unique Program Costs										
18	F. Total Direct and Incremental Costs		\$ 66,000	\$ 68,640	\$ 71,386	\$ 74,241	\$ 77,211	\$ 80,299			
19											
20	Revenue										
21	G. Tuition			\$ 292,185	\$ 507,360	\$ 670,440	\$ 715,740	\$ 715,740			
22	Tuition rate per credit		\$ 453	\$ 453	\$ 453	\$ 453	\$ 453	\$ 453			
23	H. Other		\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500			
24	I. Total Revenue		\$ 2,500	\$ 294,685	\$ 509,860	\$ 672,940	\$ 718,240	\$ 718,240			
25											
26	J. Net Cost (Revenue)		63,500	-226,045	-438,474	-598,699	-641,029	-637,941			
27											
28											
29											
30	Program Cost per SSH With Fringe										
31	K. Instructional Cost with Fringe/SSH		#DIV/0!	\$ 98	\$ 59	\$ 46	\$ 45	\$ 47			
32	K1. Total Salary FT Faculty/Lecturers		\$ 45,000	\$ 46,800	\$ 48,672	\$ 50,619	\$ 52,644	\$ 54,749			
33	K2. Cost Including Fringe of K1		\$ 60,750	\$ 63,180	\$ 65,707	\$ 68,335	\$ 71,069	\$ 73,912			
34	K3. Total Salary PT Lecturers										
35	K4. Cost Including fringe of K3										
36	L. Support Cost/SSH		\$ 467	\$ 467	\$ 467	\$ 467	\$ 467	\$ 467			
37	Non-Instructional Exp/SSH		\$ 534	\$ 534	\$ 534	\$ 534	\$ 534	\$ 534			
38	System-wide Support/SSH		\$ 68	\$ 68	\$ 68	\$ 68	\$ 68	\$ 68			
39	Organized Research/SSH		\$ 135	\$ 135	\$ 135	\$ 135	\$ 135	\$ 135			
40	M. Total Program Cost/SSH		#DIV/0!	\$ 565	\$ 526	\$ 513	\$ 512	\$ 514			
41	N. Total Campus Expenditure/SSH		\$ 971	\$ 971	\$ 971	\$ 971	\$ 971	\$ 971			
42											
43	Instruction Cost with Fringe per SSH										
44	K. Instructional Cost/SSH		#DIV/0!	\$ 98	\$ 59	\$ 46	\$ 45	\$ 47			
45	O. Comparable Cost/SSH		\$ 385	\$ 385	\$ 385	\$ 385	\$ 385	\$ 385			
46	Program used for comparison.		Social Work BSW								
47											
48	Reviewed by campus VC for Administrative Affairs:										(signature and date)
49											

	A	B	C	D	E	F	G	H	I	J	K
50	Instructions										
51	Please include an explanation of this template in your narrative.										
52	A.	Headcount Enrollment: Headcount enrollment of majors each Fall semester. Located at url: http://www.hawaii.edu/iro/maps.php?category=Enrollment Campus data may be used when majors are a subset of enrollment reported in IRO reports.									
53	B.	Annual SSH: Course Registration Report located at url: http://www.hawaii.edu/iro/maps.php?title=Course+Registration+Report Add the SSH for the Fall and Spring reports to obtain the annual SSH. This is all SSH taught by the program, including to non-majors. Adjust if majors are subset of SSH reported.									
54	C.	Instructional Cost without Fringe (automated calculation): Direct salary cost for all faculty and lecturers teaching in the program. *Formula for column D: =IF(OR(D32<>""),D32+D34,"")									
55	C1. Number of full time faculty and lecturers who are >= .5 FTE.										
56	C2. Number of part time lecturers who are <.5 FTE.										
57	D.	Other Personnel Cost: Salary cost (part or full time) for personnel supporting the program (APT, clerical lab support, advisor, etc.) This includes personnel providing necessary support for the program who may not be directly employed by the program and may include partial FTEs. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.									
58	E.	Unique Program Cost: Costs specific to the program for equipment, supplies, insurance, etc. For provisional years, this would be actual cost. For established years, this would be projected costs using amortization for equipment and add 4% per year for inflation thereafter.									
59	F.	Total Direct and Incremental Cost: C + D + E *Formula for column D: =IF(OR(D13<"",D16<>0,D17<>0),SUM(D13,D16,D17),"")									
60	G.	Tuition: Annual SSH X resident tuition rate/credit *Formula for column D: =IF(D10>0,D10*D22,"")									
61	H.	Other: Other sources of revenue including grants, program fees, etc. This should not include in-kind contributions unless the services or goods contributed are recorded in the financial records of the campus and included in Direct and Incremental Costs in this template.									
62	I.	Total Revenue: G + H *Formula for column D: =IF(OR(D21<>"",D23<>0),SUM(D21,D23),"")									
63	J.	Net Cost: F - I This is the net incremental cost of the program to the campus. A negative number here represents net revenue (i.e., revenue in excess of cost.) If there is a net cost, please explain how this cost will be funded. *Formula for column D: =IF(AND(D18<>"",D24<>""),D18-D24,"")									
64	K.	Instructional Costs with Fringe/SSH: (K2 + K4) / B *Formula for column D: =IF(D10<>""),(SUM(D33,D35)/D10,"")									
65	K1. Salaries without Fringe of Full Time Faculty and Lecturers who are >= .5 FTE based on FTE directly related to the program. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.										
66	K2. K1 X 1.35 Formula for column D: =IF(D32=""",D32*1.35)										
67	K3. Salaries without Fringe for Lecturers who are < .5 FTE based on FTE directly related to the program. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.										
68	K4. K3 X 1.05 Formula for column D: =IF(D34=""",D34*1.05)										
69	L.	Support Cost/SSH:The campus' non instructional expenditure/ssh + systemwide support – organized research (UHM only) as provided by UH Expenditure Report (http://www.hawaii.edu/budget/expand.html) *Formula for column D: =IF(OR(D37>0,D38>0,D39>0),D37+D38-D39,"")									
70											
71	For example, from the 2010-11 UH Expenditure Report (http://www.hawaii.edu/cgi-bin/iro/maps?esuhy1011.pdf), the support expenditure/ssh per campus is:										
72											
73	UHM	\$507.00 + \$56 - \$128 for organized research = \$435									
74	UHH	\$437.00 + \$45 = \$482									
75	UHWO	\$230.00 + \$28 = \$258									
76	Haw CC	\$155.00 + \$34 = \$189									
77	Hon CC	\$234.00 + \$44 = \$278									
78	Kap CC	\$123.00 + \$29 = \$152									
79	Kau CC	\$328.00 + \$59 = \$387									
80	Lee CC	\$123.00 + \$27 = \$150									
81	Maui CC	\$160.00 + \$35 = \$195									
82	Win CC	\$264.00 + \$40 = \$304									
83											
84	M.	Total Program Cost/SSH: K + L *Formula for column D: =IF(OR(D31<>"",D36<>""),D31+D36,"")									
85	N.	Total Campus Expenditure/SSH: Taken from UH Expenditures Report For example, for 2009-2010: UHM = \$923-131 (organized research) = \$792, UHH = \$682, UHWO = \$501, HawCC = \$408, HonCC = \$505, KapCC = \$316, KauCC = \$703, LeeCC=\$300, Maui CC= \$396, WinCC=\$457									
86	O.	Comparable Program/Division Instructional Cost/SSH: Taken from UH Expenditures Report (http://www.hawaii.edu/budget/expand.html) or campus data, as available. Please note in the space provided, the program used for the comparison.									
87											
88	Rev. 06.12.12										

Appendix D Letters of Support

Programs contacted:

These programs/faculty were contacted because they work in somewhat related programs at UHM or UH Community Colleges.

Dean and Professor Mary Boland/School of Nursing and Dental Hygiene

Director and Professor Kathryn Braun/Office of Public Health Studies

Dept Chair Nathan Murata/Kinesiology and Rehabilitation Science

Lauren Tamamoto/KCC Culinary

Harry Davis/KCC Biochemistry

Asst Professor Treena Delormier/OPHS and HNFAS joint appt

Letters of support:

Kathryn Braun, Director and Professor, Office of Public Health Studies

Iris Takahashi, M.P.H., R.D.N., Chief, Clinical Operations Section, Hawaii WIC Services Branch

Justin Miyashiro, R.D.N., L.D., C.D.E., President, Hawaii Academy of Nutrition and Dietetics

Eva Young, R.D., C.N.S.C., Clinical Nutrition Manager, Kaiser Permanente Medical Center

Lara Hackney, M.S., R.D., General Manager, Food Services and Environmental Services, Wahiawa General Hospital and Aramark Hospitality

January 12, 2016

Halina M. Zaleski, PhD
Specialist and Chair
Human Nutrition, Food & Animal Sciences
College of Tropical Agriculture & Human Resources
University of Hawaii at Manoa
1955 East-West Road, Ag Sci 216
Honolulu, HI 96822

Dear Dr. Zaleski:

Thank you for sharing the proposed Bachelor of Science Degree in Dietetics.
Looks good! Public Health supports moving forward with this proposal.

Sincerely,

A handwritten signature in cursive script that reads "Kathryn L. Braun".

Kathryn L. Braun, DrPH
Professor and Director
Office of Public Health Studies

DAVID Y. IGE
GOVERNOR OF HAWAII



VIRGINIA PRESSLER, M. D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
WIC SERVICES BRANCH
235 SOUTH BERETANIA STREET, SUITE 701
HONOLULU, HAWAII 96813-2419

In reply, please refer to:
File:

January 11, 2016

Halina Zaleski, Ph.D.
Extension Specialist and Chair
Department of Human Nutrition, Food and Animal Sciences
College of Tropical Agriculture and Human Resources
University of Hawaii at Manoa

Dear Dr. Zaleski:

I am writing in support of the change in the University of Hawaii at Manoa's Didactic Program in Dietetics from a Food Science and Human Nutrition (FSHN) degree track to a Dietetic Major.

There are several reasons to separate dietetics into its own major: Currently dietetics is a degree track of FSHN, and this degree track is the accredited program of course work that trains future Registered Dietitian Nutritionists.

With this current designation as a degree track, students are not recognized on their diploma or transcript for completing the Dietetics requirements. Other Dietetics Programs consider Dietetics as a major and the transcript and diploma indicates Dietetics Major.

Dietetics graduates are the largest segment of the annual FSHN graduates. They make up approximately 30 out of 43 annual FSHN graduates and they should be recognized as a separate major from other FSHN students.

As a Dietetics major, dietetics students could get priority seats for required courses such as experimental foods and nutrition counseling. These are required courses for FSHN-dietetics and electives for the other FSHN degree tracks.

When all the FSHN students are under one category, the Department cannot generate student rosters based in degree track. This makes it very difficult to keep records for accreditation. If Dietetics is a stand-alone major, we can easily run reports and keep track of student enrollment.

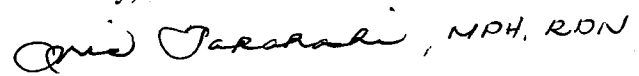
We need to set admission criteria for dietetics to ensure our students are competitive candidates for internships and are prepared for the registration exam. A stand-alone major in dietetics will allow these criteria to remain and also offer the option for competitive admission to dietetics. This would allow FSHN to have different admission criteria that can be applied to all students, in all degree tracks, fairly. The dietetics major would still be housed in the Department of Human

Iris Takahashi, MPH, RDN
January 11, 2016
Page 2

Nutrition, Food, and Animal Sciences, with all of the same access to resources and faculty. The University of Hawaii at Manoa offers the only accredited Didactic Program in dietetics in the State of Hawaii. This program plays a critical role in training future health care professionals. Designating dietetics as its own major will strengthen the program so it can continue to train qualified health care professionals.

The Hawaii Women, Infants and Children (WIC) Services Branch actively supports the University of Hawaii's dietetic students by mentoring student volunteers, undergraduate practicum students and being a preceptor for the University of Hawaii's Individualized Supervised Practice Dietetic Interns. We are in strong support of this change as this will allow Dietetic majors to have priority seats for required courses and be able to graduate on time.

Sincerely,

A handwritten signature in cursive script that reads "Iris Takahashi, MPH, RDN". The signature is written in black ink and is positioned to the right of the word "Sincerely,".

Iris Takahashi, M.P.H., R.D.N.
Chief, Clinic Operations Section
Hawaii WIC Services Branch

January 13, 2016

Halina Zaleski, PhD
Extension Specialist and Chair
Department of Human Nutrition, Food and Animal Sciences
College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa

Dear Dr. Zaleski,

I am writing in support of the change in the University of Hawaii at Manoa's Didactic Program in Dietetics from a FSHN (Food Science and Human Nutrition) degree track to a Dietetic major.

I believe that separating the dietetic students into a Dietetics major will recognize the students who intend to complete a degree in dietetics and distinguish them from FSHN students who are pursuing other career tracks. With the dietetics major, the major designation would allow UH to identify the dietetic students, prioritize their enrollment in required courses and assist them in graduating on time.

Identifying dietetic students will be beneficial to both Hawaii Academy of Nutrition and Dietetics and the program. HAND can provide volunteer and leadership opportunities which will enhance their experiences and build upon their education.

Delaying graduation sometimes causes students to switch majors due to financial or other reasons. Nutrition students who do not complete their dietetic requirements are unable to apply for a post-graduate internship program which is a necessary step to becoming a registered dietitian (RD). RDs are recognized by employers such as hospital systems and government agencies as the nutrition experts and many jobs require the RD title. Not being able to complete the requirements to become a RD will mean limited job and professional opportunities.

As president of HAND, I have worked with UH Dietetics students on Legislative Day at the Capitol and at various community events. They also have attended HAND committee meetings and participated in conferences and workshops. I have found that the UH graduates work well with other professionals and are engaged with the community. I am also a registered dietitian at Kaiser Permanente and am a preceptor for UH dietetic interns who complete their internship requirements in Hawaii. While UH graduates are capable and prepared for the challenges of the internship, these changes will further strengthen the program and give students the recognition that they deserve.

Sincerely,


Justin Miyashiro, RDN, LD, CDE

President, Hawaii Academy of Nutrition and Dietetics

PO Box 22298

Honolulu, HI 96823

email: justinkmi@hawaii.rr.com

January 11, 2016

Halina Zaleski, PhD
Extension Specialist and Chair
Department of Human Nutrition, Food and Animal Sciences
College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa

Dear Dr. Zaleski,

I am a Clinical Nutrition Manager at Kaiser Permanente Medical Center where I've worked for the past 14 years. I am writing to support the change in the University of Hawaii at Manoa's Didactic Program in Dietetics from an FSHN (Food Science and Human Nutrition) degree track to a Dietetic Major.

Offering a Dietetic Major will assist those students interested in a career in dietetics to better achieve their goals – improved ability to obtain required courses and better recognition when applying for dietetic internships with a major consistent with other universities. I support having the ability for more competitive admission criteria when selecting a major in dietetics that this will provide.

In my current position, I hire and oversee our clinical dietitians at our hospital. We have precepted many University of Hawaii dietetic students and interns, and fully support the optimal education and training of these students/interns. There is increased recognition and integration of medical nutrition therapy in patient care, including diabetes management and renal disease as examples. Having well qualified dietitians, with strong didactic training as well as cultural competence, is critical to meet healthcare needs throughout our State.

Designating a major in Dietetics will strengthen the program and better meet Hawaii's future healthcare needs.

Sincerely,



Eva Young, RD, CNSC
Clinical Nutrition Manager
Kaiser Permanente Medical Center
3288 Moanalua Road
Honolulu, HI 96819
Ph (808)432-8655
Eva.M.Young@kp.org

January 11, 2016

Halina Zaleski, PhD
Extension Specialist and Chair
Department of Human Nutrition, Food and Animal Sciences
College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa

Dear Dr. Zaleski,

I am writing in support of the change in the University of Hawaii at Manoa's Didactic Program in Dietetics from an FSHN (Food Science and Human Nutrition) degree track to a Dietetic Major.

There are several reasons to separate dietetics into its own major:

Currently dietetics is a degree track of FSHN (Food Science and Human Nutrition), and this degree track is the accredited program of course work that trains future Registered Dietitian Nutritionists.

With this current designation as a degree track, students are not recognized on their diploma or transcript for completing the Dietetics requirements. Other Dietetics Programs consider Dietetics as a major and the transcript and diploma indicates Dietetics Major.

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As a Dietetics Major, dietetics students could get priority seats for required courses such as experimental foods and nutrition counseling. These are required courses for FSHN-dietetics and electives for the other FSHN degree tracks.

When all the FSHN Students are under one category, the Department cannot generate student rosters based in degree track. This makes it very difficult to keep records for accreditation. If Dietetics is a stand-alone major, we can easily run reports and keep track of student enrollment.

We need to set admission criteria for dietetics to ensure our students are competitive candidates for internships and are prepared for the registration exam. A stand-alone major in dietetics will allow these criteria to remain and also offer the option for competitive admission to dietetics. This would allow FSHN to have different admission criteria that can be applied to all students, in all degree tracks, fairly.

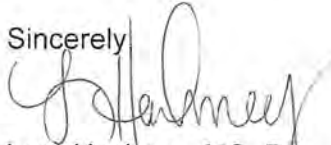
The dietetics major would still be housed in the Department of Human Nutrition, Food, and Animal Sciences, with all of the same access to resources and faculty. The University of Hawaii at Manoa offers the only accredited Didactic Program in Dietetics in the state of Hawaii. This program plays a critical role in training future health care professionals. Designating Dietetics as its own major will strengthen the program so it can continue to train qualified health care professionals.

I have had the pleasure of mentoring graduates in Food Services from The University of Hawaii (UH) at Manoa Dietetics through the Internship program hosted by UH. These interns have

been well prepared and ready for the demands of the program with successful outcomes from the program. The interns have been working in our local area to support the need for Dietitians and giving back to the State of Hawaii.

Making the program more available for local students seeking to become Dietitians will increase our outcomes to assist in filling positions in the workforce. The need for Dietitians in the Food Service division is high and with the attraction of a separate major it may be the ticket for success. Please strongly consider this opportunity.

Sincerely



Lara Hackney, MS, RD

General Manager of Food Services and Environmental Services at Wahiawa General Hospital

Aramark Hospitality

128 Lehua St.

Wahiawa, HI 96786

Presented to the CTAHR Faculty Senate on February 8, 2016

**Resolution Supporting CTAHR Faculty Senate Instruction Committee
Recommendation on TPSS/PEPS BS merger**

Whereas, CTAHR administration sent the proposed TPSS/PEPS BS merger to CTAHR Faculty Senate Executive Committee for endorsement in November 2015 as a courtesy to the senate; and

Whereas, CTAHR administration indicated this merger would occur with or without CTAHR Faculty Senate endorsement; and

Whereas, the CTAHR Faculty Senate Instruction Committee reviewed the proposal and provided written recommendations; and

Therefore, be it resolved that the CTAHR Faculty Senate supports the written recommendations from the CTAHR Faculty Senate Instruction Committee; and

Therefore, be it further resolved that the CTAHR Faculty Senate urges CTAHR Administration and the TPSS and PEPS departments incorporate these recommendations in the merged program.

Endorsed by CTAHR Faculty Senate, 20 in favor, 0 opposed, 0 abstain (2/8/16)

Instructional Committee of the CTAHR Faculty Senate

Summary of meeting on the Proposal to merge the Undergraduate program of PEPS AND TPSS; A letter provided by Dr. Russell Yost and Dr. Mark Wright was used to guide our discussion (attached).

These are suggestions that are made by the committee:

- 1) For the new track being proposed, revise the term “Invasive Species Management” to “Invasive Species Sciences”
- 2) The group that has proposed this merger should consider other subjects that would make this program more attractive to larger number of students, nationally and internationally. These include Sustainable Pest Control, Food Security in Hawaii and elsewhere, Island Ecosystems and Watersheds, Increase in Invasive Species invading the islands, etc. This is a good opportunity to invigorate both departments, and think “outside the box”. Develop new, innovative programs and advertise them.
- 3) Under the proposed changes the new cores are:
 - A) Plant production and management,
 - B) Plant Genetics
 - C) Tropical Landscape horticulture

D) Environmental Soil Sciences

E) Invasive Species Sciences (our suggestion)

4) The committee believes this is an opportunity to make an exciting program of the subjects covered in both departments. A program that we can promote nationally and internationally. This will greatly increase our student numbers. We should also consider some courses in NREM and Food Sciences. There is strong demand for students who want to come to the UH from China and Japan. Many could be self supported or come on international grants from their home countries.

5) PEPS 210, which is the Introductory Environmental Sciences course is not listed in the new core. It should be. It is the only course in basic environmental science concepts and it is one of the main subject area of our PEPS department.

6) In our PEPS department the main pillars were Plant Pathology, Entomology, Environmental Sciences, Pesticide Education and Weed Sciences. These disciplines are represented by our faculty. Going forward we need to be sure that our educational program is focused on all aspects of the department. Or instance, perhaps a course in Pesticide Education is needed. It could cover how new pesticides are developed, the high cost of testing and the types of testing done before new pesticides are released, the efficacy of the

pesticides, basic biochemistry of the pesticides, etc. It should cover herbicides, fungicides, insecticides, and molluscicides.

7) Students in our department have found employment at Monsanto, Syngenta, Pioneer, and other large companies. They also work at the State agencies such as the Department of Agriculture and the National Resource Conservation Programs, as well as in the federal government such as USDA, and other Federal programs such as APHIS. Our students are uniquely trained in Microbiology, Plant Pathology, Molecular Biology, Entomology, and in Environmental Science Concepts.

Instruction Committee:

Janice Uchida Chair

Cathy Chan

Jian-Banna

Eun Sung Kan

Alvin Huang

Ju-Young Kang

Mioaying Tian

Note: Dr. Tian noted that “Island ecosystems and Watersheds” are not part of the PEPS or TPSS departments. However it is a crucial part of Environmental Sciences, as is global warming and climate change. These open huge funding resources. And has

direct bearing on crop production and health issues as insect spread globally and serve as vectors to human diseases. Many islands are sinking because of sea level increases and the land is being contaminated with salt.

UNIVERSITY OF HAWAII AT MĀNOA

College of Tropical Agriculture and Human Resources
Department of Tropical Plant and Soil Sciences

FROM: Dr. Russell Yost,
Chair, Department of Tropical Plant and Soil Sciences
AND
Professor/Extension Specialist Mark Wright
Chair, Department of Plant and Environmental Protection Sciences

RE: Changes to the existing Bachelor of Science in Tropical Plant and Soil Sciences

SPECIFIC ACTION REQUESTED:

Approve proposed changes to the existing Bachelor of Science in Tropical Plant and Soil Sciences, specifically the inclusion of an additional track in Invasive Species Management.

RECOMMENDED EFFECTIVE DATE:

Beginning of Fall Semester 2016

BACKGROUND:

The Department of Tropical Plant and Protection Sciences currently offers a Bachelor of Science degree in Tropical Plant and Protection Sciences (TPSS) that has four tracks: plant production and management, plant genetics and physiology, tropical landscape horticulture, and environmental soil sciences. Students in this program of study complete a common core of classes and then select one of the four areas of specialization.

The Bachelor of Science in Plant and Environmental Protection Sciences (PEPS) requires many of the same classes for students as the TPSS program and many of the required and optional classes are cross-listed as offerings of both Departments. Both these programs have low annual graduation rates, ca 5-11 students per year.

In response to an external College review and internal strategic planning effort, the Faculty of both Departments have met and agreed upon the following changes to the TPSS BS program that will occur concurrently with a proposed discontinuation of the PEPS BS program. The proposed changes have been discussed with both Departments.

PROPOSED CHANGES

The Bachelor of Science in Tropical Plant and Protection Sciences will have a common core of classes and five areas of specialization: plant production and management, ~~plant genetics and physiology, tropical~~ landscape horticulture, environmental soil sciences, and invasive species management (ISM). This revised curriculum uses existing courses and requires no new course
Sciences, Plant Protection Sciences;

(Hort) Sciences

approvals. The proposed change should not impact any other academic programs at UHM/UH besides TPSS and PEPS.

Changes to the Common Core

The common core of classes will be similar to what is already required by the TPSS program. Only 6 additional credits in two classes will be required: (TPSS/PEPS 499 and Biology 265). The total credit requirement for the common core will be 21 credits.

Existing TPSS Core

TPSS 200	3 credits	Tropical Crop Science
TPSS 304	4 credits	Fundamentals of Soil Science
PEPS 421	4 credits	Foundations of Pest Management
TPSS 470, 470L	4 credits	Plant Physiology and Lab

Exciting & Unique

New Core inclusions

Biology 265	3 credits	Ecology and Evolution
TPSS/PEPS 499	3 credits	Directed Research

Changes to Existing Specializations

The existing specializations in the TPSS program will have no change.

Inclusion of a New Specialization

The inclusion of a new specialization, invasive species management, will attract students to the TPSS program who would have otherwise been enrolled in the Bachelor of Science in PEPS (which we will request approval to discontinue) and provide greater cohesion in instruction in an important human endeavor. The students in the ISM specialization will complete the following required classes (20 credits).

PEPS 350 Invasive Pest Species

PEPS 363 General Entomology

PEPS 363 L General Entomology Laboratory

PEPS 405 Plant Pathogens and Diseases

PEPS 422 Biocontrol of Invasive Species

PEPS 430 Plant Disease Management

PEPS 481 Weed Science

Students in the ISM specialization will also complete **12 credits** from the following selection of courses:

PEPS 310 Environment and Agriculture

PEPS 371 Genetics: theory to application

PEPS 410 Sustainable Plant and Soil Health Management

PEPS 418 Turfgrass pest management

PEPS 451 Environmental Law

PEPS 463 Urban pest management

PEPS 486 Insect Microbe Interactions

GEOG 388 Introduction to Geographic Information Systems

With the required classes and the additional 12 credits, the ISM track will require completion of **32 credits**.

Thus the requirement for a student in the ISM specialization of the TPSS program will be

21 common core (15 upper division)

32 specialization (32 upper division)

53 total credits (47 upper division)

Students will complete the CTAHR required courses and meet all other University general education and requirements as specified including a minimum of 120 total credits for graduation. A sample program sheet is attached for the revised TPSS program with an ISM specialization and sample program sheets for the other specializations with the minor revisions and additional core courses.

Program Administration

The TPSS program will be jointly administered by Faculty of both TPSS and PEPS Departments including approval of any program changes, course approvals, deletions etc. A set of By-Laws will be drafted to define the administration.

Expected Outcome of Proposed Changes

Implementation of the proposed changes will increase the enrollment and graduation rates in an existing BS program and meet an existing and projected need for graduates with explicit training in invasive species management for plant production and environmental protection.

RECOMMENDED ACTION:

Approval of the inclusion of an additional area of specialization, invasive species management, in the TPSS BS program and additional minor program changes as indicated.

APPROVED:

DATE: _____

DATE: _____

CAFNRM Faculty Senate

RESOLUTION: Regarding UH Hilo College of Agriculture, Forestry and Natural Resource Management and UH System-Wide discussions of Agriculture Priorities

UH Hilo College of Agriculture, Forestry and Natural Resource Management (CAFNRM) Faculty Senate would like to initiate formal discussions, pursuant to a request from UH Hilo CAFNRM Dean Mathews and UH Manoa College of Tropical Agriculture and Human Resources (CTAHR) Dean Gallo, to consider ties with CTAHR regarding courses, research, and extension and the articulation of agreements, as well as possible merger and reorganization.

Approved by the CAFNRM Faculty Senate on **_January 15th_ 2016** by vote of:

10 yes, _0_ no, _0_ abstain

In attendance for the vote:

Chris Lu, Lorna Tsutsumi, Marcel Tsang, Shihwu Sung, Armando Garcia-Ortega, Yiqing Li, Michael Shintaku, Jesse Eiben, Kevin Hopkins, Norman Arancon

Also in attendance: Dean Bruce Mathews

Certified by Jesse Eiben – CAFNRM Faculty Senate Secretary



Uses and Needs of Experiment Stations (survey results)

J. Kenneth Grace <kennethg@hawaii.edu>

Wed, Feb 3, 2016 at 2:23 PM

To: Koon-Hui Wang <koonhui@hawaii.edu>

Cc: "Sewake, Kelvin" <ksewake@hawaii.edu>, "Leary, James" <leary@hawaii.edu>, "Jha, Rajesh" <rjha@hawaii.edu>, "Gallo, Maria" <gallom@ctahr.hawaii.edu>

Hi Koon-Hui,

I apologize for not getting back to you more rapidly. I went through the report carefully, and certainly share the concerns of the respondents (and appreciate their interest in the stations), and do not disagree with the suggestions. Here's a few clarifications that might be helpful to everyone:

1. The condition of Experiment Stations is a major national concern right now (by no means is the concern limited to Hawaii). In fact, the APLU commissioned a national survey of their condition, and the results have been supplied to USDA NIFA with a strong recommendation that NIFA find a means of making funds available for repair, maintenance and construction. CTAHR participated in supplying data on all of our stations for that national survey. NIFA Director Sonny Ramaswamy expressed support for USDA funding repairs prior to the survey being finished. However, the price tag of \$7 Billion nationally that resulted from the survey (and this may well be an underestimate) is very challenging. I spoke with Sonny about this recently, and he does not know how to proceed at this point, since any funding that NIFA can make available will literally be a drop in the bucket with a need for \$7 billion. I believe he still wants NIFA to help, but I do not know when or how this will happen. Be that as it may, this is a national problem and a huge concern to all the Experiment Station directors. I have attached both a brief summary of key points from the national survey, and the full report for your information.

2. The Stations are part of UH Manoa, and this past year (for the very first time), we were successful in convincing Manoa to take responsibility for their deferred repairs and maintenance (R&M). This means that our stations are now on the list of necessary Manoa projects. In addition, Manoa released a small amount of money to CTAHR for this purpose, and we were told they will release another small amount each fiscal year. The first funds were slotted to get us a better survey of the actual needs at the stations, but unfortunately had to go to repairs at Komohana instead (I know it isn't a station, but it fell under these particular funds). I am hopeful we can slowly use this Manoa funding to start whittling away at the problem. In addition, if the legislature chooses to provide funds this year or next year to UH for deferred R&M, we may well benefit to some extent.

3. The college unfortunately has no funds on our own that can be used for this purpose. I realize that many faculty said that CTAHR must invest in station repairs, but that presumes we actually have money to invest, and the reality is that we do not. There is a possibility I may be able to use Hatch funds for some specific repairs, but it's challenging due to the Federal restrictions, and the difficulty of doing this in a timely fashion due to the UH and State requirements. I am continuing to pursue this, though.

I hope this is helpful to inform everyone of the full picture here. I really appreciate your concern, and the efforts of the committee. We will continue to work together on this.

Aloha,

Ken



J. Kenneth Grace, PhD

Associate Dean and Associate Director for Research

College of Tropical Agriculture and Human Resources (CTAHR)

University of Hawaii at Manoa

Email: kennethg@hawaii.edu

3050 Maile Way, Gilmore 202

Phone: 1 (808) 956-8131

Honolulu, Hawaii 96822-2271

Fax: 1 (808) 956-9105

Office Website: <http://www.ctahr.hawaii.edu/research>

Personal Website: <http://tinyurl.com/123Grace>

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2 attachments

A-National-Study-of-Capital-Infrastructure-Deferred-Maintenance-at-Schools-of-Agriculture-Final.pdf
1790K

APLU Sightline Capital Infrastructure and Deferred Maintenance Report Summary Nov 2015.pdf
600K



A National Study of Capital Infrastructure & Deferred Maintenance at Schools of Agriculture

Supported by the Board on Agriculture Assembly of the Association of Public and Land-grant Universities (APLU)

October 15, 2015



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Sightlines LLC
405 Church Street, Suite 2
Guilford, CT 06437

James A. Kadamus, Vice President
Peter Reeves, Associate Director
Rebecca Cavalier, Senior Analyst

Foreword

The state of campus infrastructure to conduct 21st century research and education is an evermore frequent topic of discussion among campus administrators. The high cost of repairs coupled with a need for capital renewal to address aging facilities continues to add to a growing serious backlog of deferred maintenance needs and if not addressed can seriously impinge upon the ability of institutions to meet their mission mandates. This has been a topic of increasing concern to agricultural administrators as it strives to position the work of its faculty to meet the global challenges before the world.

While individual institutions may have conducted comprehensive facility reviews, there has been no effort to assess the situation from a national perspective. Consequently, the Board of Agriculture Assembly of the Association of Public and Land-grant Universities contracted with Sightlines, LLC to conduct a study which would provide a national overview of deferred maintenance in public agricultural colleges.

The study undertaken was not designed to encompass all public institutions with research and education programming in agriculture and related sciences. Rather a concerted effort was made to include a majority of the land-grant universities along with a representative sample of non-land-grant institutions with agricultural programming. We believe that this was achieved with the ninety-one institutions participating and the diversity among them.

The study results confirm the suspected magnitude of the problem which must be addressed if our institutions are going to continue to be able to deliver the high quality programming that is at the cutting edges of the science and education enterprises. While specific strategies to address this issue are suggested, it is also clear that the responsibility to ameliorate it resides with no single entity, but rather a coalition of efforts and actors.

Ian L. Maw
Vice President, Food, Agriculture and Natural Resources
Association of Public and Land-grant Universities

Acknowledgements

We would like to thank a number of people for their contributions to the set up and execution of this report. We would like to thank Dr. Ian Maw for his guidance and coordination during this process. In addition, we would like to thank the Executive Directors: Dr. Carolyn B. Brooks, Ronald A. Brown, Dr. H. Michael Harrington, Dr. Jeff Jacobsen, Dr. Daniel Rossi, and Dr. Eric Young. We would like to thank the steering committee, which included Dr. Greg Cuomo (University of Minnesota – CFANS), Pam Elliott-Cain (Iowa State University), Stewart Harvey (University of Maine), Christopher Kopach (University of Arizona). And finally, we would like to thank the 91 participating institutions for taking the time to complete the data submission to make the report as comprehensive as possible.



Section 1: Introduction

Agriculture is Big Business in the U.S. and We Feed the World

Agriculture and agriculture related industries contribute nearly \$800 billion in gross domestic product in the U.S., about 5% of the economy, which is an increase from just over \$600 billion in 2006. Almost 17 million full- and part-time jobs are related to agriculture, or about 9.2% of all U.S. employment.

Food amounts to 13% of all U.S. household expenditures. And while U.S. agriculture feeds our nation, food exports have doubled from 2006 to 2014 and the trade surplus in agriculture products has increased to nearly \$40 billion in 2014.¹

The Challenge of Productivity

While agriculture and agriculture related business grows, the U.S. is doing more with less. In 1935, there were 6.8 million farms; today, there are 2.2 million. Recent drought in the Midwest has negatively impacted livestock production. Long-term drought in California, which produces 11% of all U.S. agriculture products, threatens production.²

Despite production and climate challenges, U.S. food productivity continues to rise. Crop yields have steadily increased. Milk production has increased 50% since 1980.³ A combination of research, education and extension services funded by the U.S. Department of Agriculture (USDA) has provided answers to productivity questions and assisted the agriculture and agriculture related industries to thrive in the U.S.

National Institute of Food and Agriculture (NIFA)

NIFA is an entity created by the 2008 Farm Bill within USDA to fund research, education and extension services in a wide range of scientific fields related to agriculture. NIFA provides about \$1.5 billion annually through grants to “invest in and advance agricultural research, education, and extension to solve societal challenges.”⁴ The vast majority of these funds go to colleges and universities in support of programs and the emerging workforce in every state.

Increasingly, NIFA senior leadership is concerned about how the condition of agriculture and agriculture related facilities on campuses is negatively impacting the research being funded. As NIFA’s Director Dr. Sonny Ramaswamy stated “we are conducting 21st century cutting edge research in 1950s and 1960s buildings on university campuses.”⁵ Despite USDA authorization for funds to support agriculture related facilities, no federal money has been appropriated in recent years.

1 U.S. Department of Agriculture Economic Research Service, Agriculture and Food Statistics “charting the Essentials” website 2015

2 Ibid.

3 Ibid.

4 U.S. Department of Agriculture, National Institute of Food and Agriculture website 2015

5 Interview with Dr. Sonny Ramaswamy conducted by James Kadamus, Sightlines LLC in pre-study briefing, fall 2014.

Association of Public and Land-grant Universities (APLU) and NIFA

There is a long-term historical relationship between USDA and its agencies such as NIFA and APLU, a research, policy and advocacy organization dedicated to strengthening and advancing the work of public universities in the U.S., Canada and Mexico. APLU, through the Board on Agriculture Assembly (BAA), advocates yearly on behalf of agricultural research, extension, and education funding and works closely with NIFA leadership.

In 2014, Dr. Ramaswamy introduced James Kadamus, Vice President of Sightlines LLC (a national consulting firm that advises over 450 colleges and universities on managing and funding their campus facilities) to APLU staff and leaders of the Board of Agriculture Assembly to discuss strategies to document the condition and deferred maintenance growth in agriculture and agriculture related facilities on campuses being funded by NIFA. The goal was to fund a study to understand the capital infrastructure and condition of facilities and to determine the level of deferred maintenance across the U.S. agriculture campuses.

After discussion, Sightlines presented a proposal to APLU's Board of Agriculture Assembly to be funded through support from participating campuses. The proposal was approved and work began on the study in March 2015.

Study of Capital Infrastructure and Deferred Maintenance at Schools of Agriculture Facilities (Including land grant and non-land grant institutions)

In the study, Sightlines uses a methodology that includes a survey of 91 colleges and universities accompanied by a comprehensive building by building inventory of agriculture and agriculture related space and detailed reports on deferred maintenance in those buildings. Sightlines also applies statistical models to validate the information provided by the participating campuses using a detailed proprietary database of over 1.5 billion gross square feet (GSF) of space collected from over 450 United States colleges and universities. This validation methodology ensures consistency in reporting across campuses that may have used different methodologies to calculate deferred maintenance on their individual campuses. (The validation methodology is detailed in Section 2 of this report).

Why Study Deferred Maintenance? Why is it a Problem?


Sightlines has recently produced a number of studies and analyses of the growing backlog of deferred maintenance on college and university campuses in the U.S. and Canada.⁶ We have identified key drivers of this growth and also identified some of the impacts, including increased operating costs, building failures, negative impacts on research and unhappiness among faculty and students who occupy the buildings.

Our research has identified the following key drivers of the backlog of deferred maintenance:

- **When buildings were constructed and renovated.** The year a building was constructed can tell us a lot about the characteristics of that construction. Sightlines' database identifies 1960-1975 as an era when large amounts of new construction occurred at universities to accommodate an influx of new students and to support growing federal government investment in research. The amount and speed of construction during

⁶ Sightlines reports "The State of Facilities in Higher Education: 2014 Benchmarks, Best Practices & Trends," www.sightlines.com/insight/state-of-facilities-2014/, and "Deferred Maintenance at Canadian Universities: A 2014 Update," www.sightlines.com/sightlines-dm-study-published-by-caubo/





this era led to poor construction quality buildings. Unless renovated, all of this space has already come due for renovation or will come due between 2015 and 2025. In addition, we have identified a period from 1995-2015 as a second wave of major space construction.

- **Age profile of campus facilities.** The distribution of space across age categories is a critical driver of deferred maintenance. Our research has determined that there are definitive points in time when the life cycles of building mechanical systems, building envelope and interior space come due and need to be replaced or updated. When too much space is concentrated in a specific age category, such as between 25-50 years old, campuses are challenged to find the money to fix everything that is coming due. In this situation, campuses often postpone renovation and defer necessary maintenance to a later date.
- **Level of capital investment.** Sightlines defines capital investment in two forms: annual stewardship and asset reinvestment. Annual stewardship is the funding the cost of ensuring that buildings will perform properly and building components will reach their useful life. We call this the cost of “keeping-up.” Asset reinvestment is the funding the cost of addressing accumulated the backlog of repair and modernization of buildings — or “catch-up” costs. When campuses allocate adequate resources to keep-up as building life cycles come due, they defer fewer projects to their backlog and need less money to catch-up. When annual stewardship declines and campuses do not keep-up with life cycles, the amount of deferred projects increase. Research has confirmed that the “cost of waiting” to address critical life cycles projects can result in future costs for deferred maintenance that are double or triple the original project costs.

The data collected through the survey of schools of agriculture institutions and the accompanying building inventory and deferred maintenance data enables Sightlines to examine these drivers of deferred maintenance and identify the root causes of deferral. We will provide details on each of these drivers in Section 3 and put the data into context in Section 4.

But what are the risks of a growing problem of deferred maintenance? Is Dr. Ramaswamy right that buildings in poor condition can impact the quality of research and even result in failure of experiments? In prior studies, Sightlines has documented that significant failure of building systems, such HVAC and electrical systems that can impact temperature controls within buildings and cause experiments to fail. We have previously documented incidents of roof failures that resulted in water damage to the building and to research projects. At the very least, these failures can cause delays in research work and add extra costs in personnel time and in cost of mitigation. At worst, we are entering an era when the condition of facilities will limit our ability to conduct world class research that is needed to keep our leadership edge in the agriculture industry.

This increasing risk and cost of building and system failure is why we must better understand the size of the deferred maintenance problem and the root causes. Only then will we be able to develop strategies that address the root causes and drivers of the problem.

Section 2: Study Methodology, Respondent Profile and Validation Process

This study includes only buildings and supporting facilities at schools of agriculture that are authorized to receive USDA funding if it were to be appropriated. The analysis focuses on education, research, and extension buildings related to agricultural programs. Some building types were included in the study, while others were excluded. Examples of included building types are: Animal Sciences, Veterinary Schools, Environmental Studies, Food Science, Plant Science, Forestry, Entomology, Coastal and Marine Science, Natural Resources, Textile and Clothing, Agriculture and Resource Economics, extension sites, off-site farms and research stations. Examples of buildings that were excluded from the analysis are: leased space with minimal to no capital improvement responsibility, residences that are rented out to non-university personnel, off-shore sights such as boats and platforms, utility plants, wind and solar farms, and animal care facilities that are not used for research or teaching purposes.

Sightlines conducted several webinars to introduce the study to participating institutions. Each participant provided Sightlines with a building inventory and completed a survey with additional questions. These items are further explained below. The participants could also submit a deferred maintenance study, if applicable. Sightlines contacted the campuses directly with any follow-up questions.

Building Inventory

The institutions were asked to complete a standardized building inventory template created by Sightlines. They were asked for the following information for each included building:

Name – Building Name

Size – Building size measured in Gross Square Feet (GSF)

Building Function – The main usage of the space such as: Classroom/Teaching, Science Research, Extension, Farm/Animal Buildings, Greenhouses, and Support. (For definitions of these functions please see Appendix A)

Building Type – The technical complexity of the space. The options for this section were: Small, Non-Utility, Simple, Basic, and Complex. (For definitions of these types please see Appendix A)

Construction Year – Date of the original construction of the building

Renovation Year – Date of the most recent major renovation of the building (if applicable). The definition used for a major renovation to a building was “A large-scale renovation that cost at least 50% of the building’s replacement value and/or the scope of which involved work done on at least 50% of the building’s various components.”

Percentage of building included in analysis – Percentage (0-100) of the GSF that met the criteria of a building that is included in the analysis.

After receiving the building inventory documents from the institutions, we reviewed them for missing information and looked for anything outside of normal ranges. We reached out to the campus contact at the institutions to ask follow-up questions to gain clarity, ensure data is consistent, and fill in missing data.



Survey

A survey, administered by Sightlines, was used to collect the building inventory information as well the additional information listed below from each institution:

Deferred Maintenance Study – The institutions were able to upload documents containing deferred maintenance information from studies that have been done either internally or by an outside vendor.

Capital Investment Level – The institutions were asked to estimate the level of capital spending on their agricultural facilities over the past five years. This estimate was only for existing buildings; spending on new construction was not to be included in the estimate. The options they could choose from were: Low (Under \$1.00/GSF), Low-Medium (\$1.00 - \$2.50/GSF), Medium-High (\$2.50 - \$5.00/GSF), and High (\$5.00+/GSF).

Creating the Database

Sightlines compiled all of the data we received from the building inventories and from the additional survey questions into one large database. We used a consistent methodology when processing and classifying this information. When the campus did not have a deferred maintenance study, Sightlines used the building information and capital spending estimates to calculate a deferred maintenance number for each building, which we call the backlog estimate. These estimates are based off of our database of deferred maintenance studies that Sightlines has conducted on more than 100 campuses. This deferred maintenance calculation was not done for buildings in which we received a deferred maintenance estimate from the institution.

Respondent Profile

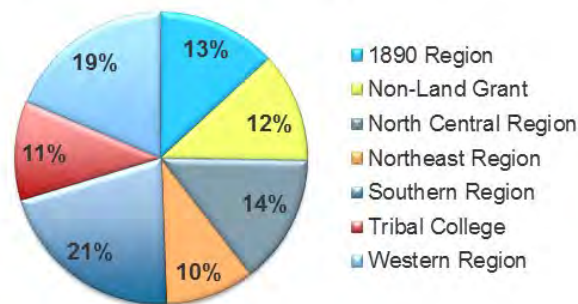
Of the 101 institutions that were asked to participate in this study, 91 institutions provided their information to be included. The result is a 90% participation rate. Appendix B provides a full list of participants.

The study includes 15,596 buildings comprising more than 87 million gross square feet (GSF). Sightlines calculates that these buildings have a current replacement of \$29 billion.

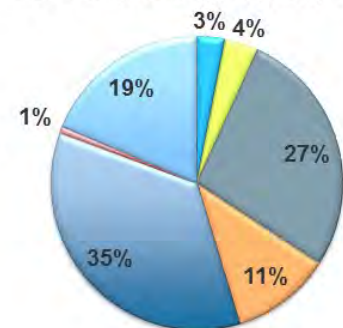
The institutions were split into seven regions: North Central, Northeast, Southern, Western, 1890 land-grants, 1994 Tribal land-grant Colleges, and Non-Land-grant universities with agricultural programs. Collectively they are referred to as the schools of agriculture in this report. The North Central Region has 3,163 buildings roughly 24 million GSF. The Northeast Region has 1,244 buildings making up 9.7 million GSF. The Southern Region has 7,223 buildings comprising 30.9 million GSF. The Western Region has 3,104 buildings and 16.4 million GSF. The 1890 Region has 292 buildings and 2.7 Million GSF. The Tribal Colleges Region has 83 buildings which consist of 0.7 Million GSF. The Non-Land Grant Region has 487 buildings and 3.3 million GSF.

The scope and breadth of this study makes it the largest and most comprehensive study of U.S. schools of agriculture research, academic and support facilities ever completed.

Campuses Responding by Region



GSF Responding by Region



Section 3: Summary of Findings

Total Deferred Maintenance Backlog

Utilizing the building level data supplied by each institution, and applying Sightlines' methodology for estimating the deferred maintenance backlog, the total deferred maintenance figure was determined to be \$8.4 billion. Sightlines calculates that the total replacement value of these buildings to be \$29 billion.

There were approximately 10 institutions that have completed studies of the deferred maintenance on their campus. In those circumstances, after validating the estimates, Sightlines utilized the provided figures rather than the Sightlines generated estimate. These provided figures account for \$656 million of the \$8.4 billion total (or less than 10%).

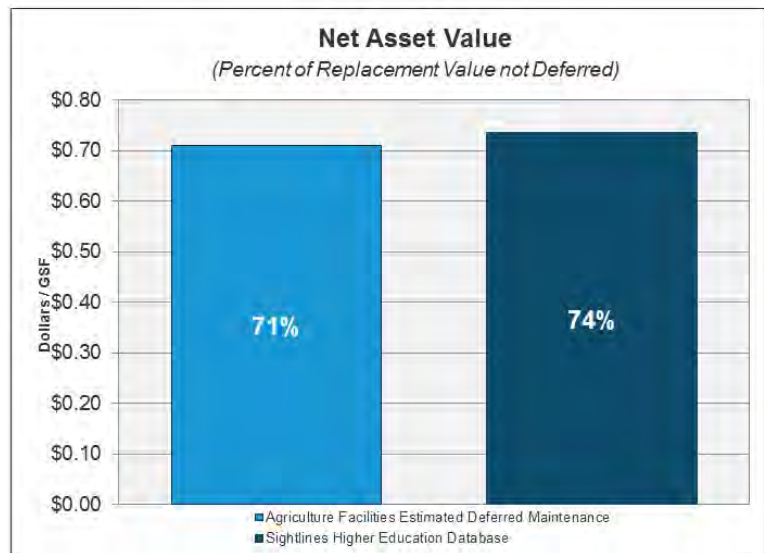
It is helpful to analyze deferred maintenance per gross square foot (GSF) as a way to normalize the number and develop a benchmark that can allow for additional context by comparing individual institutions or regions to it. The figure of \$8.4 billion equates to a \$95/GSF figure. Our national research has shown that when deferred maintenance backlogs reach \$100/GSF, failures in building systems are more likely and the campus maintenance becomes more reactive than proactive. Facilities at schools of agriculture are very close to the critical \$100/GSF number.

To put this number in context, Sightlines compared deferred maintenance to the replacement value of a facility, creating what Sightlines calls the Net Asset Value (NAV).⁶ During the study, we found a wide range of buildings at the schools of agriculture from simple barns to greenhouses to classrooms to highly complex and sophisticated research facilities. These buildings varied in terms of replacement value and this can have an impact on the deferred maintenance calculation. For example, simpler buildings cost less and can have a lower amount of deferred maintenance per GSF.

We examined the NAV for the schools of agriculture facilities versus Sightlines total public university database. The schools of agriculture have a NAV

Highlights of Key Findings

- \$8.4 billion in total deferred maintenance
- Replacement value of these buildings is \$29 billion.
- \$95 per gross square foot deferred maintenance (Sightlines believes \$100/GSF is a critical level when system failures become more likely)
- 71% Net Asset Value (NAV), or percent "good" of campus facilities
- \$6.7 billion in deferred maintenance in facilities over 25 years old



⁷ Net Asset Value or NAV is defined as the current replacement value of the campus minus the backlog of deferred maintenance divided by the current replacement value. Therefore, it is an expression of the percentage "good" of the campus or set of buildings being assessed.



of 71%, whereas the public database is above 74%. This means that nearly 30% of the value of the schools of agriculture facilities is lost to deferred maintenance and that decline in value will accelerate unless the deterioration is addressed soon. It also means that on the same public university campuses the schools of agriculture facilities have greater needs relative to other buildings on campus, although the numbers suggest serious deferred maintenance problems across the entire campus.

With more than \$8 billion in deferred maintenance identified, it is important to understand how various factors have contributed to this significant need and to determine the likelihood that it will grow in the future.

Analysis of Age Profile and the Impact the Deferred Maintenance Figures

As discussed in the introduction, campus age affects the deferred maintenance profile in two ways: first, the eras of construction, and second, the number of major renovations that have occurred. The following chart shows when buildings were constructed using the full Sightlines database of 1.5 billion GSF (the blue area) and then mapping the 87 million GSF for the schools of agriculture facilities. We see very similar trends in both data sets – a high percentage of the building square footage constructed between 1955-1975 and then a second wave of construction from 1995-2015. The only difference in the data set is that the schools of agriculture began the first wave of construction in 1950 versus 1955 and there is also a small period of rapid growth in the late 1980s to early 1990s.

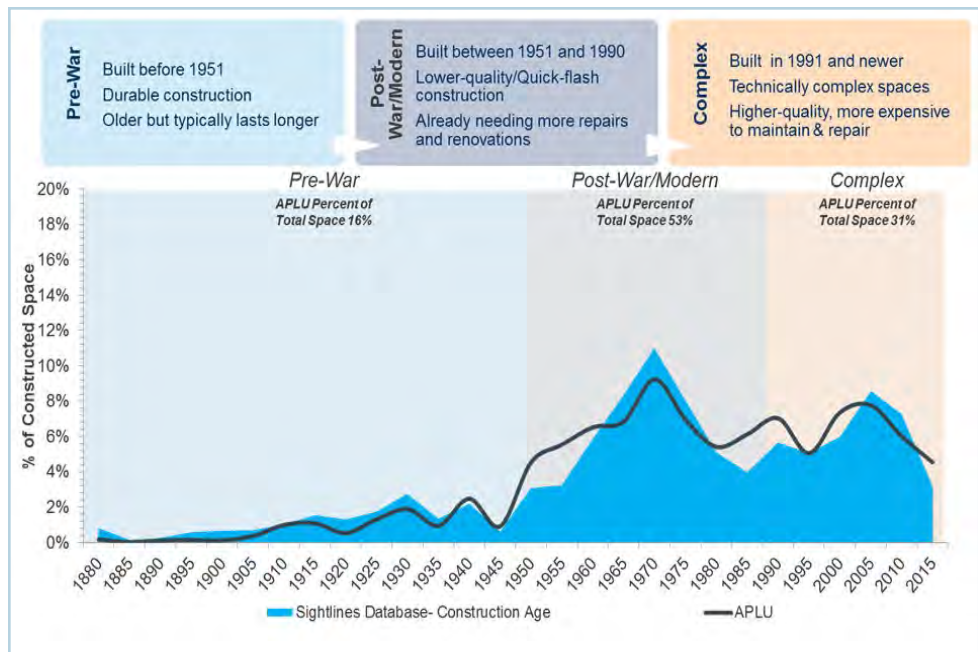
Schools of agriculture face two major challenges:

- renovating buildings from the 1950-1975 era with aging systems, and
- maintaining the facilities constructed in the modern and complex eras.

These data mean that schools of agriculture facilities are facing two major challenges:

- renovating aging buildings with building systems that are overdue for replacement from the 1950-1975 era that now are at or approaching 50 years old
- maintaining and keeping up with new more modern facilities constructed from the late 1980s to today.

The competing challenges of these two sets of buildings for capital funding is real and can often freeze decision making. There is simply not enough money to do both. Do I focus on keeping up newer buildings and allow the older buildings to deteriorate? Or do I focus on renovating the older buildings and risk not doing the proper maintenance and system replacement on newer more technically complex buildings?



Construction Vintage

Sightlines has observed that building quality varies significantly depending on when a building was built. Specifically, we see four eras of construction: pre-war (before 1950); post-war (1951 – 1975); modern (1975 – 1990); and complex (after 1990). The two eras that represent the lowest quality construction are the post-war and modern eras, where we have found that buildings were constructed quickly and with lower quality standards/materials. This has important implications for deferred maintenance profile, as facilities built during eras of lower quality construction tend to accumulate deferred maintenance at a much faster rate. Many of these buildings are reaching the end of their useful life sometime in the next 10 years (if they haven't already).

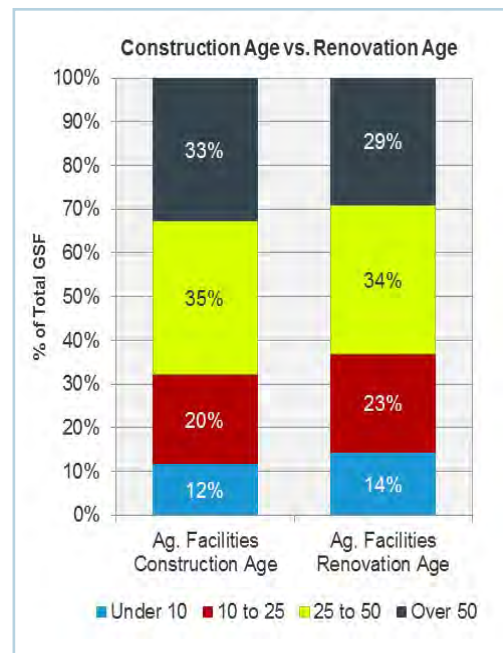
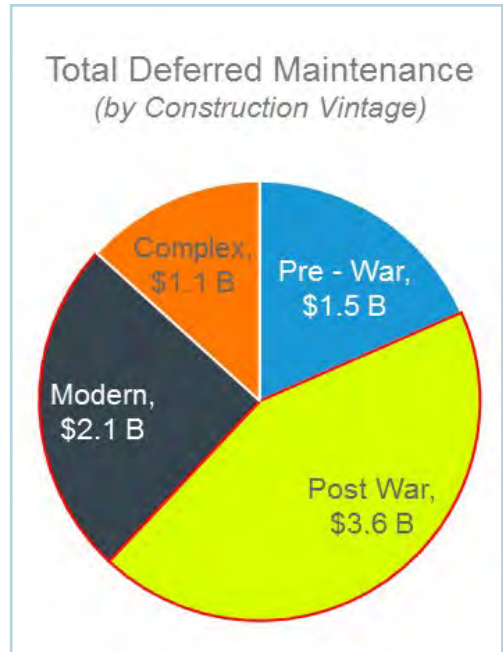
This issue of construction vintage was particularly important as it relates to schools of agriculture facilities as we have identified that 52% of space was built during the post-war and modern eras. This compares closely with 54% for our public database. However, Sightlines has determined that 68% of deferred maintenance in schools of agriculture facilities exists in those buildings. This disproportionate amount of need equals over \$120/GSF in those challenging construction vintages.

Construction Versus Renovation Age

One way institutions can deal with this issue of poor quality construction is to perform major renovations to these buildings, addressing the accumulated deferred maintenance and improve the quality of these buildings going forward. These major renovations “reset the clock” on building systems, making the building perform more like a complex era building. Sightlines measures this by analyzing the difference between construction age (based on when the building was built) and renovation age (based on when the last major building renovation was completed, if applicable).

In analyzing the construction versus age profile, Sightlines has observed only 5% of schools of agriculture facilities over 25 years old has received major renovations. It is clear that the challenges caused by the construction vintage are exacerbated by the fact these facilities have not been renovated at the same pace as those in other areas of higher education. We will come back to this issue when we look at capital investment in schools of agriculture facilities.

There exists approximately \$6.7 billion in deferred maintenance in facilities over 25 years old. This equates to approximately \$126/GSF, again highlighting the substantial weight of deferred maintenance in the oldest campus spaces.



Capital Investment Falling Short of Need

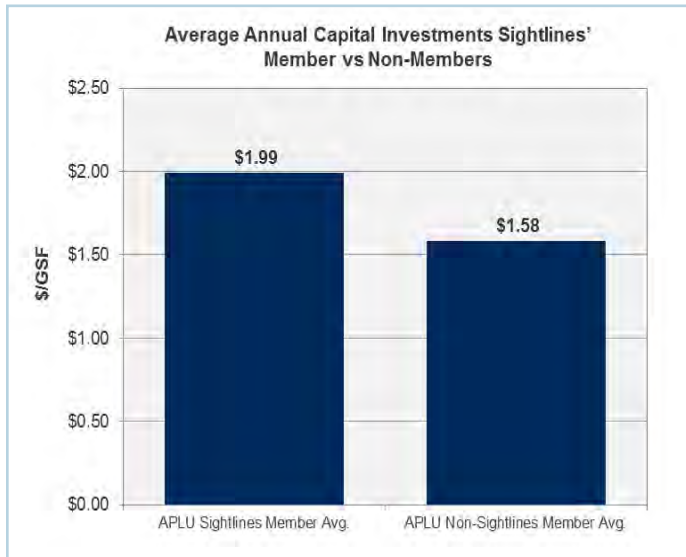
The total amount of deferred maintenance in schools of agriculture facilities combined with the concentration of almost 70% of the need in buildings constructed from 1950-1975 led us to examine the level of capital investment available to renovate these buildings. As discussed in Section 2, we surveyed the institutions to determine the approximate level of capital investment in the existing buildings. We asked campuses to provide a range of capital funding because without a detailed analysis of capital projects over time it would be difficult to calculate precise numbers. We were looking for an order of magnitude of capital funding that we could compare to capital investments at public universities (including some of the same institutions that house the schools of agriculture) that are in the Sightlines database.

Through the results of the survey, we found that over 80% of the schools of agriculture were spending at levels that meant they are deferring projects on an annual basis. The average capital spending per year was \$1.82/GSF. When we compare this to the Sightlines database public school average of \$4.40/GSF, it is significantly lower.

We further compared the institutions that participated in the study by analyzing the spending of those that have previously worked with Sightlines to analyze the capital investment and deferred maintenance backlog on their entire campus. Our hypothesis is that campuses that are using data to examine campus facilities and deferred maintenance are more likely to spend more on improving existing space than those that have not completed an analysis. We also hypothesized that this higher level of capital investment would carry over to the schools of agriculture facilities as well.

We found that schools of agriculture that have already worked with Sightlines to conduct a detailed analysis of the full campus spent \$1.99/GSF on the agriculture facilities compared to \$1.58/GSF for campuses that had not worked with Sightlines. This is a difference of \$0.41/GSF or 26% more funding. This leads us to conclude that campuses that are systematically documenting and analyzing their deferred maintenance needs tend to invest more capital to address those needs than campuses that don't conduct an analysis. And this analysis does have the effect of increased capital investment in agriculture facilities.

The bottom line is that only about 20% of the schools of agriculture invested levels of capital that would at least stabilize, if not decrease, the backlog of deferred maintenance. The remaining 80% are currently investing at levels that will continue to grow the current \$8 billion of backlog documented in this study.



Summary of findings by building function

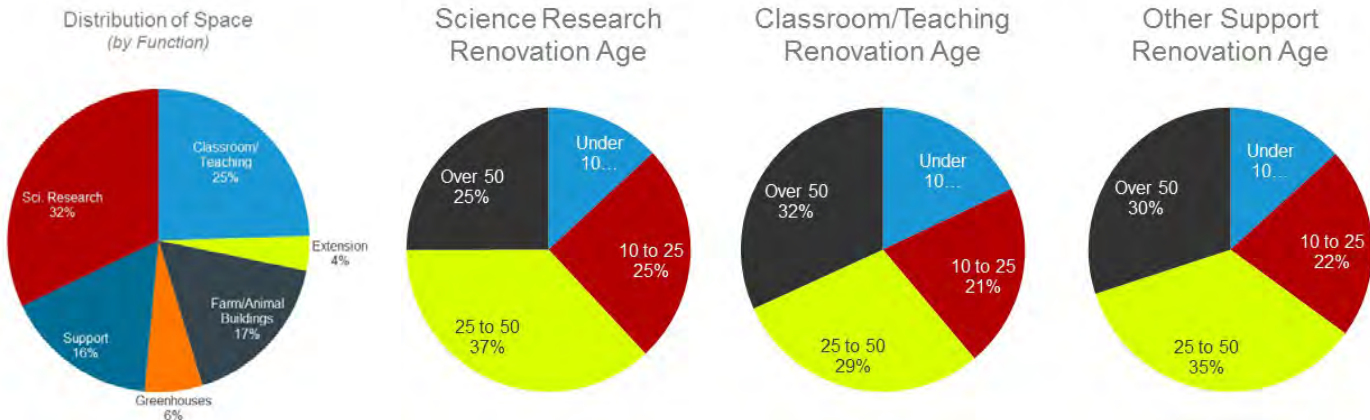
Functional Breakdown of the Analysis

With the focus of the analysis on agriculture teaching and research related facilities, including outlying buildings, research stations and farms, there is a concern that many of the facilities included in the analysis would not be mission critical to the programs. For example, are we overly concerned if the deferred maintenance is concentrated in barns and support buildings?

We found that over half (57%) of the space analyzed is related to teaching (classroom/teaching) and research (science research), while the remaining 43% is distributed between extension, farm, support, and greenhouses. This highlights that while there are numerous buildings falling into outlying categories, the majority of the space does fall into the critical functions of teaching, research, and extension.

Highlights of Key Findings

- Over 50% of the space analyzed is considered mission critical.
- Sightlines has identified that over \$5 billion of the \$8.4 billion total deferred maintenance falls into science research (\$3.2 billion) classroom/teaching (\$2.0 billion).

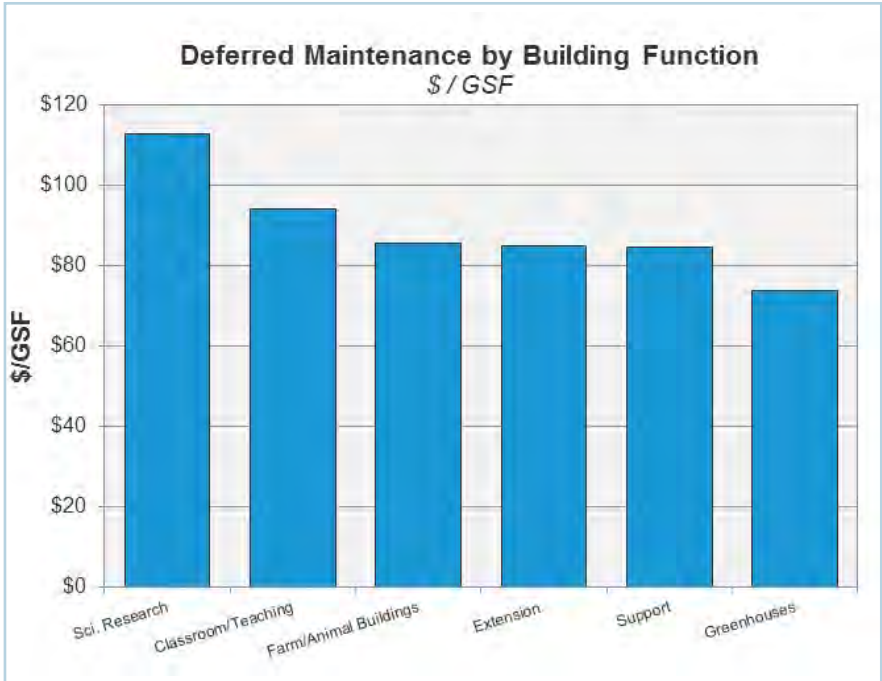
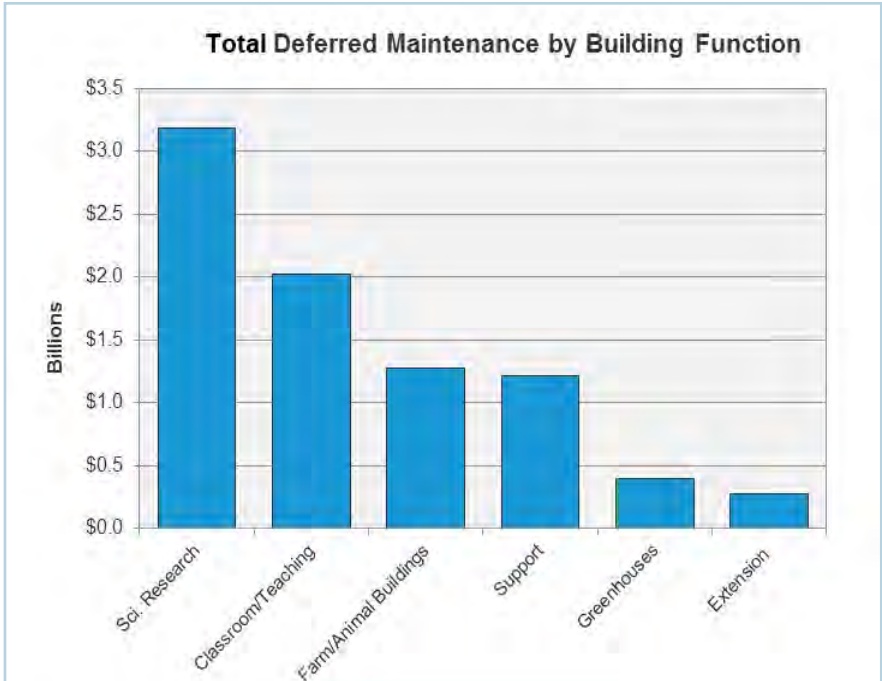


It follows from our discussion on the overall age profile of schools of agriculture facilities, that when we examine the specific profiles of the teaching and research space, we see a substantial percentage of space over 25 years old (an industry threshold for the age when buildings are demanding greater investment to maintain effective operation). Specifically, both science research and classroom/teaching spaces have 60% and 64% of space over 25 years old, respectively.

Sightlines has identified that over \$5 billion of the total of \$8.4 billion of deferred maintenance needs identified falls in these two categories: \$3.2 billion falling in science research and \$2 billion in classroom/teaching. Given the high level of deferred maintenance identified and the age profile, these core facilities are reaching a point when they risk increased building system failures, program interruption, or potential loss of research, unless they receive substantial investment.



In addition, when we examine the deferred maintenance on a dollars per GSF (\$/GSF) basis, it is clear that the science research and classroom/teaching space has the highest average need. This level of need, particularly for science research buildings, reflects the complexity of the space, as well as the age and era of construction. These data confirm that Dr. Ramaswamy's contention that NIFA is funding sophisticated 21st century research that is being conducted in buildings with a high level of deterioration.



Regional Analysis

In our regional analysis, we examined the four typical geographic regions that schools of agriculture are broken into (Northeast, North Central, Southern, and Western), and also looked at three other sub groups (1890s, tribal colleges, and Non-land grant). Specifically, the data was analyzed to:

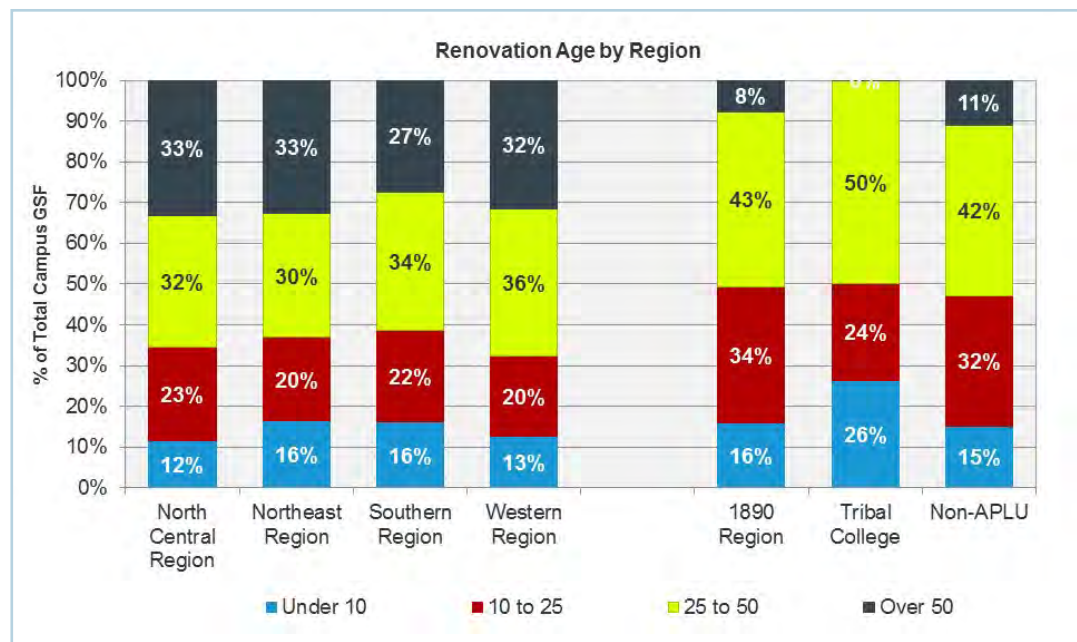
- Identify any regional differences on when investments into agriculture related facilities have occurred,
- Highlight potential best practices for funding and managing deferred maintenance, and
- Understand how strategies for addressing deferred maintenance might need to be adapted to each specific region.

Highlights of Key Findings

- No region is consistently spending enough to make meaningful progress against the current deferred maintenance backlog.
- Continued spending at or below the current levels will result in substantial deferred maintenance growth over the next decade.

Age Profile

When considering the age profiles of the regions, specifically the four geographic regions, no substantial variation is observed with regards to age of schools of agriculture facilities. Specifically, the percentage of space over 25 years old, ranges from 68% in the Western region to 62% in the Southern region. This finding is in contrast to the trend Sightlines observes across the entire higher education universe, where colleges and universities in the western and southern regions tend to be younger overall (lower percentage of space over 25 years old). Likely this is indicative of the investments made into agricultural related education and research in the mid-20th century across the country as a whole. With less new or newly renovated space, the age profile also reflects the consistent lack of capital investment in those regions over the last 25 years.



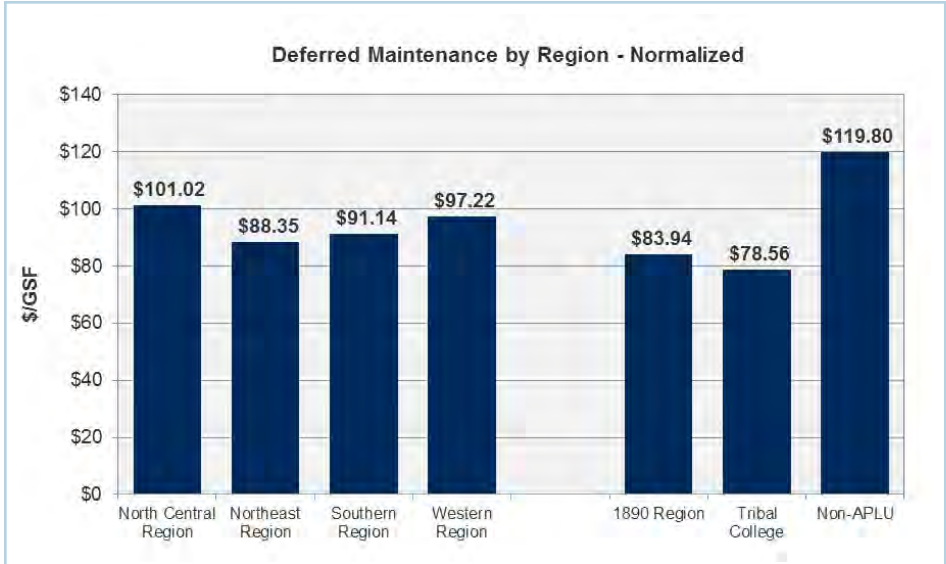
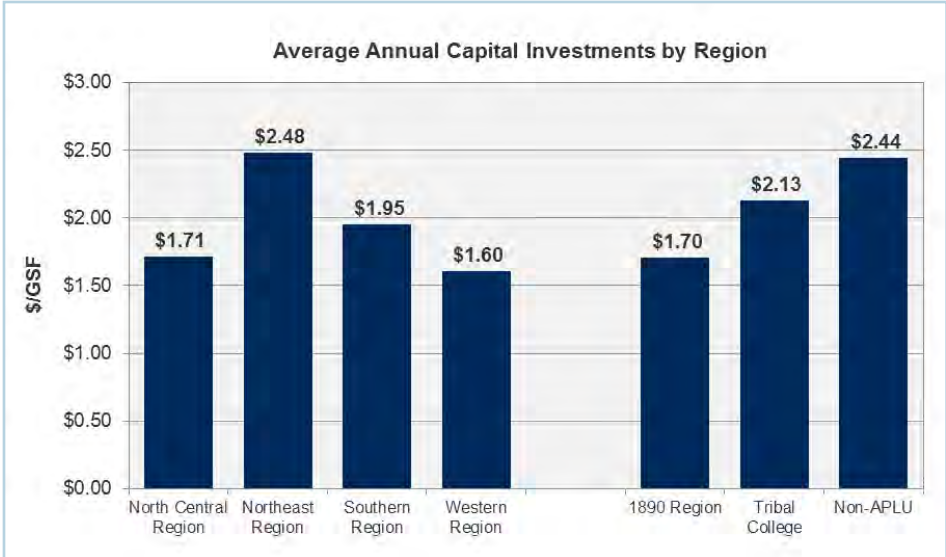
With minimal variation between regions in terms of age profiles, the other major contributor to the accumulation of deferred maintenance is the spending levels that we observed. Regionally, there is some variation in the overall level, but all regions are averaging investment



levels substantially less than the higher education universe as a whole and are spending at a level that will continue to accumulate greater deferred maintenance on an annual basis. We see the highest spending level in the Northeast region, at about \$2.56/GSF per year, while on the lower end, the North Central and Western regions are investing \$1.72 and \$1.60 respectively.

While there are some meaningful variations in the overall spending level, no region is consistently spending enough to make any meaningful progress in resetting the clock on buildings. At the current spending levels, there will be minimal progress in addressing the current deferred maintenance backlog and without an infusion of capital in the future there will be substantial deferred maintenance growth in all regions of the country over the next 10 years.

Finally, looking at the deferred maintenance by region, we observe that the North Central region has the higher level, at \$101/GSF, compared to \$91 - \$97/GSF for the other regions. Considering the factors outlined above, with the north central and western regions having the highest percentage of older space and also investing the lowest level of the group, a slightly higher relative deferred maintenance number is not surprising. Higher regional costs likely explain the higher level capital investment and deferred maintenance observed in the Northeast region.



Section 4: Conclusions and Strategies for Change


With data on 91 schools of agriculture and analysis of over 15,000 facilities with 87 million gross square feet valued at over \$29 billion, this study is the largest and most comprehensive of schools of agriculture in the United States. The conclusions about the age of the buildings, the lack of capital investment in them over time and the levels of deferred maintenance needs are sobering.

- 54% of the square footage analyzed are in buildings constructed from 1950-1975, a period of rapid, poor quality construction. These buildings have not stood the test of time in terms of holding up to wear and tear. They house critical classroom and scientific functions, and the research and experiments conducted in those buildings are in serious jeopardy if building systems like HVAC, electrical and plumbing fail.
- Most of the buildings analyzed received very limited capital investment since constructed. Clearly there have been some projects to improve the space and address leaky roofs and failing systems. But the amount of investment has only been enough to reset the clock on 5% of the space.
- The consequences of aging buildings with limited capital investment is over \$8 billion in deferred maintenance in agriculture campuses across the U.S. We found the situation to be true in all regions in the country with very little variation.
- Our analysis suggests that nearly 30% of the replacement value of the 15,000+ buildings we studied has been lost because of the deferred maintenance needs we estimated.
- Sightlines determined that 80% of the campuses are investing capital at such a low level that they will continue to add to their backlog of deferred maintenance every year. This means the current situation we documented will not improve anytime soon without a change in funding and improved capital planning. To make matters worse, there are still large numbers of buildings constructed in the late 1960s and early 1970s that will be turning 50 years old in the next 10 years. These buildings will be waiting in line for renovation.

So what is the answer to this deferred maintenance problem that jeopardizes \$1.5 billion of research being funded annually by USDA, in addition to the many other agencies that support research in these spaces with grant money(NSF, NIH, NASA, DOE, etc.)? In past studies, Sightlines has been reluctant to say an infusion of money is the answer to the growing deferred maintenance problem in higher education. But without a major infusion of funding over time, the classroom, scientific research, animal care, extension and support buildings at schools of agriculture will face a future of:

- Roofs that leak, foundations that crack and doors and windows that don't keep the heat in or cold out.
- HVAC, electrical and plumbing systems that fail.
- Laboratories that cannot function.
- Animal care that is compromised.
- Health and safety problems for building occupants.





At a time when all campuses are faced with fiscal constraints, there is no single entity or level of government that can carry the burden of billions in funding. There needs to be a multi-faceted set of strategies to address the problem over time. Here is what we recommend:

Federal government infusion of capital funding – The Federal government, Congress and USDA in particular have a huge stake in the research being conducted at schools of agriculture. In many campuses, the agriculture and agriculture related buildings are called the “USDA buildings.” A capital infusion of funds to renovate or replace the aging facilities will have an immediate return on investment and protect the billions in research currently being funded by USDA.

States also have a capital funding obligation – States benefit from agriculture research in terms of jobs created on campuses and increasing productivity and profitability of agriculture and agriculture related businesses. In addition, the USDA research is primarily conducted on public university campuses, many of them flagship universities that already benefit from State capital support. There is evidence in the study that very little of the state capital committed to land grant and other campuses in this study has been used to support improvements in agriculture and agriculture related buildings. A possible matching capital program between the federal and state governments could be a promising solution to growing the funding to address the deferred maintenance problem.

Campuses need a long term capital plan to turn the deferred maintenance problem around – Campus deans of agriculture, facilities and finance leaders need to develop multi-year capital plans to address the deferred maintenance backlog based on hard data of building condition. This means engaging in a process to set capital priorities and a plan to phase in work over time. In order to make progress on deferred maintenance, two important strategies need to be part of the capital plan:

- Target major renovations: Given that the majority of the older buildings have substantial deferred maintenance, allocate capital for full catch-up (i.e. major renovation) on all deferred maintenance in that building, rather than addressing building systems on a project by project basis.
- Demolish, or renovate through replacement: Since it may be too costly or impractical to perform a major renovation in some of these older buildings, identify which could be removed completely and which could be replaced with new facilities, and demolishing the existing building to remove the deferred maintenance. It is important to note that if the original building is not demolished, this strategy does not affect deferred maintenance.

Campuses need a plan for proactive maintenance of facilities in good condition – While campuses focus on catch-up with the buildings that have high levels of deferred maintenance, they also need to address planned and preventive maintenance on the buildings constructed after 1995. Our data suggest that these buildings are still in good condition, but will fall into disrepair in the next few years if the life cycles of building systems are not addressed as they come due. It is a challenge to fund keep-up and catch-up at the same time, but that is what these schools of agriculture are faced with and they need to develop strategies that do both renewal of older building and steward newer buildings.

To be successful in reducing the deferred maintenance problem and not letting it grow further, key stakeholders need to pursue all of the above. A single solution will not work. All levels of government and campuses need to do their parts in solving the deferred maintenance problem. Inaction has, over time, resulted in the problem that schools of agriculture are now facing. The future of agriculture research depends on people recognizing the problem and taking the actions recommended in this report.

Appendix A: Data Collection Definitions

Building Function Definitions:

Building Function	Definitions
Classroom/Teaching	Buildings with classrooms and/or offices. Includes libraries.
Sci. Research	Science building with lab space and other research space. Includes veterinary hospitals/animal care facilities
Extension	Buildings dedicated to extension function
Farm/Animal Buildings	Barns, animal handling, feed mills, animal quarters, etc.
Greenhouses	Glass or plastic greenhouses
Support	Facilities buildings, storage garages.

Building Type Definitions:

Building Type	Definitions
Complex	Buildings with complex systems. In addition to heating and cooling, they have more sophisticated systems like Fume Hoods (>10), reheats, greater outside air requirements and specialty dehumidification equipments.
Basic	Buildings with basic systems. Standard Heating and cooling throughout.
Simple	Buildings with simple systems. Most often just heating, possibly with some local cooling.
Non-Utility	Buildings without heating and electricity
Small	Buildings under 10,000 GSF with utility service

Appendix B: Institution List by Region

North Central Region:

- Iowa State University – College of Agriculture and Life Sciences
- Kansas State University – College of Agriculture
- Michigan State University – College of Agriculture and Natural Resources
- North Dakota State University – College of Agriculture, Food Systems, and Natural Resources
- Purdue University – College of Agriculture
- South Dakota State University – College of Agriculture and Biological Sciences
- The Ohio State University – College of Food, Agriculture, and Environmental Sciences
- University of Illinois – College of Agriculture, Consumer and Environmental Sciences
- University of Minnesota – College of Food, Agriculture and Natural Resource Sciences
- University of Missouri – Columbia – College of Agriculture, Food and Natural Resources
- University of Wisconsin – Madison – College of Agriculture and Life Sciences

Northeast Region:

- Cornell University – College of Agriculture and Life Sciences
- Rutgers University – School of Environmental and Biological Sciences
- The Pennsylvania State University – College of Agricultural Sciences
- University of Connecticut – College of Agriculture, Health and Natural Resources
- University of Delaware – College of Agriculture and Natural Resources
- University of Maine – Orono – College of Natural Sciences, Forestry, and Agriculture
- University of Maryland – College of Agriculture and Natural Resources
- University of Massachusetts – Amherst – College of Natural Sciences
- University of Rhode Island – College of Environment and Life Sciences
- West Virginia University – Davis College of Agriculture, Natural Resources and Design

Southern Region:

- Auburn University – College of Agriculture
- Auburn University – Ag Experiment Station
- Clemson University – College of Agriculture, Forestry and Life Sciences
- Clemson University – Edisto Research and Education Center
- Clemson University Pee Dee Research and Education Center
- Clemson University – Sandhill Research and Education Center
- Louisiana State University Agricultural Center
- Mississippi State University – College of Agriculture and Life Sciences
- North Carolina State University – College of Agriculture and Life Sciences
- Oklahoma State University – College of Agricultural Sciences and Natural Resources
- University of Arkansas – Dale Bumpers College of Agricultural, Food and Life Sciences
- University of Florida – College of Agricultural and Life Sciences
- University of Georgia – College of Agricultural and Environmental Sciences
- University of Kentucky – College of Agriculture, Food and Environment
- University of Puerto Rico – College of Agriculture and Mechanic Arts
- University of Tennessee – Knoxville – College of Agriculture Sciences and Natural Resources
- University of the Virgin Islands – Agricultural Experiment Station
- Virginia Tech College of Agriculture and Life Sciences

Western Region:

- College of Micronesia
- Colorado State University – College of Agricultural Sciences
- Montana State University – College of Agriculture
- New Mexico State University – College of Agricultural, Consumer and Environmental Sciences
- Oregon State University – College of Agricultural Sciences

- University of Alaska – Fairbanks – School of Natural Resources and Extension
- University of Arizona – College of Agriculture and Life Sciences
- University of California – Agriculture and Natural Resources
- University of California – Berkeley – College of Natural Resources
- University of California – Davis – College of Agricultural and Environmental Science
- University of Guam – College of Natural and Applied Sciences
- University of Hawaii – College of Tropical Agriculture and Human Resources
- University of Idaho – College of Agriculture and Life Sciences
- University of Nevada – Reno – College of Agriculture, Biotechnology and Natural Resources
- University of Wyoming – College of Agriculture and Natural Resources
- Utah State University – College of Agriculture and Applied Sciences
- Washington State University – College of Agriculture, Human, and Natural Resource Sciences

1890 Region:

- Alabama A&M University – College of Agriculture, Life and Natural Sciences
- Florida A&M University – College of Agriculture and Food Sciences
- Fort Valley State University – College of Agriculture, Family Sciences and Technology
- Kentucky State University – College of Agriculture, Food Science, and Sustainable Systems
- Langston University – School of Agriculture and Applied Sciences
- Lincoln University of Missouri – College of Agriculture, Environmental and Human Sciences
- Prairie View A&M University – College of Agriculture and Human Sciences
- South Carolina State University
- Tennessee State University – College of Agriculture, Human and Natural Sciences
- Tuskegee University – College of Agriculture, Environment and Nutrition Sciences
- University of Maryland Eastern Shore – School of

- Agriculture and Natural Sciences
- West Virginia State University

1994 Tribal Land-grant Colleges Region:

- Aaniih Nakoda College
- Bay Mills Community College
- College of the Muscogee Nation
- Dine College
- Leech Lake Tribal College
- Nebraska Indian Community College
- Northwest Indiana College
- Salish Kootenai College
- Sitting Bull College
- Southwestern Indiana Polytechnic Institute

Non-Land-grant Region:

- Angelo State University
- Arkansas Tech University
- Austin Peay State University
- California State University – Chico – College of Agriculture
- McNeese State University
- Murray State University - Hutson School of Agriculture
- Southern Illinois University – Carbondale – College of Agricultural Sciences
- Stephen F. Austin State University – Arthur Temple College of Forestry and Agriculture
- Tarleton State University – College of Agriculture and Environmental Sciences
- Texas Tech University – College of Agricultural Sciences and Natural Resources
- University of Tennessee – Martin – College of Agriculture and Applied Sciences
- University of Wisconsin – Platteville – College of Business, Industry, Life Science and Agriculture
- University of Wisconsin – River Falls – College of Agriculture, Food and Environmental Sciences

