

# Tropical Ecosystem and Agroforestry Management



## **ANNUAL** REPORT OF PROGRAM DATA **2021**

July 1, 2020 through June 30, 2021



UNIVERSITY of HAWAII®  
**HAWAII**  
COMMUNITY COLLEGE

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## **1. Program or Unit Description**

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In the Tropical Ecosystem and Agroforestry Management Program (TEAM), students learn to actively manage Hawai'i's native forest ecosystems, grow native plants, establish forest plantations and agroforestry operations, use Global Positioning Systems (GPS), and Geographic Information Systems (GIS). Internships give students on-the-job training with potential employers. The target student populations are high school graduates and non-traditional students looking for a second career.

## **2. Analysis of the Program/Unit**

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### [UHCC Annual Report of Program Data \(VARPD\)](#)

During the 2020/21 academic year, the courses for the Tropical Ecosystem and Agroforestry Management (TEAM) Program were not offered due to University of Hawai'i System-wide budget cuts. Therefore, the Annual Report of Program data (ARPD; <https://uhcc.hawaii.edu/varpd/>) do not reflect a normal academic year.

Examining the data, demand indicators provided an overall "Healthy" condition with a high number of positions offered at the State and County levels. The number of declared majors has dropped as the Program was put on hold, with majors advised to take non-TEAM required courses during the interim. Two courses were taught as directed studies so that 2<sup>nd</sup> year students would be able to graduate on schedule.

The demand for Natural Resource and Forestry Management positions has been steadily rising as society becomes aware of the relationships between forest ecosystems and climate. There have been several initiatives in recent years to promote "green jobs" at national and international levels. This can also be seen in the 2018-19 State demand for forestry and conservation technicians that estimated that 135 positions were available (see TEAM ARPD). The coronavirus pandemic that closed down much of Hawaii's economy caused those jobs to drop in 2020 and 2021, however it only looks like more of these positions will be opening up as the economy improves in 2022.

The indicators for efficiency and effectiveness are both reported as "Progressing," due to the fact that only 2 courses were offered (as directed studies) so that 2<sup>nd</sup> year students could graduate in a timely fashion. No students graduated during this reporting period, although three students transferred to a 4-year UH campus.

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Before the pandemic, the TEAM program had been growing in terms of declared majors and interest from graduating High School students. The TEAM club was going strong with weekly meetings and activities. Job offers were coming in constantly from the Natural Resource Community and there were not enough graduates to meet the demand. All of this came to a halt in March 2020 when face-to-face classes moved to online format.

The hiatus of TEAM courses from Fall 2020 through Spring 2022 will allow for the program to undergo curriculum and scheduling redesign that will help increase program and course enrollment. Program modifications have been submitted to CRC to include a new Ecosystem and Environmental Sciences (EES) pathway as part of the AS-NSCI program that would include TEAM courses, and additionally, TEAM courses are being added as electives to the Natural Science Program Biological Pathway. We have been working simultaneously making changes to the TEAM Certificate as well as the AS program, including proposed changes to course prerequisites, numbering, and the changing of one alpha. In addition, a new Geospatial Remote Sensing certificate is being proposed that will combine two existing TEAM and Architecture, Engineering, and CAD (AEC) courses and create two new courses to attract more students. The hiatus is also being used to develop and improve recruiting materials that will be disseminated to the high schools and other community venues.

The Perkin's Indicators for Post Secondary placement, Earned Recognized Credential, and Nontraditional Program Concentration were met. This demonstrates that the TEAM program is still meeting the CTE criteria for technical training and certification. This should continue when the Program courses are fully re-offered in Fall 2022, and there will also be three directed studies courses offered in Spring 2022 that a few students need to graduate.

### **3. Program Learning Outcomes or Unit/Service Outcomes**

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**a) List of the Program Learning Outcomes with alignment to Institutional Outcomes (ILO's)**

1. Apply basic ecosystem concepts to natural resource management – ILO 6
2. Use an understanding of general scientific concepts in design of forestry systems. – ILOs 2, 6
3. Use knowledge of applicable laws and regulations to make decisions about managing ecosystems - ILOs 4, 6
4. Apply effective interpersonal and communication skills - ILOs 1, 5
5. Recognize, collect, and interpret field data - ILO 6
6. Apply effective management practices to commercial or conservation efforts - ILOs 3, 6

**ILOs**

1. Communicate effectively in a variety of situations.
2. Utilize critical thinking to solve problems and make informed decisions.
3. Apply knowledge and skills to make contributions to community that are respectful of the indigenous people and culture of Hawai'i island, as well as other cultures of the world

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4. Utilize quality comprehensive services and resources in the on-going pursuit of educational and career excellence.
5. Produce and perpetuate safe, healthy learning and professional environments that are respectful of social and individual diversity.
6. Contribute to sustainable environmental practices for personal and community well-being

**b) List the PLOs or UOs that have been assessed in the year of this Review:**

No PLOs of TEAM Program were assessed during the past year as only two directed studies program courses were offered to only a few students.

**c) Assessment Results:**

No assessments of TEAM Program courses were conducted during the past year as only two directed studies program courses were offered to only a few students.

**d) Changes made to the Program:**

For this reporting period, changes to the program have largely come from administration recommendations to increase enrollment. Responses to meet this recommendation have been to rearrange teaching courses as a cohort model where courses will be offered in two-year cycles. This hasn't started yet but is currently being worked on and will begin next year. Another response has been to consolidate instruction with other programs, such as allowing TEAM students to take the Agriculture (AG) Program's Agricultural Business Management (AG 230) instead of Agroforestry Business Management (AG 130) and Integrated Pest Management (AG 141) instead of Forest Pest Management (AG 275). It has also been proposed to consolidate the AEC Program course, Introduction to GIS and GPS (AEC 150), with the TEAM course Geographic Information Systems in Forest Ecosystem Management (GEOG 270). These two courses will be consolidated into a single shared class, to be offered in Spring 2023.

**e) Changes that have been made as a result of the assessment results:**

Based on Assessments made before this reporting period, the following actions took place during the reporting period, beginning in Spring 2019. Spring 2019: Forest Ecosystem Surveying (GEOG 170/L assessed in Spring 2018) – more time was spent on how to produce quality vegetation maps and how to improve effective communication with project presentations. Also assessed in 2018 was Tropical Silviculture (AG 245/L) where efforts were put in place to improve student ability to recognize important timber trees and interpret field data and to apply management practices more effectively. Other Program changes have included moving lectures and some lab content to online format. This was done for GEOG 170/L and AG 245/L in the Spring 2020 semester after face-to-face classes were cancelled.

## **4. Action Plan**

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The TEAM Program was placed on a hiatus due to budget cuts and cancellation of field courses due to the pandemic. The roll-out of changes in the program will occur in Fall 2022, with a new

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schedule and hopefully with the new EES-AS-NSCI pathway in place (if it passes CRC and Senate) and much effort will go into recruitment during the Spring 22 semester for students to begin in Fall 2022. During the next three academic years of 22/23, 23/24 and 24/25, the TEAM Program will focus on addressing the issues of increasing program enrollment and improving student retention and successful completion of the program. As mentioned in the Program Analysis section, just before the pandemic hit our state, outreach activities over the last two years had started to take effect and a renewed interest in the program was being realized. The Forest TEAM club had a membership of over 30 students and former graduates of the program were actively reviving the former Forest TEAM Juniors Club, which helped to generate new program recruits.

In the meantime, efforts to recruit students will continue at virtual career fairs and new outreach materials will be developed. When it is safe for Club activities to resume, the greenhouse will be made available for plant propagation and fundraisers.

The TEAM Program has secured USDA Native Alaskan / Native Hawaiian (ANNH) funding for AG education through August 2023 that has allocated funds to hire a student recruiter, which will be filled in the Spring 2022 semester. A new USDA ANNH proposal will be submitted in early 2022 for continued USDA support until 2024.

In the Fall of 2022, if field courses are possible to run, the TEAM Program will begin offering the following core program courses in a two-year cycle: 1<sup>st</sup> Semester- AG 175/L, 2<sup>nd</sup> semester GEOG 170/L, 3<sup>rd</sup> semester GEOG 270/L, AG 190v, AG 192, 4<sup>th</sup> semester AG 245/L, AG 275/L and AG 291. In addition, if the Senate approves of the EES-AS-NSCI track (submitted in October 2021), then we should see an increase in the pool of students taking TEAM classes. Another source of new students may also come from the newly proposed Geospatial Remote Sensing Certificate that will include two TEAM classes (GEOG 270 and AG 291) which is hoped will be in place by the Spring 2023 semester.

The TEAM Program plans to continue keeping track of graduate transfer and placement, to gauge how well they are prepared for higher education transfer and career success. The Program also plans to continue working with the Program Advisory Council to help with program and curriculum modifications and with internship and graduate placement. In addition, the Program will continue to assess courses to improve their effectiveness.

In order to improve the Perkins CTE indicators, the Program will continue to recruit as many non-traditional participants as possible. The Program will also work to increase student retention by providing sound academic advice and maintaining quality and engaging instruction. Transfer will be improved by continuing to strengthen articulation with other campuses and making program modifications to aid in this process.

Other activities to improve the program operations will be to replace our computer lab monitors, which were damaged after the air-conditioning went out from 2018-2020. It is also hoped that the dilapidated chairs in the computer lab will be replaced.

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This action plan lines up directly with the College's Mission "To promote lifelong learning, emphasizing the knowledge and experience necessary for Kauhale (College Community) members to pursue academic achievement and workforce readiness". It also addresses the goals of University of Hawai'i Community Colleges Strategic Plan to do the following: 1) Strengthen recruitment from K-12; 2) Implement structural improvements that promote persistence; 3) Align curriculum with workforce needs; and 4) establishing large scale student support services for native Hawaiians (see link to the UH CC strategies below).

<https://hawaii.hawaii.edu/sites/default/files/assets/docs/strategic-plan/hawcc-strategic-directions-2015-2021.pdf>

## **5. Resource Implications -**

**\* ONE-TIME BUDGET REQUESTS ONLY \***

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Detail any ONE-TIME resource requests that are not included in your regular program or unit operating "B" budget, including reallocation of existing resources (physical, human, financial).

\*Note that CTE programs seeking future funding via UHCC System Perkins proposals must reference their ARPD Section 4. Action Plan and this ARPD Section 5. Resource Implications to be eligible for funding.

**I am NOT requesting additional ONE-TIME resources for my program/unit.**

**I AM requesting additional ONE-TIME resource(s) for my program/unit.**

**Total number of items being requested:   3   (4 items max.)**

\*For each item requested, make sure you have gathered the following required information and all relevant documentation before you upload this Review; you will submit all information and attachments for your **Resource Request** as part of your Review document submission via the

[Hawaii CC - Program & Unit Review Submission portal](https://hawaii.kualibuild.com/app/builder/#/app/60ef56c477b0f470999bb6e5/run)  
<https://hawaii.kualibuild.com/app/builder/#/app/60ef56c477b0f470999bb6e5/run>

1. **Desktop Computers** – needed for the computer lab used to teach GIS and other natural resource classes. Also used by many other credit and non-credit courses. The existing computers were damaged and melted due to overheating after the air-conditioning went out from 2018-2020, and became irreparable when the campus and building was completely shut down during COVID-19 in Spring 2020. Quantity 16, cost per desktop approximately \$349 each, total cost = \$5,584. We will also be applying for HEERF funds to replace these.

2. **Computer lab chairs** – existing chairs are falling apart, need to teach the above classes. , Quantity 16, Approximate cost per chair - \$120 each, Total cost = \$1,920. As we aim for post-pandemic recovery of our campus and teaching efforts with the return of the TEAM program in Fall 2022, it is hoped that we can replace the chairs our students will be using so

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that there is ample, stable seating for all. We will also be applying for HEERF funds to replace these.

**3. Security Camera for Greenhouse and Agroforestry Area.** Over the last 5 years, this area has experienced a great deal of vandalism of our truck and greenhouse and included theft of chippers, chainsaws, lawn mowers, plants and many other items. Additionally, with the decrease of students and faculty on campus due to COVID-19, there was an increase in thefts and vandalism. Quantity needed - 1; Cost per camera: Approximately \$300. It is not known exactly how much this will cost, as it should be able to integrate with the campus security system. We will also be applying for HEERF funds to try to secure this camera.

✓ Item Description

✓ Justification

✓ Priority Criteria (must meet at least one of the following):

1. Ensure compliance with mandates and requirements such as laws and regulations, executive orders, board mandates, agreements and contracts and accreditation requirements.
2. Address and/or mitigate issues of liability, including ensuring the health, safety and security of our Kauhale.
3. Expand our commitment to serving all segments of our Hawaii Island community through Pāalamanui and satellite centers
4. Address aging infrastructure.
5. Continue efforts to promote integrated student support in closing educational gaps.
6. Leverage resources, investments with returns, or scaling opportunities
7. Promote professional development.

| <b>Category-Specific Information</b> |                       |   |                                |   |
|--------------------------------------|-----------------------|---|--------------------------------|---|
| <b>Equipment</b>                     | Estimated Date Needed | Quantity / Number of Units; Cost per Unit       | Total Cost (with S&H, tax)     | On Inventory List (Y/N); Decal #, Reason replacing    |
| <b>Facilities Modification</b>       | Estimated Date Needed | Total Cost                                      | Monthly/Yearly Recurring Costs | Utilities Required                                    |
| <b>Personnel Resource</b>            | Estimated Date Needed | FTE; Position Type; Position Title              | Estimated Salary               | Was an Existing Position Abolished? (Y/N); Position # |
| <b>Professional Development</b>      | Estimated Date Needed | Have you applied before (Y/N); was it approved? | Professional Development Type  | PD Details; Impact; Total Cost                        |
| <b>Reallocation</b>                  | Estimated Date Needed | Total Cost                                      | Monthly/Yearly Recurring Costs | Reallocation Proposal                                 |

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## 6. Optional: Edits to Occupation List for Instructional Programs

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Review the Standard Occupational Classification (SOC) codes listed for your Instructional Program and verify that the occupations listed align with the program learning outcomes. Program graduates should be prepared to enter the occupations listed upon program completion. Indicate in this section if the program is requesting removal or additions to the occupation list.

**I am NOT requesting changes to the SOC codes/occupations listed for my program.**

**I am requesting changes to the SOC codes/occupations listed for my program.**

[O\\*Net CIP-SOC Code Look-up](#)

*\*in the **Crosswalks** box, choose "Education," then enter CIP number to see related SOC codes*

List below each SOC code for which change is being requested and include details of requested code deletions and/or additions. Include justification for all requested changes.

\*All requested changes to the SOC codes/occupations listed for programs must be discussed with and approved by the Department/Division Chair.