

College of Tropical Agriculture & Human Resources

Context: A primary aim is to focus the mission of the College on tropical agriculture. CTAHR should play a major role in the campus-wide discussion of the Life Sciences curricula. It would be valuable to engage in a discussion about extension and workforce development, perhaps including non-traditional vehicles such as Outreach College.

Summary of Key Recommendations

- Reorganize the Human Development & Family Studies program and faculty from Family & Consumer Sciences (CTAHR) to Sociology (Social Sciences). Will need to address the Center on Family and the 4H programs.
- Remove Human Resources from the name of the College.
- Reorganize the Fashion Design & Merchandising program and faculty to the Department of Art and Art History (CALL).
- Reorganize the Human Development and Family Studies program and faculty to the Department of Sociology (Social Sciences).
- Consolidate the (4) MS/PhD degrees in Entomology and Tropical Plant Pathology into (2) MS/PhDs in Tropical Entomology and Plant Pathology. **This suggestion has been removed.**
- With support from the Dean and the Provost, CTAHR faculty should take the lead in working with the UH community colleges on a coordinated AS-AG curriculum, similar to the AS-NS, to facilitate transfer and collaboration across the System.
- Allow TPSS an exception to the hiring freeze to fill positions needed to modify the programs and research to meet the needs of the state.
- Consider a **temporary** stop-out of the BS in Tropical Agriculture & the Environment to facilitate a major program modification.

College of Tropical Agriculture & Human Resources

Department of Human Nutrition, Food, and Animal Science

Summary Recommendations

- Consider modifying the MS in Food Science into a professional master's program, in collaboration with Outreach College.
- Continue to monitor enrollment and support for graduate students in the PhD in Nutritional Sciences.

Details

- The Department offers the BS and MS in Animal Sciences, BS in Dietetics, BS in Food Science & Human Nutrition (multiple tracks), and the MS and PhD in Nutritional Sciences. The BS in Dietetics (previously a track in the BS in Food Science and Human Nutrition) is professionally accredited. The BS in Animal Sciences includes a pre-veterinary track.
- There are 133 enrolled in the BS in Animal Sciences, 26 in the BS in Dietetics, 100 in the BS in Food Science & Human Nutrition, 8 in the MS in Food Science, 10 in the MS in Nutritional Science, and 19 in the PhD in Nutritional Sciences.
- Faculty FTE in the department is 25.00, distributed across Animal Sciences, Food Science, and Human Nutrition.
- The BS in Food Science and Human Nutrition has 5 tracks, including Food Science: Business, Food Science: Culinary, Food Science: Pre-professional, Human Nutrition: Pre-professional, and Human Nutrition: Sports Wellness. We are unable to pull enrollment by concentration/track. The Food Science Business and Pre-professional tracks share a common core of 34-36 credits, with 15-18 credits reserved for specialization. The Human Nutrition Sports Wellness and Pre-professional tracks share a common core with 15-24 credits reserved for specialization. The Culinary track offers a 2+2 pathway for UHCC transfer students.
- The PhD in Nutritional Sciences struggled with low enrollment, which delayed its conversion to established status for a number of years. The program enrollment appears healthy at 19, however we recommend that the Department continue to give this program attention.
- Enrollment in the MS in Food Science is currently 8, and of the faculty, there appears to be 4 associated with the program. The program offers 6 concentrations, including food safety and quality, food processing and engineering, food chemistry and biochemistry, food microbiology, food science education, and "special area." Given the low enrollment and number of faculty, recommend that the Department greatly reduce the areas of concentration.
- The MS in Food Science is designed to prepare students for positions in academia and in the food industry. Recommend that the faculty consider whether the

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program would be more successful and better serve the state as a professional master's degree. Cornell University offers a Master of Professional Studies in Food Science that could serve as inspiration:

<https://foodscience.cals.cornell.edu/graduate/master-professional-studies-mps/>

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Department of Molecular Biosciences and Bioengineering

Details

- The Department of Molecular Biosciences & Bioengineering offers the ABET-accredited BS in Biological Engineering, the BS in Molecular Biosciences and Biotechnology, and the MS and PhD in Molecular Biosciences and Bioengineering. Admission is stopped out to the MS in Biological Engineering.
- There are 40 students enrolled in the BS in Biological Engineering. While some have advocated to move this program under the College of Engineering, MBBE faculty teach across the degree programs, so a reorganization would be challenging.
- There are 46 enrolled in the BS in Molecular Biosciences and Biotechnology, a program that had previously been included on the “small programs” list. The program chair modified the program and developed a successful recruitment strategy which increased enrollment. The program has a strong reputation for engaging undergraduate students in research (similar to the success of the (SOEST) BS in Global Environmental Science). The program review team noted the following:

All MBBE undergraduate students experience directed research for multiple semesters. Students meet regularly with faculty and post-doctoral researchers and are mentored by graduate students. This provides an experiential learning opportunity for undergraduate students and provides graduate students a teaching opportunity. – CTAHR External Review Report, page 39

- The Department collaborates with Biology and Engineering, and many courses are cross-listed across these units.
- There are 24 students enrolled in the master’s program and 38 enrolled in the PhD program. The doctoral program is large, however this was not noted as an area of concern in the program review. The review team did note issues with support for graduate students, which may indicate that the program needs to be downsized to ensure support.

Graduate students commented to the Review Team that a high level of uncertainty to the timely completion of their graduate program rests with the fact that stipends associated with a teaching assistantship are awarded on a semester-by-semester basis. In some cases this results and graduate students having to take outside employment to support their graduate program thereby delaying graduation. – page 41

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Department of Natural Resources and Environmental Management

Summary Recommendations

- Utilize the SUST cross-listed courses to recruit majors.
- Consider developing combined bachelor's-master's degree pathways with the (new) Interdisciplinary BA in Sustainability, and the BS in Global Environmental Science.

Details

- The Department offers the BS, MS and PhD in Natural Resources and Environmental Management, and the professional Master of Environmental Management (MEM).
- There are 103 students enrolled in the BS program (up from 60 in 2014), 30 in the MS program, 19 in the MEM program, and 19 in the PhD program. Faculty FTE is 14.75.
- The 2015 program review recommendations focused on improving advising (for undergraduate and graduate students), and increasing support for graduate students.
- The Department offers more SUST cross-listed courses than any other unit. Assuming that the Department is interested in increasing enrollment, the SUST courses provide recruitment opportunities for both the undergraduate and master's programs.
- The Department should consider developing combined degree pathways with the new Interdisciplinary BA in Sustainability and the BS in Global Environmental Science. Pathways provide excellent opportunities to recruit future graduate students.

College of Tropical Agriculture & Human Resources

Department of Plant & Environment Protection Sciences

Summary Recommendations

- Consolidate the (4) MS/PhDs in Entomology and Tropical Plant Pathology into (2) MS/PhDs in Tropical Entomology and Plant Pathology; Stop-out 2 degrees. **This suggestion has been removed.**
- Collaborate with HNFAS and Outreach College on a professional master's or certificate in Agrosecurity and Food Safety (effective 2024).
- Recommend that the CTAHR faculty take the lead in working with the UHCCs on a coordinated AS-AG curriculum, similar to the AS-NS, to facilitate transfer and collaboration across the System.

Details:

- The Department offers the MS and PhD in Entomology, the MS and PhD in Tropical Plant Pathology, and collaborates with the Department of Tropical Plant and Soil Sciences on the BS in Tropical Agriculture and the Environment.
- There are 9 students enrolled in the MS in Entomology, 7 in the PhD in Entomology, 9 in the MS in Tropical Plant Pathology, and 6 in the PhD in Tropical Plant Pathology. There are 36 enrolled in the BS in Tropical Agriculture and the Environment.
- Tenure-track faculty FTE is 17.83, down from 20.67 in 2014. There are 3 extension agents included in the FTE. Even with the decrease in FTE, the allocation does not seem to align with the size of the programs, however.
- The BS in Tropical Agriculture and the Environment was formed through a merger of the BS in Tropical Plant and Soil Sciences and the BS in Plant & Environmental Sciences. Both programs were low enrolled and the merger was designed to consolidate the majors. Unfortunately, enrollment in the merged program has not reached projections, and in fact has declined to less than the total enrollment had been across both programs before the merger. The faculty have been seeking better articulation with the UHCCs on agriculture education to facilitate transfer into the program, however these discussions, coordinated by the UH System, have stalled. Recommend that the UHM faculty take the lead in working with select UHCCs on a coordinated AS-AG curriculum, similar to the AS-NS, to facilitate transfer and collaboration.
- The graduate programs in Entomology and Tropical Plant Pathology have been on the "small programs list" for a number of years. The 2015 review team recommended consolidating these for efficiency.

Consider combining the MS and PhD programs in PEPS: MS in Tropical Entomology and Plant Pathology; PhD in Tropical Entomology and Plant Pathology. Determine if the transcript could list the emphasis as either entomology or plant pathology. –CTAHR External Review Report, page 49.

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- There may be opportunities for a professional master's or certificate that could be administered through Outreach College. Recommend that the Department explore this possibility, perhaps in collaboration with faculty in Food Science, and with Outreach College. Per the 2015 program review external team:

[The faculty] identified a niche for a non-thesis MS degree that could be completed in three semesters. They are also exploring the creation of a certificate in agrosecurity and are exploring a non-thesis agrosecurity and food safety degree. – CTAHR External Review Report, page 47.

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Department of Tropical Plant & Soil Science

Summary Recommendations

- Allow TPSS an exception to the hiring freeze to fill positions needed to modify the programs and research to meet the needs of the state.
- Consider a **temporary** stop-out of the BS in Tropical Agriculture & the Environment to facilitate a major program modification.
- Recommend that the UHM faculty take the lead in working with the UHCCs on a coordinated AS-AG curriculum, similar to the AS-NS, to facilitate transfer and collaboration across the System.

Details:

- The Department offers the MS and PhD in Tropical Plant & Soil Sciences, and collaborates with the Department of Plant & Environmental Protection Sciences on the BS in Tropical Agriculture and the Environment.
- There are 18 students enrolled in the MS program, and 5 enrolled in the PhD. Owing to time-to-degree issues, and low enrollment in the PhD program, the programs have been on the low-enrolled list for a number of years.
- Tenure-track faculty FTE is 30, up from 27.50 in 2012. Faculty include instructional faculty, researchers, specialists, and extension agents. Excluding the extension agents, the faculty is large relative to enrollment in the Department.
- The BS in Tropical Agriculture and the Environment was formed through a merger of the BS in Tropical Plant and Soil Sciences and the BS in Plant & Environmental Protection Sciences. Both programs were low enrolled, and the merger was designed to consolidate the majors. Unfortunately, enrollment in the merged program has not reached projections, and in fact has declined to less than the total enrollment had been across both programs before the merger. The faculty have been seeking better articulation with the UHCCs on agriculture education to facilitate transfer into the program, however these discussions, coordinated by the UH System, have stalled. Recommend that the UHM faculty take the lead in working with selected UHCCs on a coordinated AS-AG curriculum, similar to the AS-NS, to facilitate transfer and collaboration.
- The graduate programs in TPSS are small, and in fact, faculty have at times referred to these as “boutique programs.” The external review team (in 2015) noted a number of quality issues with the programs, however.

Review Team found some evidence that supported a lack of program quality with respect to placement rate, time-to-degree and graduation rates, however none of which can't be overturned with a stronger commitment by instructional faculty. -- CTAHR External Review Report, Page 53

- Per the Dean, the programs and research within TPSS need to be better aligned with the needs of the state.

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While this area is critically relevant to the future of the state, its teaching and research programs have to be re-visioned in order to meet the future demands. We put two new faculty positions in this year to start that change, which are now frozen. – CTAHR Budget presentation, 2020.

The external review team in 2015 also suggested that new hires are needed to facilitate change.

One solution is to hire a new dynamic Chair from outside of Hawaii who will take a fresh look at what needs to move this department into a vibrant and energetic unit. The solution may be to get a new, dynamic chair from outside of Hawaii. --CTAHR External Review Report, page 56

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