

**Notice of Meeting
UNIVERSITY OF HAWAI'I**

BOARD OF REGENTS COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Members: Regents Wilson (Chair), Acopan (Vice-Chair), Acoba, Bal, and Haning

Date: Thursday, February 3, 2022

Time: 9:45 a.m.

Place: Virtual Meeting

In light of the evolving COVID-19 situation, protecting the health and welfare of the community is of utmost concern. As such, this will be a virtual meeting and written testimony and oral testimony will be accepted in lieu of in-person testimony. See the Board of Regents website to access the live broadcast of the meeting via livestream: www.hawaii.edu/bor. Mahalo for your consideration.

AGENDA

- I. Call Meeting to Order**
- II. Approval of Minutes of the October 7, 2021 Meeting**
- III. Public Comment Period for Agenda Items:**

All written testimony on agenda items received after posting of this agenda and up to 24 hours in advance of the meeting will be distributed to the board. Late testimony on agenda items will be distributed to the board within 24 hours of receipt. Written testimony may be submitted via the board's website through the testimony link provided on the [Meeting Agendas, Minutes and Materials](#) page. Testimony may also be submitted via email at bor.testimony@hawaii.edu, U.S. mail at 2444 Dole Street, Bachman 209, Honolulu, HI 96822, or facsimile at (808) 956-5156. All written testimony submitted are public documents. Therefore, any testimony that is submitted for use in the public meeting process is public information and will be posted on the board's website.

Those wishing to provide oral testimony for the virtual meeting may register [here](#). Given constraints with the online format of our meetings, individuals wishing to orally testify must register no later than 7:00 a.m. on the day of the meeting in order to be accommodated. It is highly recommended that written testimony be submitted in addition to registering to provide oral testimony. Oral testimony will be limited to three (3) minutes per testifier.

IV. Agenda Items

A. Academic Program Actions

1. Review and Recommend Board Approval of the Following University of Hawai'i (UH) at Mānoa Programs:
 - a. Establishment of a Provisional Bachelor of Arts in Marine Biology

- b. Change from Provisional to Established Status: Bachelor of Science in Molecular Cell Biology
 - c. Change from Provisional to Established Status: Bachelor of Environmental Design
 - d. Establishment of a Provisional Bachelor of Education in Special Education
2. Review and Recommend Board Approval to Change from Provisional to Established Status: Advanced Professional Certificate in Special Education PK-12, Leeward Community College
- B. Recommend Board Approval of Revisions to Regents Policy 6.208, Board Exemptions to Non-Resident Tuition
 - C. Hawaii P-20 Partnerships for Education Update
 - D. General Education Redesign Update
- V. Adjournment**

DISCLAIMER – THE FOLLOWING ARE DRAFT MINUTES AND ARE SUBJECT TO FURTHER REVIEW AND CHANGE UPON APPROVAL BY THE COMMITTEE

MINUTES

BOARD OF REGENTS COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS MEETING

OCTOBER 7, 2021

Note: On August 5, 2021, Governor David Y. Ige issued a proclamation related to the COVID-19 emergency that temporarily suspended Chapter 92, Hawai'i Revised Statutes, relating to public meetings and records, "only to the extent necessary to minimize the potential spread of COVID-19 and its variants".

I. CALL TO ORDER

Chair Ernest Wilson called the meeting to order at 8:32 a.m. on Thursday, October 7, 2021. The meeting was conducted virtually with regents participating from various locations.

Committee members in attendance: Chair Ernest Wilson; Vice-Chair Kelli Acopan; Regent Simeon Acoba; Regent Eugene Bal; and Regent William Haning.

Others in attendance: Board Chair Randy Moore; Regent Wayne Higaki; Regent Diane Paloma; Regent Robert Westerman (ex officio committee members); President David Lassner; Vice President (VP) for Community Colleges Erika Lacro; VP for Legal Affairs/University General Counsel Carrie Okinaga; VP for Research and Innovation Vassilis Syrmos; VP for Information Technology/Chief Information Officer Garret Yoshimi; VP for Budget and Finance/Chief Financial Officer Kalbert Young; UH Mānoa (UHM) Provost Michael Bruno; UH Hilo (UHH) Chancellor Bonnie Irwin; UH West O'ahu (UHWO) Chancellor Maenette Benham; UH Maui College (UHMC) Chancellor Lui Hokoana; Executive Administrator and Secretary of the Board of Regents (Board Secretary) Kendra Oishi; and others as noted.

II. APPROVAL OF MINUTES

Vice-Chair Acopan moved to approve the minutes of the June 2, 2021, committee meeting, seconded by Regent Bal, and the motion carried, with all members present voting in the affirmative.

III. PUBLIC COMMENT PERIOD

Board Secretary Oishi announced that the Board Office did not receive any written testimony and that no individuals signed up to provide oral testimony.

IV. AGENDA ITEMS

A. Update on Western Association of Schools and Colleges (WASC) Accreditation

1. Overview of Accreditation, Roles and Responsibilities of a Board, and Considerations for Accreditation within a University System

President Lassner provided a brief background of the WASC Senior College and University Commission (WSCUC), which is an institutional accrediting agency that accredits four of the university's campuses including UHM, UHH, UHWO, and UH Maui College, and noted that the other six campuses of the university system are accredited by the Accrediting Commission for Community and Junior Colleges (ACCJC) and recently underwent their accreditation review and evaluation. He introduced Jamieenne Studley, President of WSCUC, who would be providing an overview of accreditation and WSCUC's accreditation processes.

Ms. Studley began by addressing the context under which institutional accreditation takes place noting that, despite the incredible diversity of institutions of higher education (IHE) across the United States with respect to matters such as educational mission, organizational structure, financial resources, and populations served, each institution remains responsible for ensuring that its core mission is met. WSCUC assists IHEs in achieving these goals through an accreditation process that aids institutions in developing and sustaining effective educational programs and assures the educational community, the general public, and other organizations that an accredited institution has met high standards of quality and effectiveness. It was noted that the higher education system in the United States is unlike other systems across the globe in that determining whether an IHE has met an acceptable level of quality is not a function of a centralized government agency but rather is a function carried out by federally-recognized, private educational associations of regional or national scope, such as WASC and WASCUC, that develop evaluation criteria and conduct peer evaluations to assess whether or not those criteria are met. Accreditation of IHEs also involves federal and state government agencies that are responsible for ensuring that IHEs meet federal and state financial, consumer protection, and educational requirements.

Ms. Studley reviewed the broad standards used by WSCUC in reviewing and evaluating IHEs, noting the breadth of these standards, as well as the various elements of the WSCUC accreditation process. She stressed that WSCUC accredits institutions rather than individual programs and places an emphasis on institutional structures, governance, processes, and resources.

The changing landscape of accreditation, as well as the provision of post-secondary education in general, was discussed by Ms. Studley who stated that the focus of accreditors, IHEs, reviewers, and the general public is shifting from inputs and process to conversations addressing actions and results with greater emphasis being placed on outcomes achieved relative to investments made in higher education. Other changes occurring in accreditation and the provision of higher education included accreditors shifting from a regional to a national, and in some cases international, scope of accreditation; the evolution of individual IHEs into organizations that are more system-driven; and the development of new education providers, relationships, and business arrangements. She also reviewed current realities and challenges facing IHEs, as well as those that they are anticipated to face in the future and actions being taken by

WSCUC to help drive conversations about these topics and assist IHEs in meeting these new demands and expectations.

Stating that the University of Hawai'i is a state university funded in large part by legislative appropriations and that tensions sometimes arise when attempts are made to invoke autonomy with respect to governance and operations, Board Chair Moore asked how these situations are addressed in other jurisdictions. Ms. Studley replied that WASC and WSCUC are focused on reviewing and evaluating the quality of IHEs and their ability to achieve expected outcomes in an effective manner. She stated that WASC and WSCUC expect individual institutions to have the governance capacity, thoughtfulness, and institutional leadership to navigate this tension and address these types of scenarios.

Board Chair Moore opined that there are two general perspectives on the purpose of higher education. One school of thought is that higher education exists to improve the capacity of individuals to maximize their utility and personal benefit for the benefit of society as a whole. The other notion is that IHEs exist to train a future workforce. This dichotomy of beliefs can lead to tensions with regard to the value of higher education in general. Ms. Studley concurred with this assessment stating that some of these conflicts can be addressed through a comprehensive and thoughtful evaluation of higher education that is conducted in the context of a long-term horizon which can provide university officials, governing boards, and public policy makers with concrete data on the values of a post-secondary education.

Regent Haning inquired about the distinction between WASC and the Western Interstate Commission for Higher Education (WICHE). Ms. Studley explained that WASC is an accrediting organization that determines whether an IHE meets a particular set of educational and governance standards. WICHE is an organization whose purpose is to advance the collective interests of IHEs in the western United States. President Lassner added that WICHE is one of four regional compacts of states that exist throughout the country that advances the interests of IHEs within their respective region.

Citing comments made that WSCUC accredits institutions as a whole, Regent Acoba questioned the rationale behind allowing individual institutions to utilize a thematic process as an alternative pathway toward reaffirmation; inquired as to whether evaluations have been conducted on the efficacy, accuracy, and feasibility of using this process to accredit an institution; and asked if this process fulfilled requirements established under the federal Higher Education Act (HEA) with regard to accreditation. Ms. Studley replied that the thematic pathway for review was developed to simplify the reaffirmation process for institutions with a history of successful affirmation and strong core capacities. The thematic process allows institutions to achieve reaffirmation through focusing on themes of the institution's choosing which then allows WSCUC to implement its accreditation process in a more concentrated manner. She stated that the thematic pathway for accreditation is currently being reviewed and evaluated as the first cohort of schools using this process was just approved last year. She also stated

that WSCUC believes that this process satisfies the broad statutory requirements of HEA.

2. Campus Updates

Provost Bruno, Chancellor Irwin, Chancellor Benham, and Chancellor Hokoana provided detailed updates on the progress of accreditation for their respective campus. Each reviewed their accreditation schedules noting that, for UHM, virtual visits are scheduled for later this year, and that several off-site visits have already occurred at UHH, UHWO, and UHMC with on-site visits scheduled in early 2022; the processes used to prepare for reaffirmation; issues, recommendations, and commendations noted in previous accreditation reports; steps that were taken, as well as actions that continue to be implemented, to address the noted issues and recommendations; and key issues, challenges, and areas of continued concern facing each campus.

Provost Bruno noted that UHM was selected to apply for reaffirmation using WSCUC's newly implemented thematic process. He reviewed the three themes chosen by UHM which included becoming a Native Hawaiian place of learning; transformational student success; and academic innovation and engaged learning stating that they were in direct correlation with recommendations made by WSCUC during its last review and evaluation in 2011. Provost Bruno also highlighted issues and goals pertaining to each of these themes, as well as actions undertaken to address these issues and goals, and noted several accomplishments already achieved by UHM including the creation of the Native Hawaiian Place of Learning Advancement Office, the use of Native Hawaiian values in reviewing campus initiatives, increased graduation and retention rates, and the reimagination of disciplinary studies.

Regent Acoba requested clarification on the search advocacy program initiated by UHM to increase the diversity of faculty, as well as executive and managerial personnel, particularly with regard to the selection of search advisors and the efficacy of the program. Provost Bruno replied that the search advocacy program was started in 2020 to increase the diversity of university personnel and was modeled after a similar program at Oregon State University. Search advocates consist of volunteers that receive training from an academic personnel team from the Office of the Vice Provost for Academic Excellence on methods of attaining the most diverse pool of applicants as possible for a particular position. Once training is completed, the search advocates are deployed to employment search committees outside the realm of their particular units. He noted that UHM requires a search advocate to be used in every employment search conducted on campus and that the program has witnessed measurable success thus far. Regent Acoba commended these efforts as a positive development for UHM.

Chancellor Irwin stated that previous accreditation reviews have found issues with UHH including with the number of interim administrative staff employed and declines in enrollment both of which UHH is currently working to address. However, she noted that UHH also has a number of strengths including a strong sense of place and programmatic connections to community that is evidenced by its emphasis on high-impact practices in hands-on aina- and community-based learning. UHH has also

increased efforts to become more transparent and engaging with the campus community through the use of public websites to provide easier access to campus information, including information on UHH's finances.

Noting that additional information regarding the success and inclusivity of certain student subgroups at UHH was sought by the accreditation team, Regent Acoba requested Chancellor Irwin to expound upon this issue. Chancellor Irwin stated that the origins of this issue were revealed during extensive surveys conducted by UHH in preparation for its self-evaluation and are twofold. First, despite being a Hawaiian and Pacific Islander serving institution and the implementation of numerous programs to assist these students, equity gaps continue to be observed in student achievement among those subgroups. Second, the emphasis placed on assisting the Native Hawaiian and Pacific Islander subgroup has led other student subgroups with a smaller demographic to feel overlooked. UHH is working to address these issues through actions such as reviewing data to determine why equity gaps continue to be witnessed and the creation of affinity groups to increase student support on campus.

Chancellor Benham mentioned the importance of inclusivity in the reaffirmation process and noted the steps taken by UHWO to promote participation in this process. She stated that UHWO established a highly representative steering community to begin formulating its Institutional Report for Reaffirmation (IRR) in the fall of 2019. The steering committee then established nine component groups that were aligned with the various components of the IRR and were comprised of a broad range of the campus community including students and staff. Based upon discussions between and among the steering committee and component groups, as well as data and information collected as part of these discussion, a draft IRR report was produced and released in April 2021 for vetting by the broader campus community through eight campus-wide information sessions, town hall meetings, and surveys.

Chancellor Hokoana remarked that UHMC is an outlier in that, although it is accredited by WASC, it administratively reports to VP Lacro and the community college system, and provided background on how this occurred. He highlighted several components of UHMC's IRR report including its determination to increase campus sustainability and noted that UHMC is engaging in preliminary work, including conducting an assessment of campus and community needs, to develop a new strategic plan to replace the strategic plan currently in place which is set to expire at the end of this year.

B. Committee Work Plan

Chair Wilson referenced the Committee Work Plan noting that it would be used as an outline of the work to be performed by the committee during the coming year and inquired if regents had any comments. No comments or questions were raised.

C. General Education (Gen Ed) Redesign Update

Debora Halbert, Associate Vice President (AVP) for Academic Programs and Policy, provided a brief update on the work and progress of the Summer 2021 Gen Ed Institute

(Summer Institute) that was tasked with examining and revamping the Gen Ed curriculum at the university to address concerns with dated content and program structure and governance, as well as transfer and articulation challenges between campuses. She stated that work on this endeavor continues and introduced Professor Ryan Girard and Professor Celia Bardwell-Jones, two faculty members of the Summer Institute's Gen Ed Curriculum Design Team (Design Team), to provide more specifics about the Gen Ed redesign process and its current status.

Professor Girard stated that the Design Team consisted of 14 faculty members and three undergraduate students that were recruited and selected through faculty and student governance groups and represented a broad spectrum of disciplines on all ten campuses of the university system. The Design Team researched, discussed, and debated every aspect of the Gen Ed core curriculum in order to develop a proposal that would be broadly accepted while addressing specific concerns and questions raised by the university community. He commended the efforts of the Design Team members noting that discussions between members are ongoing despite over 3000-person hours of work occurring over the last few months.

Professor Bardwell-Jones explained that the Design Team developed a proposal for a redesigned Gen Ed curriculum that is more of a competency-based model rather than a diversification-based model and distributed the proposal for external review. The proposal is currently in the process of being revised and edited based upon comments received from external reviewers and will be distributed to Design Team members for a full vote once the revisions and edits are completed, which is anticipated to occur over the next two weeks. If approved by the Design Team, the proposal will be sent to the faculty senates for further review. Dr. Christine Beaulé, Director of the Gen Ed Program at UHM, added that the university has been working extensively with the executive committees of each of the faculty senates throughout the Gen Ed redesign process and that the faculty senates would be leading the formal consultation process on the proposed academic changes throughout the 2021-2022 academic year. She noted that a parallel consultation process to obtain direct feedback on the proposal from the broader university community will also occur during this time.

Regent Acoba remarked that the update on the Gen Ed redesign only contained an outline of the process, which makes it difficult to ask pointed questions and determine the point in the process where board involvement will be required. He suggested that the administration provide a narrative report on this issue to the board. AVP Halbert explained that the distribution of the draft Gen Ed redesign proposal to external reviewers did not align with the scheduled committee meeting on this issue which made it difficult to prepare a comprehensive, narrative report. However, a narrative report on the status of this proposal is currently being written and will be made available to regents.

Chair Wilson opined that the Design Team should remain cognizant of relationships between the thematic accreditation process being implemented by WSCUC and the Gen Ed redesign approach being proposed.

V. ADJOURNMENT

There being no further business, Regent Bal moved to adjourn, seconded by Regent Haning, and with all members present voting in the affirmative, the meeting was adjourned at 10:05 a.m.

Respectfully Submitted,

Kendra T. Oishi
Executive Administrator and Secretary
of the Board of Regents



UNIVERSITY
of HAWAI'I
MĀNOA

UNIVERSITY OF HAWAII
BOARD OF REGENTS

College of Natural Sciences
Office of the Dean

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November 29, 2021

MEMORANDUM

To: Randolph G. Moore
Chair, Board of Regents

VIA: David Lassner
President *David Lassner*

VIA: Michael Bruno *Michael Bruno*
Provost

VIA: Laura E. Lyons *Laura E. Lyons*
Interim Vice Provost for Academic Excellence

From: Dean Aloysius Helminck
College of Natural Sciences *A. Helminck*

SUBJECT: REQUEST FOR PROVISIONAL STATUS FOR THE BACHELOR OF
ARTS IN MARINE BIOLOGY AT THE UNIVERSITY OF HAWAI'I AT
MĀNOA

SPECIFIC ACTION REQUESTED:

It is respectfully requested that the Board of Regents grant provisional status to the BACHELOR OF ARTS IN MARINE BIOLOGY in the COLLEGE OF NATURAL SCIENCES at the University of Hawai'i at Mānoa.

RECOMMENDED EFFECTIVE TERM/YEAR:

It is respectfully recommended that the Bachelor of Arts in Marine Biology be effective as of the Fall 2022 semester.

2565 McCarthy Mall, Keller Hall Suite 201
Honolulu, Hawai'i 96822
Telephone: (808) 956-6451
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An Equal Opportunity/Affirmative Action Institution

ADDITIONAL COST:

There are no additional costs associated with the creation of this new degree program. All courses are currently being taught. If laboratory enrollment in the Marine Biology courses grows, the laboratory fees paid by students will offset any additional expenses associated with purchasing supplies.

PURPOSE:

The provisional establishment of a Bachelor of Arts degree in Marine Biology (BA MB) is being requested to complement an existing Bachelor of Science in Marine Biology (BS MB). The proposed BA MB will provide students with an appealing option for a strong degree in marine biology that also allows them to develop skill sets that prepare them for a diverse array of non-research, ocean-related careers. The BA MB will provide a new option for Hawai'i resident students who have a passion for marine biology but want to give back to their communities in various ways through careers in teaching, sustainability, conservation, management, and community outreach, among other career pathways. With the increased flexibility of the proposed BA MB, graduates will have a broad set of skills applicable to diverse professional options. The BA MB is also expected to have a positive impact on overall retention and graduate rates of the marine biology major.

BACKGROUND:

This request is in accordance with Board of Regents policy 5.201 III(A)(1) which states that "The Board shall approve the establishment of all new instructional programs granting academic credit leading to a degree or credential." The ATP was approved by President Lassner on May 6, 2019. Although this proposal was submitted by the college in a timely fashion, the campus review process was unusually lengthy due to a variety of factors that were outside the purview of the program.

Significance/Contribution of this degree:

The Marine Biology major at UH Mānoa exemplifies a degree that "*focuses on programs of excellence that emphasize Hawai'i's many strengths and advantages of location, population and geography.*" Our geographic location, Hawai'i's strong historical, cultural, and economic connection with the ocean, and the University's unique and diverse strengths in marine research, all make UH Mānoa a top choice for students interested in marine biology. The MB curriculum capitalizes on these unique strengths, with numerous field trips to learn first-hand within the Hawaiian waters and many opportunities for students to interact directly with local researchers and representatives from government and non-government organizations.

The BA MB will further provide students the flexibility to combine a marine biology major with complementary studies and training in other fields that are important in our state. This proposal includes courses from departments in the School of Ocean and Earth Science and Technology (OCN, approved), College of Social Sciences (GEO, approved) and the Hawai'i inuiākea School of Hawaiian Knowledge (HWST, approved), which were not originally part of the BS MB.

Demand projections:

We expect that the BA MB will be attractive to a subset of students currently enrolled in the BS MB program, resulting in a slight initial decrease in BS MB enrollment and a corresponding increase in the BA MB.

The proposed BA MB supports UHM's goal to "*become more attractive to the best local high school graduates,*" and to "*attract more top national and international students.*" The existing BS MB is already a popular degree and has the third highest headcount of classified degree-seeking undergraduates. It is anticipated that the BA MB will attract even more top local, national, and international students because it will allow them to pursue other interests and develop skills appropriate for a wide array of career paths in marine biology-related fields.

Similar models from peer institutions:

Only a small number of UHM's peer and benchmark institutions have the appropriate faculty expertise, geographic location, and student interest to offer a degree in marine biology, but many offer both BS and BA degrees in biology or more specialized areas of the natural sciences. There are several major R1 universities outside of our peer and benchmarks that offer a BA in marine biology – or a BA in biology with a marine biology track – including Duke University, the University of North Carolina at Chapel Hill, Florida State University, and the University of Oregon.

Similar programs at other UH campuses:

The existing degree program most similar to the proposed BA MB is the current BS MB at UHM. The BS program was designed to prepare students to pursue research-oriented careers, which is not the purpose of the proposed BA MB. UH Hilo has a BA and BS in Marine Sciences, which have a broader curriculum requiring a number of oceanography courses and containing far fewer marine biology courses than the proposed BA MB. The proposed BA MB is distinctly different from any program currently available in the UH system, filling a void by producing graduates with the necessary skills to fill a number of marine biology-related positions throughout the Hawaiian Islands. Both the current and past chairs of the Marine Science Program at UH Hilo were consulted during the development and approval process for the proposed BA MB, and they expressed their support for moving forward with establishing the BA MB at UHM.

Cost and resource allocation/reallocation implications:

There are no additional costs associated with the creation of this new degree program. All courses are currently being taught. If laboratory enrollment in Marine Biology courses grows, the laboratory fees paid by students will offset any additional expenses associated with purchases supplies. If additional laboratory sections are required, Teaching Assistants will be reallocated from among the existing pool available to the School of Life Sciences, which will house the program.

ACTION RECOMMENDED:

It is respectfully recommended that the Board of Regents grant provisional status to the BACHELOR OF ARTS IN MARINE BIOLOGY in the COLLEGE OF NATURAL SCIENCES at the University of Hawai'i at Mānoa.

Attachment: Proposal for Bachelor of Arts in Marine Biology

cc: Executive Administrator and Secretary of the Board Kendra Oishi

**Provisional Program Proposal: Bachelor of Arts in Marine Biology
School of Life Sciences in the College of Natural Sciences
University of Hawai'i at Mānoa**

SUMMARY

The School of Life Sciences (SoLS) and College of Natural Sciences at UH Mānoa (UHM) are proposing a new degree program, a Bachelor of Arts in Marine Biology (BA MB). The proposed BA MB will enhance marine biology education at UHM and grow Hawaii's workforce in key areas by providing the opportunity for students to pursue a rigorous scientific degree, while also providing flexibility to engage across other units at UHM to develop new and complementary skill sets. Students in the BA MB program will be able to train for jobs in marine-related areas such as sustainability, sustainable tourism, education, marine policy, and Hawaiian Studies, while still following their passion for marine biology. The projected size of the BA MB in five years is ~160 students; some of these will come from redistribution within Biology and Marine Biology, some through increased retention, and some will be new students attracted by the BA MB. All courses needed for the BA MB already exist within the Bachelor of Science in Marine Biology (BS MB) or in other units at UH, so this proposal is low risk and will require no new resources to SoLS.

PROGRAM PURPOSE

We are proposing a new degree program, the BA MB, to complement the existing BS MB at UHM. The BS MB was created in 2002 to meet a growing demand from prospective and current undergraduates for training in marine biology in Hawai'i, as well as the market demand for college graduates in the field, here and abroad. It is currently the third largest major on campus, with almost 400 students. Demand for the program is driven by both Hawai'i's unique situation, surrounded by an ocean filled with spectacular marine life that is closely entwined with human history in the islands, and plays a major sustaining role in traditional and modern societal practices; and its reputation for excellence in marine biology research. As initially envisioned, the BS MB was designed primarily to prepare students for graduate studies in marine biology or for future jobs that required training in quantitative or physical sciences in addition to marine biology. Other stated goals of the BS MB were to prepare students for career opportunities in careers such as:

- K-12 marine biology teachers for public and private schools.
- Marine Biology-savvy workers for government, non-government, and private agencies.
- Marine Biology-trained workers in aquaculture, marine resource management, consulting firms, and analytical laboratories.
- Natural history interpreters for leisure cruises, diving, coastal hikes or related ecotourism.

Preparing students for these other, non-research careers is important for communities and for the State of Hawai'i, and many of our majors are passionate about teaching, management, conservation, science communication, and sustainability. While the BS MB program was designed to be highly rigorous, one unanticipated consequence has been that the degree program limits the ability of MB students to prepare for non-research careers. The current BS MB program sheet only has room for one elective course outside of MB, MB-related, and general education requirements. Without taking extra time to graduate, the vast majority of BS MB students cannot earn a certificate, complete a minor, or even take a cluster of courses in

their other areas of interest. The proposed BA MB contains core introductory Biology and Chemistry courses, along with advanced courses in marine biology that are similar to requirements for the BS MB, but with greater flexibility. By removing some non-marine biology content that is traditionally included in BS degrees to prepare students for graduate school in STEM fields, the BA MB creates space for students to develop other skills and knowledge while still pursuing their passion for marine biology.

Our primary reason for proposing a BA MB is to provide students with the option for a strong degree in marine biology that also allows them to explore other areas and develop new skill sets that will prepare them for a wide diversity of ocean-related careers. Other important goals include improving retention, increasing the attractiveness of the degree program for local students, and building connections across UH and Hawai'i.

PROGRAM OUTCOMES

The Program Learning Outcomes (PLOs) for the BA MB are shared between the BS MB, as well as the BA and BS in Biology, which is offered through the School of Life Sciences (SoLS). Upper-level core courses in the BS MB and proposed BA MB address the PLOs in a marine context.

Table 1. SoLS Undergraduate Program Learning Outcomes

<p><i>Biological Knowledge: Synthesis and Application</i></p> <p>Student will be able to:</p> <ol style="list-style-type: none">1. Explain biological processes from molecules to ecosystems in an evolutionary context, including being able to use examples from Hawai'i. <p><i>Critical Thinking and Reasoning Skills</i></p> <p>Student will be able to:</p> <ol style="list-style-type: none">2. Demonstrate scientific literacy by critically evaluating scientific evidence, identifying gaps in knowledge, and applying strong evidence-based biological arguments to real-world problems.3. Apply the scientific method to generate new hypotheses, formulate experimental approaches and outline potential outcomes, applying appropriate logical and quantitative methods. <p><i>Values</i></p> <p>Student will:</p> <ol style="list-style-type: none">4. Work individually and in teams in an ethical manner, and demonstrate respect for diversity of viewpoints. <p><i>Communication skills</i></p> <p>Student will:</p> <ol style="list-style-type: none">5. In oral and written forms, be able to communicate biological information clearly and professionally.

Table 2. BA MB Curriculum Map

Key: I - Introduce, R-Reinforce, M-Mastery, A- Assessment Point.

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5 (Written)	PLO 5 (Oral)
BIOL 171	I					
BIOL 171L				I	I	
BIOL 172	I					
BIOL 172L	I			I	I	I
BIOL 220	I	I	I			
BIOL 265	R	I	I			
BIOL 265L	R	I	I	R	R	I
BIOL 275	R	I		R	R	
BIOL 275L	R	I	I	R	R	R
Marine Biology Courses						
OCN 201	I	I				
BIOL 301	R	R	R			
BIOL 301L	R	R	R	R		R
Group I Electives	R/M	R/M	R/M	R/M		
Group II Electives	R/M	R/M	R/M		R/M	R/M
Synthesis Experience	M, A	M, A				

Alignment with System and Campus Mission and Academic Plan

The Marine Biology major at UH Mānoa exemplifies a degree that “*focuses on programs of excellence that emphasize Hawai‘i’s many strengths and advantages of location, population and geography.*” Our geographic location, Hawai‘i’s strong historical, cultural, and economic connection with the ocean, and the University’s unique and diverse strengths in marine research, all make UH Mānoa a top choice for students interested in marine biology. The MB curriculum capitalizes on these unique strengths, with numerous field trips to learn first-hand within the Hawaiian waters and many opportunities for students to interact directly with local researchers and representatives from government and non-government organizations. The BA MB will further provide students the flexibility to combine a marine biology major with complementary studies and training in other fields that are important in our state, such as Hawaiian Studies, Education, and Sustainability.

The proposed BA MB will support UHM’s goal to “*become more attractive to the best local high school graduates,*” and to “*attract more top national and international students.*” The existing BS MB is already a popular degree with close to 400 majors (approximately 30% of all SoLS majors). We feel the BA MB

would attract even more top local, national, and international students because it will allow them to pursue other interests and develop skills appropriate for a wide diversity of career paths in marine-biology-related fields. We list many examples of such career paths throughout this proposal.

Table 3. Alignment of BA Marine Biology Learning Outcomes with UHM Institutional Learning Outcomes

UHM ILOs	Mapped to by BA MB PLOs
1. Know—Breadth and Depth of Knowledge	
<i>a. General education</i>	BA MB PLO 1
<i>b. Specialized study in an academic field</i>	BA MB PLO 1
<i>c. Understand Hawaiian culture and history.</i>	
2. Do—Intellectual and Practical Skills	
<i>Students improve their abilities to</i>	
<i>a. Think critically and creatively</i>	BA MB PLO 2
<i>b. Conduct research</i>	BA MB PLO 3
<i>c. Communicate and report</i>	BA MB PLO 5
3. Value—Personal and Social Responsibility	
<i>Students demonstrate excellence, integrity, and engagement through</i>	
<i>a. Continuous learning and personal growth</i>	BA MB PLO 4
<i>b. Respect for people and cultures, in particular Hawaiian culture</i>	BA MB PLO 4
<i>c. Stewardship of the natural environment</i>	
<i>d. Civic participation in their communities</i>	

STUDENT DEMAND AND PROJECTED ENROLLMENTS

The BS MB was one of the top majors indicated for students applying for Fall 2019 entrance, with a ~32% increase in admitted majors compared to Fall 2018. Particularly in light of the growth in the BS MB, we feel the BA MB is important because it will allow entering students to prepare not just for graduate school and careers directly related to STEM fields, but also to better align themselves with the wide diversity of careers in marine biology-related fields in the state of Hawai‘i and elsewhere.

In the 2013 established-status request for the BS MB, we reported that among graduates who responded to a survey, ~2/3 had continued on to graduate programs and ~1/3 to employed positions, mostly in MB-related fields. Many of these positions (and some of the graduate programs) were in areas such as education, conservation, and sustainability. Having the BA MB as an option will create flexibility in the courses students can choose to take, and allow them to better prepare for the wide diversity of careers that are open to them.

We expect the new BA MB to attract currently enrolled students who desire greater flexibility. Biology BAs that want more flexibility than the Biology BS, but would prefer to focus on MB content, students who want to double major, and some new students who have career interests in MB, but want to pursue careers that do not require graduate research in STEM fields.

Student Interest

We surveyed the BS MB and Biology (BA and BS) majors to determine the level of demand for the proposed new degree and received 124 responses. When asked “*If you were starting college now, would you be interested in a BA degree in Marine Biology?*”, 38% answered “yes” and 41% answered “maybe.” Of the students who answered the question “*What would you view as the strongest reasons to pursue a BA in Marine Biology (as opposed to a BS)?*”, 65% listed increased flexibility, citing their interest in taking courses that would help them prepare for marine biology-related careers in management, sustainability, education, conservation, or humanities. A further 12% responded that a BA would be appealing because it would allow them to complete a double major without extending past four years (currently not possible with the BS MB).

When we asked “*Please share any other insight you have on the proposed BA in Marine Biology,*” students said many positive things, including:

“It allows for more diversity for students pursuing careers in marine bio such as education and public outreach, like myself.”

“I think this would be a great option for those uninterested in becoming a researcher and/or professor in the future. I think other classes, such as those geared towards ocean conservation, sustainability, politics, etc. should be included.”

“Some people want to pursue marine bio for conservation purposes but also enjoy the arts as well with a BA in marine bio students are able to explore both interests they have. Please add this opportunity it would be amazing for so many reasons.”

Projected Enrollment

We expect that the BA MB will be attractive to a subset of students currently enrolled in the BS MB program, resulting in a slight decrease in BS MB enrollment and a corresponding increase in the BA MB. In addition, we expect increased retention within the MB major, which will be reflected in the BA MB enrollment, because there will now be a MB-oriented option for students who decide they want to pursue fields other than traditional MB research-related careers. We also expect a small amount of growth as the BA MB program will be attractive to new students owing to its flexibility in preparing students for future MB-related careers.

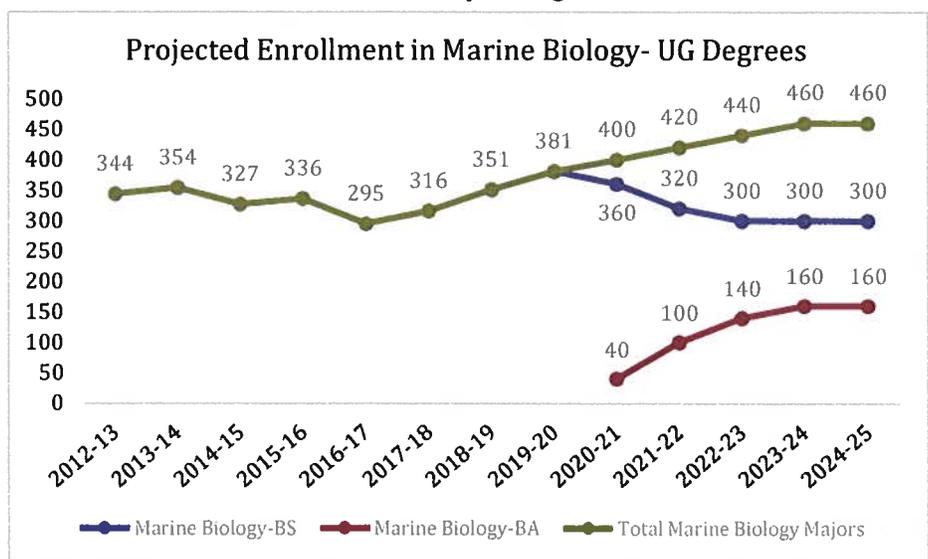


Table 4. Enrollment Projections for the BA in Marine Biology: Provisional Years

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Projected Enrollment	0	40	100	140	160	160

Projected Number of Graduates

We predict the BA MB will initially decrease the number of BS MB majors because some students will choose to move into the BA MB; also in the short term, we expect the total number of MB majors to increase slightly through improved retention. Some students may also redistribute from the BA Biology into the BA MB. Over time, we predict the establishment of the BA MB will result in at least a small overall increase in the number of MB graduates due to improved retention in the MB major (and at UH). If our predictions about additional growth in the new degree are correct (see below in Student Demand, part B), we would eventually expect to graduate ~ 30 BA MB students per year.

Table 5. Program Completion Projection

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Projected Program Completion (annual)	0	5	10	20	30	40

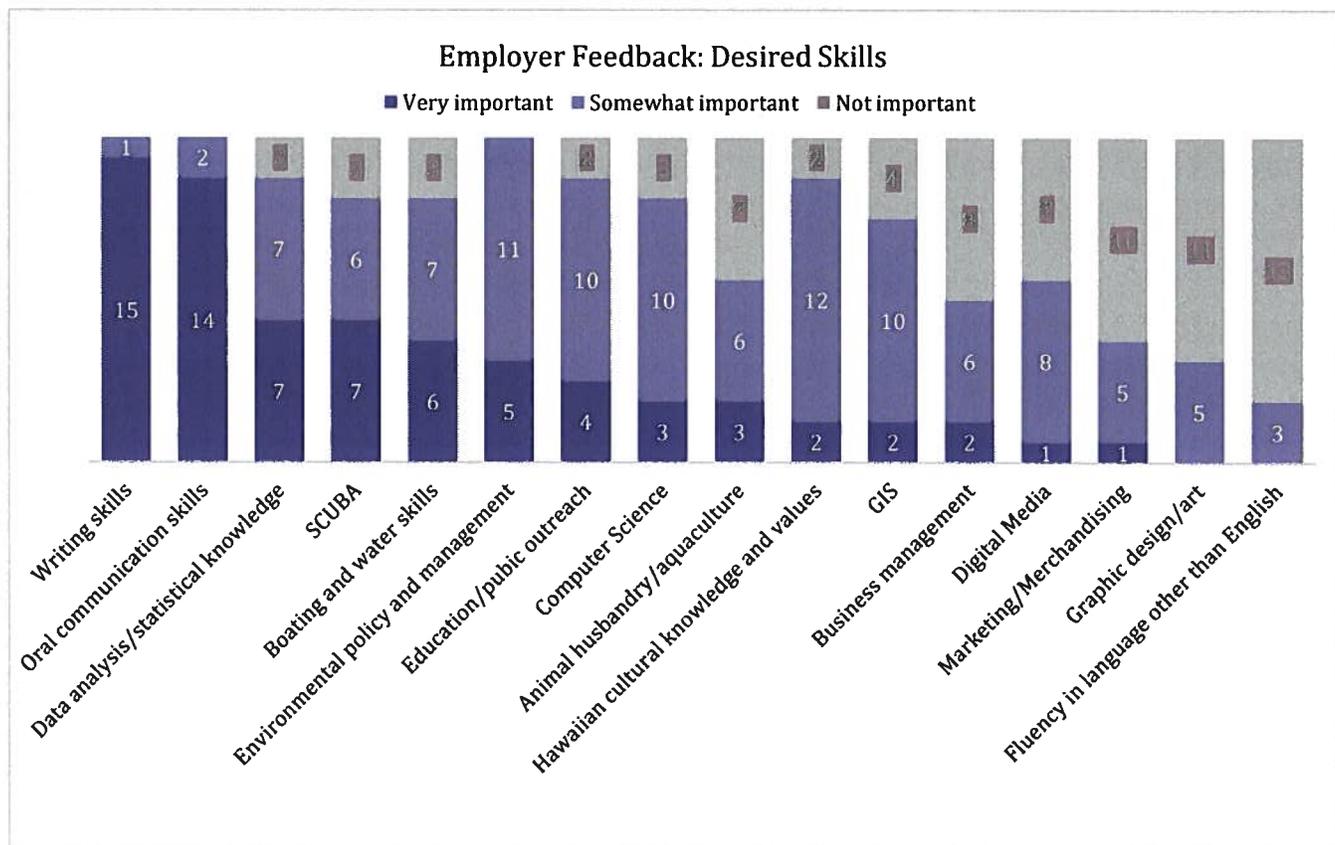
Career and Graduate Education Opportunities

Because students completing the BA MB could have many different skill sets, we predict that their career and graduate education opportunities will be varied as well. For graduate school, students who wished to continue on to e.g. medical, veterinary, law, or other graduate and professional schools would have space in their schedules to take the additional required courses for admittance.

For other career opportunities, we surveyed potential employers for BA MB graduates in the State of Hawai‘i, most of whom had previously employed BS MB graduates, about the skill sets they most value in prospective employees beyond knowledge of marine biology. We received 16 responses from employers at the federal, state, and local level, including private, public, and nonprofit entities. Out of the 14 options we listed (*Employer Feedback: Desired Skills* graph, page 6), the top two most desirable qualities were strong **written** and **oral communication** skills; every employer listed these as either “very important” (15/16 for strong writing skills, 14/16 for strong oral communication skills) or “somewhat important” (the remaining 1 and 2 employers, respectively). Otherwise, not surprisingly, desirable skill sets were as varied as the employers. The overwhelming importance of written and oral communication skills suggests that BA MB graduates will be highly attractive to employers if they choose to further develop these valued skills by taking relevant courses in other fields e.g. English or Communicology. There are already a number of opportunities for BA MB students to develop their writing skills through writing intensive marine-biology-oriented coursework, and we will further emphasize the importance of written and communication skills for BA MB majors through the College of Natural Sciences advising office.

After written and oral communication skills, other skills and expertise valued as “very important” or “somewhat important” by 13 or more employers included **environmental policy and management** (5 “very important”, 11 “somewhat important”), **data analysis and statistical knowledge** (7 very, 7

somewhat), **education and public outreach** (4/10), **Hawaiian cultural knowledge and values** (2/12), **scientific diving** (7/6), **boating and water skills** (6/7), and **computer science** (3/10). The proposed BA MB includes a course in biostatistics, and the other topics and skills are areas that BA MBs could pursue through existing classes, minors and certificates from different units across the University. These include, but are not limited to, minors in Education, Communicology, Hawaiian, English, and Information and Computer Science; and certificates in Sustainability (currently in development), Sustainable Tourism, Mathematical Biology, and the Marine Options Program.



Notably, at least one employer chose “very important” for all but two of the fourteen fields in the survey, including seemingly distantly related areas like **marketing and merchandising** and **digital media**. Every category was listed as “somewhat important” by at least three employers. This highlights the importance of a degree program that allows MB majors to develop skill sets that are outside of the traditional BS route. To reiterate an earlier point, students in the existing BS MB have limited ability to take courses and develop skills outside of their degree program because they do not have free elective credits to use towards completing minors or certificates.

Need for the Program in Hawai‘i

One beneficial outcome of the proposed BA MB is that it will provide a new option for Hawai‘i resident students who have a passion for marine biology but want to give back to their communities in varied ways, through teaching, sustainability, conservation, management, or community outreach. The flexibility in the proposed BA MB, graduates could have a variety of skill sets in different areas. Below we list three examples of complementary subjects BA MB students could pursue that would address the professional, economic, social, and workforce needs of the state of Hawai‘i.

Education

BA MB students could complete a Minor in Education (MIE) if they were considering education as a future profession. The U.S. Department of Education has identified science as a ‘teacher shortage area’ (TSA) for the state of Hawai‘i in every year since 1993 (TSA Nationwide Listing Comprehensive Compendium, May, 2017), and science is listed as one the top three Hawai‘i Department of Education (HIDOE) TSAs for the 2018-2019, 2019-2020, and 2020-2021 school years (<https://tsa.ed.gov/#!/reports>). MIEs can opt to graduate with certification as substitute teachers with HIDOE; a history of employment with HIDOE would give our graduates priority for programs like the Grow Our Own Teachers Initiative, a fast-track program at UHM which offers a post- baccalaureate certificate in secondary education or a Master of Education in teaching with full scholarship stipends, in exchange for a commitment to teach in the Hawai‘i public schools for three or more years. We have also discussed a 3+2 degree program with the College of Education that would allow students to graduate in five years with a BA MB, a Masters degree in teaching, and a State of Hawai‘i teaching credential. If the degree program is approved, we hope to pursue the creation of such a program.

Hawaiian Language and Traditional Knowledge

Future workers in Hawai‘i in any field, including but not limited to resource management, education, and science communication, should have the knowledge to make culturally appropriate recommendations and to interact productively and respectfully with local communities and community leaders. BA MB students could, if they wished, pursue a minor or certificate in Hawaiian. Also, to strengthen this component of the MB degree generally, in the proposed ‘major electives’ course list we have included HWST courses that focus on traditional knowledge and approaches to marine biology. We look forward to the role the BA MB will play in building connections between marine biology instructors and researchers in the SoLS and the Kamakūokalani Center for Hawaiian Studies.

Sustainability and Hawai‘i’s Green Economy

The August 2019 report by the University of Hawai‘i Economic Research Organization (UHERO), “Characterizing Hawai‘i’s Natural Resources Management Sector: Jobs, Education, Salaries, and Expenditures,” highlights ways that the BA MB will contribute to the professional, social, and workforce needs of Hawai‘i. The report shows that in Hawai‘i’s “Green Economy,” jobs in natural resource management (defined as “..activities and employees that support and care for natural lands, air, freshwater and marine systems in Hawai‘i”) grew at an annual rate of 7% between 2014 and 2018. Employers reported that most of these positions required at least a 4-year bachelor’s degree, and one of the key recommendations in the UHERO report was to “Encourage pursuit of the most desirable college majors for natural resource management careers: natural resources management, biology, environmental studies, botany, ecology, Hawaiian studies, communications, **marine biology**, geography, environmental law.” This

fits perfectly with the goals of the BA MB; graduates will have solid training in marine biology and can also gain experience and knowledge in other, complementary fields such as sustainability, Hawaiian studies, communications, and law.

National and International Need

BA MB students could graduate with a variety of skill sets that would prepare them for different types of jobs in ocean-related industries. Jobs in the variously-termed “Blue Economy” or “Ocean Economy” are increasingly important in the United States. According to the NOAA Report on the U.S. Ocean and Great Lakes Economy (2019), “Blue Economy” jobs accounted for 2.3% of total employment in the US in 2016, with a 2.7% increase in positions between 2010 and 2016, compared to 1.7% overall job growth during that time.

The six sectors in NOAA’s Ocean Economy Report (2019) were Living Resources, Tourism and Recreation, Marine Transportation, Marine Construction, Ship and Boat Building, and Offshore Mineral Extraction. The University of Hawai‘i have unique and outstanding resources to support preparation of BA MB graduates in many of these areas. Tourism and Recreation was by far the largest sector in NOAA’s report, accounting for 73% of total employment and 41% of GDP. As a global center for tourism, much of it ocean-based, Hawai‘i and the University of Hawai‘i are uniquely situated to attract and train BA MB students in areas complementary to marine biology, such as Sustainable Tourism. Living Resources is another area of obvious overlap; many of our students’ express interests in resource management or aquaculture, which also fits with the employment needs of the State of Hawai‘i.

PROGRAM ORGANIZATION

The BA MB will require a foundation in chemistry, including General Chemistry I and II plus corresponding laboratories, and Organic Chemistry I with laboratory. This is essential to ensure students have the knowledge to complete molecular-oriented biology and marine biology coursework. They will also need a strong foundation in biology-related statistics, so all BA MB students will complete a Biostatistics course (BIOL 220). The biostatistics skills learned in this course will carry through their MB coursework. The paperwork was submitted in spring 2020 for BIOL 220 to fulfill the foundations in quantitative reasoning (FQ) general education requirement.

All BA MB students will complete Introductory Biology I and II plus corresponding laboratories (BIOL 171+171L, BIOL 172+172L) to ensure a broad exposure to basic biology topics. Building on that foundation, students will complete Ecology and Evolutionary Biology plus laboratory (BIOL 265+265L) and Cell and Molecular Biology plus laboratory (BIOL 275+275L) to learn essential information and skills necessary for upper-division marine biology requirements. Marine Biology specific coursework will start with Science of the Sea (OCN 201) and Marine Ecology and Evolution plus laboratory (BIOL 301+301L) to ensure all BA MB students have a fundamental understanding of ocean processes and ecosystems. The remaining coursework will provide the flexibility for students to customize their BA MB to ensure they complete coursework that prepares them for their future career interests. The MB electives include:

Group 1 Electives (complete 2 courses) - in addition to BIOL 301+301L, students will complete at least two MB-focused courses with labs:

- Fish Diversity Laboratory (BIOL 465L)
- Biology of Invertebrates Lab (BIOL 485L)
- Algal Diversity and Evolution (BOT 480)
- Marine Microbiology Laboratory (MICR 401L)
- Global Environmental Change Laboratory (OCN 310L)

Group 2 Electives (complete 3 courses) - students will take at least three additional MB-focused courses, with or without a lab:

- Marine Mammal Biology (BIOL 331)
- Biology of Marine Organisms (BIOL 406)
- Corals and Coral Reefs (BIOL 411)
- Fish Diversity (BIOL 465)
- The Rise of Fishes: An Evolutionary History (BIOL 468)
- Biology of Invertebrates (BIOL 485)
- Algal Diversity and Evolution (BOT 480)
- Marine Microbiology (MICR 401)
- Global Environmental Change (OCN 310)
- Aquatic Pollution (OCN 320)
- Living Resources of the Sea- Mai ke Kai Mai ke Ola (OCN 331)
- Introduction to Deep-Sea Biology (OCN 430)

Group 3 Electives (complete 2 courses) - students will complete at least two courses that would specifically build towards important MB topics:

- Basic Biochemistry (BIOC 441)
- Ethology (BIOL 306)
- Biology of the Vertebrates (BIOL 325)
- Genetics (BIOL 375)
- Communicating in Biological Sciences (BIOL 390)
- Principles of Biochemistry (BIOL 402)
- Natural History of the Hawaiian Islands (BIOL 454)
- Evolutionary Biology (BIOL 470)
- Plant-Animal Interactions (BOT 456)
- Plant Physiology (BOT/TPSS 470)
- Marine Policy (GEO 423)
- Mālama Loko I‘a (HWST 353)
- Aloha Kanaloa-Marine Resources and Abundance (HWST 356)
- Kia‘i Kanaloa-Guarding Our Ocean Resources (HWST 456)
- ‘Āina Mauliola: Hawaiian Ecosystems (HWST 457)
- Mathematical Modeling: Deterministic Models (MATH 304)
- Mathematical Modeling: Probabilistic Models (MATH 305)
- Microbes and Their Environment (MICR 485)
- Virology (MICR 490)
- Ecology of Infectious Diseases and Symbioses (OCN 340)
- Marine Functional Ecology Biotechnology (OCN 403)
- Aquaculture Production (OCN 450)
- Earth’s Microbiome (OCN 454)
- Ridge to Reef: Coastal Ecosystem Ecology and Connectivity (OCN 457)

Finally, all BA MB students will complete a synthesis experience. They can select which synthesis experience will provide the most appropriate preparation for future career interests. The list of qualifying courses will be regularly evaluated and revised by the Marine Biology Steering Committee within the SoLS at UHM.

- Ocean Internships and Research (BIOL 400)
- Field Problems in Marine Biology (BIOL 403)
- Advanced Topics in Marine Biology (BIOL 404)
- Directed Research (BIOL/BOT/MICR/OCN 499)
- Advanced Quantitative Underwater Ecological Surveying Techniques (QUEST) MARE 364 (UH Hilo)

This proposal includes courses in OCN (approved), GEO (approved) and HWST (approved) that were not originally part of the BS MB. Consultation emails with the respective departments are appended.

Academic Advising

Academic advising is provided by three full-time academic advisors who are overseen by a faculty specialist that serve the SoLS undergraduate students. They work closely with the two College of Natural Sciences academic advisors that help provide advising to the rest of the College of Natural Sciences. Through one-stop-shop advising students have all of their advising needs met while meeting with one advisor. This creates a simple mechanism to ensure holistic advising for all SoLS students, including students in the new BA MB program.

Articulation with UH Community Colleges

The first two years of the proposed BA MB do not include any new courses compared to the existing BS MB. Thus, provisions for articulation with UH Community Colleges are already in place.

PROGRAM RESOURCES AND EFFICIENCY

Initial Implementation

No new resources are needed. All courses are already in place and we have the resources to offer them. If lab enrollment in MB courses grows, the laboratory fees paid by students will offset any additional expenses in purchasing supplies.

In the future, when resources are available, we will advocate for hiring a faculty specialist who will build community partnerships to foster internship opportunities for our BA MB students to enrich the synthesis experience. In addition, we foresee this position will help steer all MB majors towards connecting with engagement opportunities such as internships, directed research, and community outreach. This is a position we do not currently have, but we feel our students would universally benefit from a specialist focused on helping connect students' academic pursuits with real-world experience to ensure they are prepared for the next step in their journey after they complete their MB degree. This will also fit with a recommendation in the UHERO August 2019 report referenced above: "Encourage the continued development of public-private partnerships...to maximize the benefits generated by the effort and resources being invested in the NRM sector by individual organizations."

Expected Source of New Funds

Establishment of this degree will require no new resources.

Costs

In Fall 2019 the majors within the SoLS had an enrollment of 1,272 undergraduate and 78 graduate students and provided approximately 18,385 student semester hours (SSH) of instruction each year. The cost of all teaching assistants, faculty and lecturers totaled to \$6,034,866, equating to \$328.25/SSH. With the introduction of the BA MB degree we expect the cost per SSH to decrease because there is no need for new courses. We anticipate some shifting in enrollment as students move from the BS to the BA MB and plan to reallocate TAs within SoLS to accommodate this change in enrollment. We anticipate approximately 704 SSH of additional instruction within existing courses. We have 45 faculty with a ratio of 408 SSH/faculty member and expect that ratio to grow to 424.2SSH/faculty member with increased enrollment in the BA MB.

Table 6. Anticipated NEW Personnel and Operating Costs

Personnel	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
New Tenured Faculty	0	0	0	0	0	0
New Lecturers	0	0	0	0	0	0
Other (TA Lines)	0	0	0	0	0	0

Table 7. Anticipated NEW Operating Costs

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
New Operating Costs	0	0	0	0	0	0

Table 8. Anticipated Courses, Sections, SSH

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
No. New Courses Offered	0	0	0	0	0	0
No. New Sections Offered	0	2	2	2	2	2
Annual SSH	0	224	160	160	160	160

Similar Programs in the UH System

As discussed previously, the program most similar to the proposed BA MB is the current BS MB at UHM. That program was designed to prepare students to pursue research-oriented careers, which is not the purpose of the proposed BA MB. UH Hilo has a BA and BS in Marine Sciences, which have a broader curriculum requiring a number of oceanography courses and containing far fewer marine biology courses than the proposed BA MB. The proposed BA MB is distinctly different from any program currently available in the UH system, filling a void by producing graduates with the necessary skills to fill a number of marine biology-related positions throughout the Hawaiian Islands.

PROGRAM EFFECTIVENESS

The SoLS has an assessment committee, which is overseen by the Associate Director for Curriculum. The assessment committee will be responsible for assessing student learning within the BA MB program. The committee conducts yearly assessment cycles of the student learning outcomes to ensure continuous program improvement. The SoLS assessment committee consults with the Marine Biology steering committee, which is made up of faculty who teach upper-division MB requirements within the BS MB. In addition, all graduating students complete an exit survey that is used to gain feedback from students about their experience in our programs. This information is used to make improvements to our program, such as increasing availability of required courses, addressing course conflicts, creating workshops to help students explore potential career paths and increasing communication about internships and job opportunities.

Program Accreditation

There are no Marine Biology accrediting bodies, so our program will be part of the regular College of Natural Sciences program review cycle.

APPENDIX A:
PROGRAM SHEET

University of Hawai'i at Mānoa
Colleges of Arts & Sciences Program Sheet 2021-2022
Bachelor of Science (BA) in Marine Biology
Admissions: Open Process: Declaration
Min. Total Credits: 120 (95 in core & major + 25 in electives)

UHM General Education Core Requirements	
Foundations	
<input type="checkbox"/>	FW ENG 100, 100A, 190, ESL 100, or AMST 111
<input type="checkbox"/>	FQ* BIOL/BOT 220
<input type="checkbox"/>	FG (A / B / C)
<input type="checkbox"/>	FG (A / B / C)
<i>*Note: This requirement changed in Fall 2018. If you entered the UH System prior to that, please see your college/school advisor.</i>	
Diversification	
<input type="checkbox"/>	DA / DH / DL
<input type="checkbox"/>	DA / DH / DL
<input type="checkbox"/>	DB BIOL 171, 172
<input type="checkbox"/>	DP CHEM 161
<input type="checkbox"/>	DY BIOL 171L, 172L
<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	
<input type="checkbox"/>	101
<input type="checkbox"/>	102
<input type="checkbox"/>	201
<input type="checkbox"/>	202
Credit Minimums	
•	120 total applicable
•	30 in residence at UHM
•	35 major-required lower division/25 upper division (300+ level) credits
Grade Point Average	
•	2.0 cumulative or higher (Note: Other GPAs may be required.)

Credit Maximums	
•	8 KRS activity
•	9 Directed Reading / Research
•	12 Practicum / Internship

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*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 BA in Marine Biology	
Admission:	Open
Application:	NA
Min. major credits:	49 (62-66 including all related requirements)
Min. C grade (not C-)	in all courses
Requirements	
Marine Biology Related Requirements (13 credits)	
<input type="checkbox"/>	CHEM 161* ^{DP} / <input type="checkbox"/> 161L* ^{DY}
<input type="checkbox"/>	CHEM 162 / <input type="checkbox"/> 162L
<input type="checkbox"/>	CHEM 272 / <input type="checkbox"/> 272L
Biology Core Courses (21 credits)	
<input type="checkbox"/>	BIOL 171* ^{DB} / <input type="checkbox"/> 171L* ^{DY}
<input type="checkbox"/>	BIOL 172* ^{DB} / <input type="checkbox"/> 172L* ^{DY}
<input type="checkbox"/>	BIOL 220
<input type="checkbox"/>	BIOL 265 / <input type="checkbox"/> 265L (<i>Fall only</i>)
<input type="checkbox"/>	BIOL 275 / <input type="checkbox"/> 275L
Marine Biology Required Core (25-27 credits)	
<input type="checkbox"/>	OCN 201
<input type="checkbox"/>	BIOL 301 / <input type="checkbox"/> 301L (<i>Spring only</i>)
<input type="checkbox"/>	Group 1 Electives (minimum two courses) BIOL 465L, 485L; BOT 480; MICR 401L; OCN 310L
<input type="checkbox"/>	Group 2 Electives (minimum three courses) BIOL 331, 406, 411, 465, 468, 485; BOT 480; MICR 401; OCN 310, 320, 331, 430
<input type="checkbox"/>	Group 3 Electives (minimum two courses) Includes courses in Group 2, plus: BIOC 441; BIOL 306, 325, 375, 390, 402, 470; BOT 456, 470; GEOG 423; HWST 353, 356, 456, 457; MATH 304, 305; MICR 485, 490; OCN 340, 403, 450, 454, 457
Synthesis Experience (3 credits)	
<input type="checkbox"/>	BIOL 400, 403, 404, or 499; MARE 364 (UH Hilo)
Notes	
Student Academic Success Center: Sinclair 301; (808) 956-5911; cnsadvis@hawaii.edu ; https://natsci.manoa.hawaii.edu/sasc School of Life Sciences: Edmondson 216; (808) 956-8303; lifesci@hawaii.edu ; https://lifesciences.manoa.hawaii.edu	

APPENDIX B:
FOUR-YEAR PLAN

University of Hawai'i at Mānoa – Four-Year Academic Plan 2021-2022

Colleges of Arts and Sciences

Bachelor of Science (BA - draft) in Marine Biology

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 or 172 (DB) 3	BIOL 265 3	BIOL 275 3	Group 2 Elective 3
BIOL 171L or 172L (DY) 1	BIOL 265L 1	BIOL 275L 2	Group 1 Elective 1
CHEM 161 (DP) 3	CHEM 272 3	Group 2 elective 3	Elective 3
CHEM 161L 1	CHEM 272L 2	HSL 201 3	DS 3
OCN 201 (DP) 3	FG (A/B/C) 3	Elective 3	Elective 3
FW 3	HSL 101 3	Elective 3	Elective 3
Credits 14	Credits 15	Credits 17	Credits 16
Spring	Spring	Spring	Spring
BIOL 172 or 171 (DB) 3	BIOL 301 3	Group 2 Elective 3	Synthesis Experience 3
BIOL 172L or 171L (DY) 1	BIOL 301L 2	Group 1 Elective 1	Group 3 Elective 3
CHEM 162 3	DS 3	Group 3 elective 3	DA/DH/DL 3
CHEM 162L 1	HSL 102 3	HSL 202 2	Elective 1
BIOL 220 (statistics) (FQ) 4	DA/DH/DL 3	Elective 3	Elective 3
FG (A/B/C) 3		Elective 3	
Credits 15	Credits 14	Credits 15	Credits 13
Summer	Summer	Summer	Summer
Credits 0	Credits 0	Credits 0	Credits 0
Total Credits 29	Total Credits 58	Total Credits 90	Total Credits 120

Notes:

Students must take placement exams to be able to register for CHEM 161 and MATH 215 or 241

Students must incorporate all focus requirements into this plan. Focus designations (i.e., W, E, O, H) are CRN specific & semester specific

A combination of no fewer than 25 upper division credits and 35 major-required lower division credits are required

Students must complete both BIOL 171/171L and 172/172L, but they may be completed in either order

Marine Biology Electives

Group 1 Choose 2 labs (BIOL 465L, 485L, BOT 480, MICR 401L, OCN 310L)

Group 2 Choose 3 lectures (BIOL 331, 406, 411, 465, 468, 485, BOT 480, MICR 401, OCN 310, 320, 331, 430)

Group 3 Choose 2 lectures (Courses in Group 2, plus BIOC 441, BIOL 306, 325, 375, 390, 402, 470, BOT 456, 470, GEO 423, HWST 353, 356, 456, 457, MATH 304, 305, MICR 485, 490, OCN 340, 403, 450, 454, 457)

APPENDIX C:
LETTERS OF SUPPORT

Amy Moran

From: Kekuewa Kikiloi <kikiloi@hawaii.edu>
Sent: Monday, October 12, 2020 1:02 PM
To: Amy Moran
Cc: Noelani Puniwai
Subject: Hwst approval of MB BA requirement list

Aloha Amy,

I sending this email to notify your department that our Hawaiian studies faculty voted on and approved our courses being listed for your new bachelor of arts requirements. Mahalo for this important opportunity to have Hawaiian knowledge included in your degree program.

Sincerely,
Kekuewa

Amy Moran

From: Margaret McManus <mamc@hawaii.edu>
Sent: Tuesday, April 28, 2020 10:40 AM
To: Michael Guidry
Cc: Amy Moran; Stephanie Kraft-Terry
Subject: Re: BA MB Proposal documents

Aloha Amy,

I think this is wonderful. I don't see any issues with those courses either.

Margaret

Professor Margaret Anne McManus
Chairwoman of the Department of Oceanography
University of Hawaii at Manoa
Honolulu, Hawaii 96822

mamc@hawaii.edu
<https://www.margaretmcmanus.com/>
<http://www.soest.hawaii.edu/oceanography/faculty/mcmanus.html>

On Tue, Apr 28, 2020 at 10:33 AM Michael Guidry <guidry@hawaii.edu> wrote:
My apologies Margaret.

Forgot that reply does not include the attachments -- see attached

Michael Guidry PhD
Undergraduate Chair, Global Environmental Science Program
Department of Oceanography
School of Ocean and Earth Science and Technology
University of Hawaii at Manoa

808.956.9935 (phone)
808.956.9225 (fax)

1000 Pope Road
Marine Sciences Building, Room 205
Honolulu, HI 96822

----- Forwarded message -----
From: Amy Moran <morana@hawaii.edu>
Date: Mon, Apr 27, 2020 at 2:19 PM
Subject: BA MB Proposal documents

To: <guidry@hawaii.edu>

Cc: Stephanie Terry <kraft2@hawaii.edu>

Hi Michael,

The School of Life Sciences is putting in a proposal for a Bachelor of Arts degree in Marine Biology. The list of upper-division courses includes several in OCN and we wanted to check with you to see if you think this will have any negative impacts at your end.

The list of courses is on P 9 of the attached proposal.

Apologies for getting this to you so late in the semester, but we had a number of unforeseen delays. If you could get back to us this week, that would be much appreciated!

Hope you're doing well,
Amy

Amy Moran
School of Life Sciences
University of Hawaii at Manoa
Honolulu, HI 96822

Amy Moran

From: Reece Jones <reecej@hawaii.edu>
Sent: Wednesday, August 12, 2020 1:28 PM
To: morana@hawaii.edu
Subject: Re: Request to add GEOG course to upper-level electives for new degree

Dear Amy,

Yes, please do list GEO 423 Marine Policy for your BA in Marine Biology. Note our alpha changed this fall to GEO from GEOG. If you are looking for other courses, you might also consider GEO 435: Political Geography of the Oceans.

Here is the course catalog listing:

GEO 435 Political Geography of Oceans (3) DS The geopolitics of the oceans and the law of the sea as applied to regions of conflict and cooperation in marine resource development and preservation. Focus on Indo-West Pacific, South China Sea, Arctic Ocean. Pre: junior standing or higher, or consent.

Thanks,
Reece

On Mon, Aug 10, 2020 at 1:57 PM Amy Moran <morana@hawaii.edu> wrote:

Dear Reece,

The School of Life Sciences is proposing a new degree, a BA in Marine Biology. We are planning to submit the full proposal early this fall, and we would like to include a GEOG 423, Marine Policy, on the list of classes that students in the new major can take to meet upper-division elective major requirements. Is that OK with your department? Do you foresee any issues?

Thanks, and please let me know if you have any questions or would like to see the degree proposal.

Best wishes,
Amy

Dr. Amy Moran, Associate Professor

Amy Moran

From: Reece Jones <reecej@hawaii.edu>
Sent: Wednesday, August 12, 2020 1:28 PM
To: morana@hawaii.edu
Subject: Re: Request to add GEOG course to upper-level electives for new degree

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Reece

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Thanks, and please let me know if you have any questions or would like to see the degree proposal.

Best wishes,
Amy

Dr. Amy Moran, Associate Professor

School of Life Sciences

University of Hawaii at Manoa

Edmondson Hall 216, 2538 McCarthy Mall Road

Honolulu, HI 96822

(808) 956-6147

www.moranlab.org

www.polargiants.squarespace.com

--

Reece Jones

Professor and

Chair

Department of Geography and

Environment University of Hawai'i-

Manoa

<http://www2.hawaii.edu/~reecej>

Twitter: @reecejhawaii

Violent Borders: Refugees and the Right to Move (Verso Books, 2016) [more info](#)

APPENDIX D:
SIDE-BY-SIDE
COMPARISON OF BA
AND BS MARINE
BIOLOGY DEGREES

Major Requirements for BA in Marine Biology	Major Requirements for BS in Marine Biology
Admission: Open	Admission: Open
Application: NA	Application: NA
Min. major credits: 49 (62-66 including all related requirements)	Min. major credits: 59 (91-93 including all related requirements)
Min. C grade (not C-) in all courses	Min. C grade (not C-) in all courses
Requirements	Requirements
Marine Biology Related Requirements (13 credits)	Marine Biology Related Requirements (28-30 credits)
	<input type="checkbox"/> MATH 215* ^{FQ} or 241* ^{FQ} or 251A* ^{FQ}
	<input type="checkbox"/> MATH 216 or 242 or 252A
<input type="checkbox"/> CHEM 161* ^{DP} / <input type="checkbox"/> 161L* ^{DY}	<input type="checkbox"/> CHEM 161* ^{DP} / <input type="checkbox"/> 161L* ^{DY}
<input type="checkbox"/> CHEM 162 / <input type="checkbox"/> 162L	<input type="checkbox"/> CHEM 162 / <input type="checkbox"/> 162L
<input type="checkbox"/> CHEM 272 / <input type="checkbox"/> 272L	<input type="checkbox"/> CHEM 272 / <input type="checkbox"/> 272L
	<input type="checkbox"/> PHYS 151* ^{DP} / <input type="checkbox"/> 151L* ^{DY} or <input type="checkbox"/> 170* ^{DP} / <input type="checkbox"/> 170L* ^{DY}
	<input type="checkbox"/> PHYS 152 / <input type="checkbox"/> 152L or <input type="checkbox"/> 272 / <input type="checkbox"/> 272L
Biology Core Courses (21 credits)	Biology Core Courses (27 credits)
<input type="checkbox"/> BIOL 171* ^{DB} / <input type="checkbox"/> 171L* ^{DY}	<input type="checkbox"/> BIOL 171* ^{DB} / <input type="checkbox"/> 171L* ^{DY}
<input type="checkbox"/> BIOL 172* ^{DB} / <input type="checkbox"/> 172L* ^{DY}	<input type="checkbox"/> BIOL 172* ^{DB} / <input type="checkbox"/> 172L* ^{DY}
<input type="checkbox"/> BIOL 220* ^{FQ}	<input type="checkbox"/> BIOL/BOT 220
<input type="checkbox"/> BIOL 265 / <input type="checkbox"/> 265L (Fall only)	<input type="checkbox"/> BIOL 265 / <input type="checkbox"/> 265L
<input type="checkbox"/> BIOL 275 / <input type="checkbox"/> 275L	<input type="checkbox"/> BIOL 275 / <input type="checkbox"/> 275L
	<input type="checkbox"/> BIOL 375 / <input type="checkbox"/> 375L
Marine Biology Required Core (25-27 credits)	Marine Biology Additional Required Core (20 credits)
<input type="checkbox"/> OCN 201	<input type="checkbox"/> OCN 201
<input type="checkbox"/> BIOL 301 / <input type="checkbox"/> 301L	<input type="checkbox"/> BIOL 301 / <input type="checkbox"/> 301L
	<input type="checkbox"/> BOT 480
	<input type="checkbox"/> BIOL 485 / <input type="checkbox"/> 485L
	<input type="checkbox"/> MICR 401 / <input type="checkbox"/> 401L
<input type="checkbox"/> Group 1 Electives (minimum two courses) BIOL 465L, 485L; BOT 480; MICR 401L; OCN 310L	
<input type="checkbox"/> Group 2 Electives (minimum three courses) BIOL 331, 406, 411, 465, 468, 485; BOT 480; MICR 401; OCN 310, 320, 331, 430	
<input type="checkbox"/> Group 3 Electives (minimum two courses) Includes courses in Group 2, plus: BIOC 441; BIOL 306, 325, 375, 390, 402, 454, 470; BOT 456, 470; GEO 423; HWST 353, 356, 456, 457; MATH 304, 305; MICR 485, 490; OCN 340, 403, 450, 454, 457	
Synthesis Experience (3 credits)	<input type="checkbox"/> BIOL 499: Directed Research or BIOL 403 (4 credits)
<input type="checkbox"/> BIOL 400, 403, 404, or 499; MARE 364 (UH Hilo)	
	<input type="checkbox"/> BIOL 404: Capstone Course (3 credits)
	Approved Elective Courses (minimum 9 credits; see department for approved choices)
	<input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____

**APPENDIX E:
ARTICULATION WITH
UH CC'S AND
EXPLANATION OF 300-
LEVEL COURSE
REQUIREMENT IN
YEAR 2**

Transferring into UHM from CCs

Articulation between community college campuses and the proposed BA in Marine Biology at UHM will be similar to existing articulation pathways for the BS MB; the main difference between the first two years of the academic plan for the BS MB and the proposed BA is that the BA program has one fewer semester each of mathematics and physics. Kapi'olani, Leeward, and UH Maui College already have transfer guides for the BS Marine Biology with course equivalencies for the first two years (except BIOL 301/L, explained below), and these could easily be modified to fit the BA Marine Biology. The first two years of the proposed BA MB contain no required courses that are not also in the BS MB.

As with the existing degrees in SoLS, our academic advisors will work with counselors from the Ka'ie'ie program to facilitate articulation.

Requirement of a 300-level course in the second year

Similar to the BS MB, BIOL 301/L (Marine Ecology and Evolution with lab) is recommended to be taken in the 2nd year of the BA MB if possible because it is a prerequisite for two 400-level required courses in the major, and because it allows students an immersive marine biology field experience earlier in their degree progress. However, most upper-division required courses in the BS MB do not have BIOL 301/L as a prerequisite, and many BS MB students take BIOL 301/L in their third year. Due to the additional flexibility built into the BA MB, transfer students will be able to take BIOL 301/L in their third year without impacting their graduation schedule. We would recommend that students planning to join the BA MB through articulation with a CC replace BIOL 301/L with BIOL 275/L in their second year (BIOL 275/L is currently placed in the fall semester of Year 3 in the proposed four-year plan), and take other marine biology courses at UHM in their first semester at UHM while waiting to take BIOL 301/L.

**APPENDIX F:
CONSULTATION
WITH UH HILO
REGARDING
POTENTIAL OVERLAP
WITH BA MARINE
SCIENCE AT UHH**

7 January, 2022

Addendum to “Request Provisional Status for the Bachelor of Arts in Marine Biology at the University of Hawaii”

Consultation with UH Hilo

Similarity of BA in Marine Biology at UH Manoa to BA in Marine Science at UH Hilo

In attendance:

Steven Colbert, Associate Professor and Chair, Marine Science Department (UHH)

Marta deMaintenon, Professor, Marine Science Department (UHH)

Amy Moran, Professor, School of Life Sciences (UHM)

Peter Marko, Professor, School of Life Sciences (UHM)

Cliff Morden, Professor and Interim Director, School of Life Sciences (UHM)

On Tuesday, January 4, 2022, the above faculty from UH Hilo and UH Manoa met to discuss the relations of the BA degree in Marine Science (MS) at UH Hilo (UHH) and the proposed degree in Marine Biology (MB) at UH Manoa (UHM). We discussed how even though some of the coursework appears similar on the surface, the overall intent and content is fundamentally different in that UHH MS degree focus is on the bio-physical interactions in the ocean where the UHM MB degree focus is the ecology and evolution of the organisms within. Because they are BA degrees, both have many electives that are possible for students to build into their curriculum. Although it seems that a consequence of this is students could receive a double major (MS and MB) with only a few additional courses, this would be a very difficult undertaking due to the requirements from each university.

One of the positives that we all drew from our discussions was that we all agree having both programs available to us provides our units an opportunity to potentially interact in the future. This could be in promoting shared curriculum, interning at the sister-university location, or other aspects that will benefit the education of the students. The latter is the key element, the students will reap the benefits from having these additional options open to them. Although the broader integration would require changes to each school's programs, these are certainly discussions we should have in the future.

One of the concerns that we both shared is the impact on the growth of each program. Each of these programs, however, is growing, and it is certainly a necessity to have them available for students at each university. If there was broader overlap among the two degrees AND the degree was on the fringe of the size limit to sustain itself, then such competition would be detrimental to each program. However, with 200 students in Marine Science at UHH and nearly 500 students in Marine Biology at UHM, neither degree is a specialty major that is in jeopardy. Both degree programs are in fact operating beyond their capacities. Like many other core majors, it is important to have them offered at both institutions. Furthermore, the idea of a UHM BA program was motivated and designed to better serve the growing number of students in the UHM BS program with no intention of going to graduate school, not to attract additional students.

We pointed out how one of the differences is the education at UHH is more place-based with hands-on experiences focusing on many aspects of marine science in addition to biology whereas at UHM it is more lab-based and focused on biological principles and concepts with field experiences in marine biology context. This provides exciting opportunities for us both. As we move forward, we are looking forward to the future discussions about how we can jointly serve our students with curricula at both universities to assist both of our students to achieve their goals. As the UH system encourages more collaboration between campuses, we are at the front to take advantage of those opportunities.

Dr. Steven Colbert, Chair of the UHH Marine Science Department stated this was an accurate summary of our discussion and he supports our moving forward with the proposed BA in Marine Biology.



UNIVERSITY
of HAWAII
SYSTEM

Donald O. Straney, Ph.D.
Vice President for Academic Planning and Policy

June 21, 2019

MEMORANDUM

TO: Michael Bruno
Provost
University of Hawai'i at Mānoa

FROM: *Donald O. Straney*
Donald O. Straney, Ph.D.
Vice President for Academic Planning and Policy

SUBJECT: Approval of Authorization to Plan for Bachelor of Arts in Marine Biology

At the UH Officers meeting held on June 17, 2019, the Authorization to Plan for a Bachelor of Arts in Marine Biology was approved.

We will discuss the request with the Council of Chief Academic Officers at their meeting on June 26, 2019, at which time they can provide additional input.

Should you have any questions, please do not hesitate to contact me at 956-6897.

cc: Council of Chief Academic Officers
Wendy Pearson, Program Officer, UHM
Aloysius Helminck, Dean of Natural Science, UHM

Bachman Hall 204
2444 Dole Street
Honolulu, Hawai'i 96822
Telephone: (808) 956-6897
Fax: (808) 956-5286

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UNIVERSITY
of HAWAII
MANOA

RECEIVED

Office of the Provost

19 MAY -6 P2:47

May 6, 2019

MANOA CHANCELLOR'S
OFFICE**MEMORANDUM**

TO: Donald Straney
Vice President for Academic Planning and Policy

VIA: David Lassner
President *David Lassner*

FROM: Michael Bruno
Provost *Michael Bruno*

SUBJECT: Authorization to Plan for Bachelor of Arts in Marine Biology

Attached please find an Authorization to Plan (ATP) for a Bachelor of Arts in Marine Biology from the UHM College of Natural Sciences. I believe that you will find that this proposal is responsive to state need and addresses several strategic goals of the Manoa Campus and the UH System. Per the review procedures:

The ATP is submitted by the Campus Chancellor to the System Vice President for Academic Planning and Policy for review by the UH Officers. The Vice President for Academic Planning and Policy will notify the campus of the results of the review.

I recommend review by the UH Officers. Should you have any questions, please let me know.

Attachment

C: Dean Helminck
Biology Chair DeCouet
Program Officer Pearson

2500 Campus Road, Hawai'i Hall
Honolulu, Hawai'i 96822
Telephone: (808) 956-8447

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**UNIVERSITY
of HAWAII**
MĀNOA

Colleges of Arts and Sciences
College of Natural Sciences
Office of the Dean

19 APR 22 10:43

UNIVERSITY OF HAWAII
MĀNOA

MEMORANDUM

April 18, 2019

TO: Michael Bruno
Provost

FROM: Aloysius Helminck
Dean, College of Natural Sciences 

SUBJECT: Authorization to Plan (ATP) for Bachelor of Arts in Marine Biology at the University of Hawaii at Mana

The creation of a Bachelor of Arts degree in Marine Biology has been under discussion by the Marine Biology Steering Committee (made up of members from the departments of Botany, Biology, and Microbiology) for over a year. Drafts of the initial proposal were reviewed and approved by curriculum committees of both the Department of Biology and the College of Natural Sciences. A revised proposal was reviewed and supported by the College of Natural Sciences Program & Curriculum Committee on March 8, 2019.

We provide the attached ATP document, revised in April 2019, for review and comment and request that it be forwarded to the subsequent reviewing entity upon approval.



UNIVERSITY
of HAWAII
MĀNOA

Department of Biology

MEMORANDUM

DATE: 4/18/2019

TO: Aloysius Helminck
Dean, College of Natural Sciences

FROM: Associate Chair, Department of Biology

H. Gert DeCouet
Chair, Department of Biology

SUBJECT: Request for Authorization to Plan an Academic Program: Bachelor of Arts in Marine Biology

Background:

The creation of a Bachelor of Arts degree in Marine Biology has been under discussion by the Marine Biology Steering Committee (made up of members of the departments of Botany, Biology, and Microbiology) for over a year. After receiving permission via email from the OVCAA to prepare an ATP, drafts of the attached ATP request were reviewed and approved by the Curriculum Committees of both the Department of Biology and the College of Natural Sciences. All courses required for the proposed BA In Marine Biology already exist. Depending on enrollment increases, new sections may need to be added to some MB courses, which could require the hiring of lecturers or adjustments in faculty teaching schedules. At the University level, the increase in tuition and lab fees should offset direct costs of running additional lab sections. The College of Natural Sciences is committed to supporting any increase in demand by redistributing resources and by focusing requests for new resources, space, and hiring in this area if needed.

Action requested:

Approval of Authorization to Plan a new degree program: Bachelor of Arts in Marine Biology

Attachments/Enclosures: ATP1

APPROVED/DISAPPROVED:

A handwritten signature in black ink, appearing to read "A. Helminck".

Aloysius Helminck, Dean

APR 19 2019

Date

Authorization to Plan for New Academic Programs

1. Campus, school/college and department/division proposing the new program

The Department of Biology in the College of Natural Sciences at UH Mānoa is proposing a new degree, a Bachelor of Arts in Marine Biology.

2. Degree proposed and program objectives

The Biology Department at UH Mānoa requests authorization to plan a Bachelor of Arts in Marine Biology (BA MB) degree. The existing Bachelor of Science in marine Biology (BS MB) degree provides a comprehensive range of science and mathematics courses, and is designed to prepare students for a 'traditional' path to graduate school and careers in academia and research. However, the modern "Blue Economy," focused on improved stewardship of ocean resources for a sustainable future, provides opportunities for many new career paths that allow students to combine their passion for marine biology with their other talents and interests. These talents and interests are diverse, reflecting the diversity of the UH student body. Because of our unique geographic location and the University's reputation for excellence in marine research, the BS MB is a very popular and strong degree program that draws many students. The existing BS MB has only one free elective credit, however, giving students almost no opportunity to pursue learning in complementary areas that they are also passionate about. Our vision is that the BA MB will promote learning and career advancement for students who love marine biology and want to combine it with other fields of study. As examples, a BA MB could prepare students for (1) the growing field of science communication, by combining a solid background in marine biology with courses and writing, communication, journalism, graphic design, and/or art; (2) K-12 education, either formal or informal (e.g. outdoor education); or (3) marine environmental policy and management, including coral reef restoration, place-based marine management strategies, and sustainable aquaculture or tourism. Students in the BA MB program would be able to combine their degree with existing programs at UHM such as certificates in Sustainability (newly approved, Institute for Sustainability and Resilience), Law and Society (CAS), and Sustainable Tourism (STIM). They could also choose to minor in many complementary fields such as Communicology, English, or Art (science communication), Secondary Education (education), and Economics, Political Science, or Public Health (marine policy and management). If the ATP is approved, as part of the planning process for a full proposal we will reach out across units at UHM to identify particular groups of courses (as well as certificates, minors, and internships) that will help BA MB students pursue these types of goals.

3. Alignment with the Campus and UH system mission, strategic plan and the Integrated Academic and Facilities Plan

The Marine Biology major at UH Mānoa exemplifies a degree that "*focuses on programs of excellence that emphasize Hawai'i's many strengths and advantages of location, population and geography.*" Our geographic location, Hawai'i's strong historical, cultural, and economic connection with the ocean, and the University's excellent reputation for marine research, all make

UH Mānoa a top choice for students interested in marine biology. The MB curriculum capitalizes on these unique strengths, with numerous field trips to learn first-hand within the Hawaiian waters and many opportunities for students to interact directly with local researchers and representatives from government organizations.

The proposed BA MB will also support UHM's goal to "*become more attractive to the best local high school graduates,*" and to "*attract more top national and international students.*" The existing BS MB is already a popular and attractive degree that averages ~300-350 majors. We feel the BA MB would attract even more top local graduates and national and international students because it would allow students with strong interests in conservation, sustainability, policy, education, or science communication to develop those skills along with their MB degree.

Justification of need

In the 2013 established-status request for the BS MB, we reported that among graduates who responded to a survey, ~ $\frac{2}{3}$ had continued on to graduate programs and ~ $\frac{1}{3}$ to employed positions, mostly in MB-related fields. Many of these positions (and some of the graduate programs) were in areas such as education, conservation, and sustainability. The BA degree, by allowing flexibility in the courses students could choose to take, would allow them to better prepare for this wide range of fields.

If the ATP is approved, during the planning process we will gather information from potential employers in the state of Hawai'i to help align the BA MB with the translational skills that would benefit employers and strengthen the workforce.

4. Demand for the program

We surveyed the BS MB and Biology (BA and BS) majors to determine the level of demand for the proposed new degree and received 124 responses. When asked "*If you were starting college now, would you be interested in a BA degree in Marine Biology?*", 38% answered "yes" and 41% answered "maybe." Of the students who answered the question "*What would you view as the strongest reasons to pursue a BA in Marine Biology (as opposed to a BS)?*", 65% listed increased flexibility, citing their interest in taking courses that would help them prepare for marine biology-related careers in management, sustainability, education, conservation, or humanities. 12% indicated a BA would be appealing because it would make it easier to be a double major.

When we asked "*Please share any other insight you have on the proposed BA in Marine Biology,*" students said many positive things, including:

"It allows for more diversity for students pursuing careers in marine bio such as education and public outreach, like myself."

"I think this would be a great option for those uninterested in becoming a researcher and/or professor in the future. I think other classes, such as those geared towards ocean conservation, sustainability, politics, etc. should be included."

"Some people want to pursue marine bio for conservation purposes but also enjoy the arts as well with a BA in marine bio students are able to explore both interests they have. Please add this"

opportunity it would be amazing for so many reasons."

The BS MB is one of the top majors indicated for students applying for Fall 2019 entrance, with a ~32% increase in admitted majors compared to Fall 2018. Particularly in light of the anticipated growth in the BS MB, we feel the BA MB is important because it will allow students to prepare for a wide diversity of careers in marine biology-related fields in the state of Hawai'i and elsewhere.

5. Non-duplication of programs

UH-Hilo offers BA and BS degrees in Marine Science (MS), and the Department of Oceanography at UHM offers a BS degree in Global Environmental Sciences (GES). Otherwise, there are no potentially overlapping degree programs within the UH system. The focus of the MS degree at UHH is oceanography and ocean science; students take required coursework in biological, chemical, physical, and geological oceanography. The emphasis of the GES degree at UHM is the Earth and Earth's physical, chemical, biological, and human systems. In contrast, the current BS MB degree gives students a strong background in biology as well as the basic principles of the diversity, structure, and function of marine organisms, and the relationships between marine organisms and their environment. The proposed degree will retain the biological focus of the BS degree; thus, this new degree, like the BS MB, will be distinct from MS at UHH and GES at UHM.

6. Potential risks associated with the new program

Potential risks are similar to the risks associated with existing programs, such as changes in overall enrollment. If the BA MB is not popular and very few students choose to enroll, our program costs will remain stable since we are not proposing new required courses beyond what is already part of the BS MB.

7. New Resources

We do not propose to create any new courses for the BA MB, so if overall enrollment in MB remained constant, no new resources would be needed to support the BA. If the proportions of MB BS/BA majors followed the patterns in the Biology BS/BA degrees, then with no growth the BA degree would serve ~180 students (calculated from Fall 2018 data: 357 BS MB majors, adjusted by the ratio BA Biology (271) to BS Biology (541) majors).

If the creation of the BA MB increased overall enrollment in MB, it is likely that new sections would need to be added to some MB courses and laboratories (which are currently near capacity) to maintain the quality and experiential emphasis of these classes. At the University level, the increase in tuition and lab fees should offset direct costs of running additional lab sections. The College of Natural Sciences is committed to supporting any increase in demand by redistributing resources and by focusing requests for new resources, space, and hiring in this area if needed.

Signature Page:

**Signature indicates that the person has reviewed the ATP1 and supports the proposed program.
Signature page is to be completed upon submission to the VPAPP.**

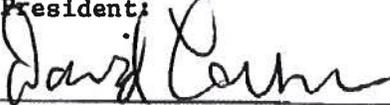
Dean/Department/Division Chair:


Signature _____ Aloysius Helminck APR 25 2019
Print Name Date

Provost:


Signature _____ Laura E. Lynn for Michael Pinner 4/30/19
Print Name Date

President:


Signature _____ David Lassner MAY - 6 2019
Print Name Date

ATP2 (2 page limit)

Upon a positive review of the ATP1 by the ATP1 committee, the campus will complete the ATP2. The following items are to be addressed in the ATP2:

- A. If a similar program exists, consult with other campus(es)
 - a. The VCAA of the other UH campus(es) with relevant program(s) by the VCAA of the campus proposing the degree/certificate
 - a. Colleagues in related disciplines from other campuses
 - b. Identify who (campus, name and title) has been consulted and the date(s) of consultation
- B. Impact on accreditation (program and regional)
- C. Timeline for submission of new program proposal to:
 - a. Council of Chief Academic Officers (CCAO)
 - b. BOR Committee on Academic and Student Affairs
 - c. Board of Regents

After completion of the campus curricular review process, the ATP1 and ATP2 will be submitted to CCAO by the Campus VCAA.

Once the ATP1 and ATP2 are endorsed by CCAO, the campus may proceed with the development of a new program proposal. New program proposals are to be submitted to CCAO within two years of endorsement of ATP1/2 by CCAO.

Process Reviewed by CCAO: 10/27/16
Process Reviewed by UH Officers: 2/8/17

Revised 10/19/17



Presented to the Mānoa Faculty Senate by the Committee on Academic Policy and Planning (CAPP) for a vote of the full Senate on November 17, 2021, a resolution supporting the proposal for a Bachelor of Arts in Marine Biology. Approved by the Mānoa Faculty Senate on November 17, 2021 with 46 votes (95.83%) in support; 2 votes (4.17%) opposed; and 0 abstentions.

**RESOLUTION SUPPORTING THE PROPOSAL FOR A
BACHELOR OF ARTS IN MARINE BIOLOGY**

WHEREAS, the School of Life Sciences currently offers Bachelor of Arts (BA) degrees in Biology, Botany, and Microbiology, as well as Bachelor of Science (BS) degrees in Biology, Botany, Marine Biology, Microbiology, and Molecular Cell Biology; and

WHEREAS, surveys of both students and recent graduates in Marine Biology indicate demand for a degree in Marine Biology with more flexibility than offered by the BS in Marine Biology; and

WHEREAS, this proposed program would retain core elements of the BS in Marine Biology while supporting students in deepening their knowledge of complementary subjects, which may lead to careers and contributions to society that do not require graduate study in Marine Biology; and

WHEREAS, this proposed program would complement the existing BA in Interdisciplinary Studies: Social Sciences of Oceans, by ensuring its graduates are more grounded in Biology and Chemistry; and

WHEREAS, this proposed program would complement the existing BA and BS programs in Marine Sciences at the University of Hawai'i at Hilo, which have greater focus on Oceanography and less emphasis on Marine Biology than the proposed program; and

WHEREAS, this proposed program will be assessed by the existing assessment committee of the School of Life Sciences in consultation with the existing Marine Biology steering committee; and

WHEREAS, no additional resources are needed for this program; therefore,

BE IT RESOLVED, that the Mānoa Faculty Senate recommends approval of the proposal to establish a Bachelor of Arts degree in Marine Biology in the School of Life Sciences at the University of Hawai'i at Mānoa.



UNIVERSITY of HAWAII[®] UNIVERSITY OF HAWAII
BOARD OF REGENTS
MĀNOA '22 JAN 27 A9:01

College of Natural Sciences
Office of the Dean

DTS 22137A1b.

23 November 2021

MEMORANDUM

TO: Randolph G. Moore
Chair, Board of Regents

VIA: David Lassner
President

VIA: Michael Bruno
Provost

VIA: Laura E. Lyons
Interim Vice Provost for Academic Excellence

FROM: Aloysius Helminck
Dean, College of Natural Sciences

SUBJECT: REQUEST FOR ESTABLISHED STATUS FOR THE BACHELOR OF
SCIENCE IN MOLECULAR CELL BIOLOGY AT THE UNIVERSITY OF
HAWAII AT MĀNOA

SPECIFIC ACTION REQUESTED:

It is respectfully requested that the Board of Regents grant established status to the BACHELOR OF SCIENCE IN MOLECULAR CELL BIOLOGY in the COLLEGE OF NATURAL SCIENCES at the University of Hawai'i at Mānoa.

RECOMMENDED EFFECTIVE DATE:

Upon Board approval

ADDITIONAL COST:

There are no additional costs associated with the establishment of this degree program. All courses are currently being taught. No program-specific faculty hires are expected, as the program is supported by the teaching contributions of existing faculty from multiple departments, and future hires in other life sciences programs will add to this pool to enrich the

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Honolulu, Hawai'i 96822
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Fax: 808.956.4745
lifesci@hawaii.edu
<https://lifesciences.manoa.hawaii.edu/>
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program. If laboratory costs associated with the courses for this major grow, the lab fees paid by students will offset any additional expenses associated with the purchase of supplies.

PURPOSE:

The Bachelor of Science in Molecular Cell Biology has completed its provisional cycle, and in accordance with Board of Regents' policy, was reviewed under the procedures of program review at UH Mānoa and recommended for established status.

BACKGROUND:

Board of Regents Policy 5.201 Parts III.B confer upon the Board the authority to grant established status to provisional degree programs, and states that a request must be made to the Board to transition a degree program from provisional to established status, and that the recommendation by the president for approval by the Board shall include the results of a program review. The results of the program review are presented in the attached document.

Summarize the program's role and its evolution since inception

The Bachelor of Science in Molecular Cell Biology (MCB BS) program provides focused training in molecular and cell biology, experimental biology, and foundational knowledge and critical thinking skills necessary for students to competitively pursue careers in human health and biomedical sciences. The program was granted provisional status in 2011. In 2019 the departments of Microbiology, Botany, and Biology merged to form the School of Life Sciences (SoLS), all within the College of Natural Sciences, where the MCB BS program currently resides. At its inception the program involved only UHM faculty from the former departments that now comprise the SoLS but has since grown through the participation of faculty from other UHM schools such as the College of Tropical Agriculture and Human Resources (CTAHR), and from other UH units such as the John A. Burns Schools of Medicine (JABSOM) and the UH Cancer Center (UHCC).

Why will this continue as a priority for the campus/college?

The MCB BS program directly addresses the need to train UHM pre-medical and pre-graduate school students interested in human health sciences. The MCB BS program supports rigorous training in the classroom and actively facilitates students finding mentored research positions to strengthen their competitiveness for top MD and PhD programs. A degree in molecular cell biology is currently the second most-popular undergraduate degree held by first-year medical students at JABSOM. It is anticipated that the demand for the MCB BS degree will continue to grow, especially in response to the COVID-19 pandemic increasing the interest among incoming college students in topics related to immunology and biomedical research. The MCB BS program supports cross-unit collaborative teaching and research between SoLS and JABSOM, and UHCC, and CTAHR, and thus serves as a successful model for leveraging existing UH personnel and resources to further the University's mission of promoting student success and its profile as a world-class research institution.

Will it continue to meet needs and generate demand?

The MCB BS curriculum covers a range of topics and training skills that thoroughly prepares students for success on the Medical College Admissions Test (MCAT), entrance to biomedical MS and PhD programs, and employment in biotechnology fields. Importantly, all the courses have syllabi that deliver topical content that reflects the current state of molecular sciences, immunology, and medical technology. Therefore, the program is well suited to meet current needs of students and is responsive to the teaching of new advancements in the field. Steps have been taken to generate additional demand for the program through advertising the MCB BS degree to life-sciences students in their first year at UHM and through adjustments in SoLS

curricula to introduce students to the MCB gateway course earlier in their undergraduate pathway.

Does the program integrate well with programs on this and other campuses? How will developments at other campuses affect this program in the future?

The MCB BS degree at UHM is unique; there are no other MCB baccalaureate degrees offered in the UH system. However, the strength of the program comes from its strategy of incorporating the instructional expertise and resources from other departments on the UHM and Kaka‘ako campuses with those of SoLS to leverage the best teaching and laboratory facilities across campuses to train undergraduates. In return, the success that the MCB BS program has in training undergraduates enriches the quality of medical student applicant pools at JABSOM and the preparedness of young scientists who join research groups at UHCC. As this educational pipeline strengthens through future expansion efforts of MCB BS, integration of undergraduate and graduate-level training in molecular cell biology across these units will prominently contribute to the University’s overall educational mission.

Assess how well the program met proposed enrollments, completions, operating and instructional resource and facility needs?

The MCB BS program has held steady enrollment since its inception, with minor fluctuations attributable to external causes. The program has 113 alumni, with 81% of graduates from the past five years successfully matriculating to medical school or graduate school consistent with the training goals of the program. All courses in the MCB BS curriculum are taught by existing faculty, and no additional hires are requested. There are no program-specific costs associated with the MCB BS program since all courses exist as components of other SoLS programs. The program is housed in the new Life Sciences Building which opened in 2020 and provides all necessary equipment and state-of-the-art teaching laboratories for MCB BS instruction.

What unexpected developments enhanced or challenged the program in its evolution?

Preparations to transition the MCB BS program to established status in 2016 were hampered by the loss of the founding faculty members of the program, and this also curtailed promotional activities to attract students to the major. MCB program assessment and expansion were halted in 2018-2019 to accommodate the administrative demands of forming the new School of Life Sciences. Since early 2020, the evolution of the MCB BS program has temporarily slowed due to the COVID-19 pandemic shifting focus away from program development to address the more immediate University-wide needs of sustaining course delivery and maintaining enrollment.

Defend the recommendation to make the program permanent

The MCB BS degree is a zero additional cost program that combines existing faculty and resources to create a unique, highly-demanded, and successful mechanism for supporting student success and expansion of institutional research. Transitioning the MCB BS from provisional to established status at UHM will encourage young future doctors and biomedical researchers to train in the UH system and stay in Hawai‘i for medical school or biomedical graduate programs. The MCB BS program serves as a successful model for integrating cross-unit teaching and facilities to provide top quality pre-medical and biomedical research training with no program-specific expenses. The program functions as a much-needed collaborative bridge between UH Mānoa, the UH Cancer Center, and JABSOM that supports access by undergraduates to world class faculty and facilities across the campuses as part of a formal curriculum instead of relying on students proactively seeking *ad hoc* training opportunities on their own. The program also encourages cross-unit collaborative faculty research proposals that create novel grant-funding opportunities that support the profile of UH as a competitive R1-research institution. The MCB BS program will continue its successful track record of producing quality students in pre-med

and biomedical research career paths who matriculate to JABSOM and UHCC, and complement other UH bioscience programs that do not focus on human health and biomedical technology. Importantly, it will ensure that UH will continue to be viewed as a top choice of schools for local, domestic, and international students interested in Molecular Cell Biology well into the future.

ACTION RECOMMENDED:

It is respectfully recommended that the Board of Regents grant established status to the BACHELOR OF SCIENCE IN MOLECULAR CELL BIOLOGY in the COLLEGE OF NATURAL SCIENCES at the University of Hawai'i at Mānoa.

Attachment: Proposal for BACHELOR OF SCIENCE IN MOLECULAR CELL BIOLOGY

cc: Executive Administrator and Secretary of the Board Kendra Oishi

Provisional to Established Program Proposal

Bachelor of Science (BS) degree in Molecular Cell Biology

School of Life Sciences
College of Natural Sciences
University of Hawai'i at Mānoa

November 20, 2021

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1. Executive Summary

The Bachelor of Science in Molecular Cell Biology program (hereafter, MCB BS) within the former Department of Microbiology at the University of Hawai‘i at Mānoa (UHM) was granted provisional status in 2011. In 2019, the departments of Microbiology, Botany, and Biology merged to form the School of Life Sciences (SoLS) within the College of Natural Sciences (CNS), where the MCB BS program currently resides.

The MCB BS program fulfills an important disciplinary need within the SoLS curricula, offering specialized training to students who plan to matriculate to MD or PhD programs or professional work in biomedical sciences. In addition to the general Biology degree, existing programs within SoLS provide excellent training opportunities in Botany, Microbiology, and Marine Biology, with particular strengths in ecology and evolution. The MCB BS degree expands upon these offerings by providing focused training in molecular and cellular biology, experimental biology, and the foundational knowledge and critical thinking skills necessary for careers in human health and biomedical research. MCB programs are valued across the nation, as evidenced by the over 100 Carnegie Research-Intensive universities that offer baccalaureate degrees including many of our peer and benchmark institutions as well as at top US universities such as University of California at Berkeley, Stanford, University of Michigan, Harvard, Yale, and Princeton.

The University of Hawai‘i at Mānoa’s MCB BS program serves a very talented population of students and creates a cohesive community for cross-unit collaboration. MCB BS majors are bright, dedicated students who have higher retention rates, graduate in less than four years with higher GPAs than their peers in other majors within the SoLS. MCB BS students are active in research and successfully compete for the UROP, Cancer Center Summer Research Internships, and Hawaii Pacific Health research internships, as well as BIOL 499 directed research opportunities. Furthermore, the program serves as a mechanism for cross-unit teaching and research collaboration between SoLS faculty and colleagues at UH Cancer Center (UHCC) and John A. Burns School of Medicine (JABSOM) who value MCB BS graduates as prospective graduate and medical students (see Appendix I - Ramos and Le Saux letters of support), and synergy with colleagues from the College of Tropical Agriculture and Human Resources (CTAHR) Molecular Biosciences and Bioengineering (MBBE) program (see Appendix I - Borthakur / CTAHR letter of support). In this manner, the MCB program represents a successful model for leveraging the existing faculty talents and resources of both the Mānoa and Kaka‘ako campuses to support focused, high-quality undergraduate STEM education, the success of which is vital to the health and future growth of all three units.

From its inception, the MCB BS program was designed to combine the resources of the departments that now comprise the School of Life Sciences to offer **specialized training at no additional cost** to the University. The entire MCB BS core curriculum is comprised of Biology (BIOL) and Microbiology (MICR) courses that **are well-established and would be offered regardless of the existence of the MCB BS program**. At the same time, the existence of the MCB program has encouraged reexamination of our curriculum with a view toward enrichment. For example, the design of the BIOL 472 Biology of Cancer course was motivated by a desire to delve into cell biology topics with direct relevance to human health. The course serves as both a capstone for MCB majors and is popular with other life-science majors including Biology and MBBE. The MCB BS program thus fills an important niche within the menu of life-science majors and promotes synergy between SoLS programs and external departments.

We note that there has been a delay in applying for established status. This is not due to lack of program popularity, but largely due to unfortunate timing: 1) Preparations for transitioning to established status in 2016 were hampered by the loss of faculty members who founded the program (others have since stepped in to lead), 2) an eighteen month period from 2018-2019 during which further program development was put on hold to accommodate the administrative demands of forming the new School of Life Sciences, and 3) the unprecedented shifts in pedagogy brought on by COVID-19 in early 2020 that forced MCB program expansion activities to take a back seat to more immediate University-wide needs of sustaining course delivery during the pandemic. As the campus continues to move beyond the crisis of the last two years and SoLS matures beyond the initial reorganization, it is now time to secure the MCB BS program's established status.

Mānoa's MCB BS program is unique within the UH system and across the state of Hawai'i. There are no other baccalaureate degree programs in Molecular Cell Biology on any of the other UH campuses, nor is MCB offered as a formal bachelor's degree by any other university in Hawai'i. It is noteworthy that HPU, Chaminade, and BYU all advertise a molecular cell biology "track" or "emphasis" which entails a couple of cell biology courses within their general Biology degree programs. The continuation of MCB BS as a specific degree program, as opposed to being a "track" absorbed within a general Biology degree, supports the visibility, strength, and expansion of our curriculum while distinguishing UH from other local universities. The abrupt halting of the MCB BS program would remove the only option for students who wish to obtain an MCB BS with significant research experience to receive their training in the State of Hawai'i.

Transitioning the MCB BS from provisional to established status at UHM will encourage young future doctors and biomedical researchers to train in the UH system and stay in Hawai'i for medical school or biomedical graduate programs. The MCB BS program will continue its successful track record of producing quality students in pre-med and biomedical research career paths, which are relied upon by JABSOM and UHCC, and which complement the MBBE program in CTAHR. Importantly, it will ensure that UH will continue to be viewed as a top choice of schools for local, domestic, and international students interested in earning a formal Molecular Cell Biology degree well into the future.

2. Alignment of program with mission and strategic planning of the Campus and University System

The University's *Mānoa 2025 Strategic Plan* lists high-level Goals adhering to the philosophy that *"the education of students is the core mission of the University; it is the reason we exist. Research and creative work serve to inspire, inform, and support the educational mission and vision of the university."*

The MCB BS program has a strong positive impact on student success as measured by several metrics of student performance in the program as well as their demonstrated preparedness for future career paths in medicine and laboratory science. In addition, the program supports the collaboration of participating faculty from different research units in the University to encourage greater undergraduate research opportunities that benefit both the student as well as the profile of UH as an R1 research-intensive university. Thus, the design and delivery of the MCB BS program strongly aligns with the following Goals and subgoals as stated in the Strategic Plan:

Goal: Excellence in Research

- *Expansion of faculty-mentored student research and proactive promotion of research at all levels*
 MCB BS students are strong participants in research through the active facilitation of the MCB program. Through various matching and promotional activities, MCB students participate in UROP training opportunities, the Cancer Center Summer Research Internship, Hawaii Pacific Health Summer Internships, the Honors Program, and BIOL 499 Directed Research. MCB BS students frequently present at Tester Symposium, the Undergraduate Showcase, and professional meetings in association with their faculty sponsors. At least half of MCB BS students participate in mentored research, and the MCB BS program will continue to promote increased participation as a critical component of undergraduate training.

Evidence of continuing need for the program

The MCB BS program trains undergraduates with broad interests in medicine and cell biology. A majority of MCB BS students matriculate to medical school or graduate school to continue training in molecular and biomedical sciences. The popularity and effectiveness of the undergraduate MCB pathway for such students is evidenced by the dramatic increase of JABSOM medical students over the past decade who hold an MCB degree (Table 1).

Table 1. Popularity of MCB as major among first-year JABSOM students

Incoming Year	Total Class Size	MCB majors	Popularity of majors (1st, 2nd, 3rd, 4th, 5th)
2021	77	15.6%	Biology, MCB , Biochemistry, Human Biology, Neuroscience
2020	77	15.6%	Biology, MCB , Biochemistry, Bioengineering, Psychology
2019	77	13.0%	Biology, Psychology, MCB , Chemistry, Biochemistry
2018	72	13.9%	Biology, MCB , Biochemistry, Chemistry, Human Biology
2017	70	11.4%	Data not available
2016	70	10.0%	
2015	68	5.9%	
2014	66	4.5%	
2013	66	9.1%	
2012	66	4.5%	

These data, provided by the JABSOM Registrar’s Office, indicate that for three of the past four years of admissions, MCB ranked second only to general Biology among the top 5 popular undergraduate degrees held by first-year medical students. The popularity of the MCB degree among medical students at JABSOM has tripled since 2012, a year after MCB BS graduated its first class. Considering that typically over 3/4 of the entering class at JABSOM are Hawai’i residents, this is clear justification for UHM to continue offering the MCB BS major to meet this growing need.

We anticipate that interest in the MCB BS degree will continue to grow as the program expands. We believe that in response to the COVID-19 pandemic, there is now heightened awareness among the public of topics such as immunology and biomedical research (e.g., vaccine design), and this will undoubtedly influence many incoming college students' choices of major. As previously noted, the MCB BS distinguishes itself from MBBE and other UH bioscience programs by focusing on the human health applications of biotechnology. Among the four universities with campuses on Oahu, only UH offers MCB as a formal baccalaureate degree. Therefore, the uniqueness of the MCB BS catering specifically to these fields at a time of increasing public interest, combined with a strong track record of supporting student success in preparation for medical school and graduate school, positions the program as a valuable mechanism with great longevity for attracting students to UH Mānoa.

3. Program enrollment and graduation of students using anticipated and actual enrollment figures. In other words, did the program meet its proposed targets?

The MCB BS program has seen steady demand since its inception (Table 2) and is subscribed to by high quality students as evidenced by their strong performance. From 2013-present, the MCB BS program has enrolled an average of 65 students per year and has 133 proud graduates. Persistence in the MCB BS program (currently 85%) is higher than for all other SoLS degree programs, which leads to strong graduation rates (Table 3) and average time-to-degree of less than four years (Table 4). The 2020-2021 MCB BS class consisted of 34 women and 16 men, and the composition of racial/ethnic backgrounds was 63.8% Asian, 14.9% White, 12.8% Multi-racial, 6.4% Black or African American, and 2.1% Native Hawaiian.

We note that enrollment dipped after 2018, which we believe was an effect of temporary staffing issues in the College of Natural Sciences advising office and SoLS reorganization. The vast majority of MCB majors begin as general Biology majors. The CNS advising office experienced a severe shortage of qualified advisors in 2018-9 due to campus-wide hiring freezes and was unable to accommodate the numbers of students seeking appointments. Therefore MCB-inclined students were both less aware of the MCB program and were also not able to receive assistance in switching their majors. The fluctuating staffing situation is being addressed at the CNS level, and we expect to soon see a return to pre-2018 numbers and resumption of the program's enrollment trajectory.

Several positive initiatives are also underway to continue growth of this major: (1) We are now advertising the MCB major to students in our large-enrollment BIOL 171 introductory course, and plan to expand this effort to additional lower-division courses. (2) Under discussion is the repositioning of BIOL 275 Cell and Molecular Biology from junior year in the Life Sciences curriculum map to sophomore year, which will encourage more students to enroll in the MCB major and ease time constraints on their completion of upper-division courses. (3) In addition to long-standing cross-unit teaching with CTAHR, a recently signed Memorandum of Understanding (MOU) for cross-unit teaching with the UHCC will support a richer array of courses for our MCB and other SoLS majors, providing a greater diversity of topics. The UHCC has expressed great interest in supporting the MCB BS program (see Appendix I - Ramos letter of support). (4) The establishment of the new SoLS and appointment of Dr. Howard Shen as MCB BS program coordinator has encouraged greater collaboration among life-sciences faculty who were previously in separate departments, broadening participation of faculty in the MCB BS program and expanding the range of cell biology topics taught.

Table 2. Enrollment numbers obtained from STAR semester by semester. As total Fall and Spring enrollments were identical over this time period, we report Fall enrollment by year.

Enrollment	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Projected	25	50	100	150	200						
Actual	18	49	61*	64	72	76	77	70	55†	59	53

*Loss of MCB BS founding faculty reduced promotional efforts for the program.
 † Understaffing of the CNS Advising Office has prevented many students from receiving advising appointments to facilitate switching of majors (e.g., from Biology BS to MCB BS).

Table 3. Actual program completion by year (graduation numbers). The original proposal did not have projected program completion numbers.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Graduates (annual)	0	3	3	14	11	14	22	14	23	17	12	133

Table 4. Persistence rates by year, median time to degree, and GPA at graduation indicate that MCB BS majors are highly successful. Data sourced from the Mānoa Institutional Research Office (MIRO).

	F11 Cohort	F12 Cohort	F13 Cohort	F14 Cohort	F15 Cohort	F16 Cohort	F17 Cohort	F18 Cohort	F19 Cohort	F20 Cohort
Persistence	88.9	83.7	86.9	79.7	82.7	93.1	91.8	70.7	85.4	
Median Time to Degree	3.67	4.17	3.67	3.67	3.67	3.67	3.67	3.67	3.67	
GPA at Graduation		3.51	3.21	3.5	3.6	3.77	3.56	3.55	3.52	3.55

Service to Non-Majors

We note that the MCB program provides extensive service to non-majors due to its curriculum consisting of courses that are heavily enrolled by students from numerous degree programs. There have never been plans to create new MCB-restricted courses, and courses that have been introduced since the program's inception to strengthen undergraduate training in advanced molecular cell biology topics are open for enrollment by students outside of the MCB major. As examples, BIOL 407 Molecular Cell Biology I and BIOL 472 Biology of Cancer (the capstone course of the MCB program) enjoy substantial enrollment of students from other majors who wish to receive the training that these courses provide (Table 5).

Table 5. Enrollment in 400-level MCB courses by non-majors over the past three years (BIOL, MBB, BIOC, and Other) in relation to MCB majors.

Course		MCB	BIOL	MBB	BIOC	Other	Total
BIOL 407	No. of students	53	35	24	12	8	132
	Percent of class	40.2%	26.5%	18.2%	9.1%	6.1%	100.0%
BIOL 472	No. of students	43	13	8	3	6	73
	Percent of class	58.9%	17.8%	11.0%	4.1%	8.2%	100.0%

BIOL: Biology; MBB: Molecular Biosciences and Biotechnology; BIOC: Biochemistry

4. The instructional resources required for the program and how they were utilized compared with anticipated resources.

The MCB program is unique because of its **zero additional cost** (Table 6), while offering substantial experiential learning opportunities and returns in the form of increased enrollment, and high student success/achievement (Table 7). **No MCB-specific faculty hires are expected for the program;** faculty from multiple units participate at no cost to the MCB program, and we anticipate that future SoLS hires for other programs will likewise contribute to the MCB instruction (Tables 6,8). MCB core courses are taught by faculty and lecturers from SoLS, JABSOM and CTAHR with occasional lecturers from outside the UH system. Starting in Fall 2022, faculty from UHCC will also begin contributing instruction in the program at the Mānoa campus using SoLS facilities. SoLS faculty/lecturers who were formerly within the Biology and Botany departments mainly teach lower-division courses, while formerly MICR faculty as well as JABSOM and CTAHR faculty teach the upper-division courses. A benefit of having faculty from diverse units teaching many of the advanced courses is that these courses are cross-listed with other programs such as MICR and MBBE (e.g., MCB/MICR), which provides programmatic synergy and maintains high enrollment. Our MCB curriculum was designed to scaffold student learning and training from general biology towards specialized courses that emphasize the molecular and cellular basis of human biology and health. This structure leverages our faculty’s expertise in cell and molecular biology, vertebrate physiology, immunology, virology, and pathology that provides disciplinary depth and breadth to the program. An important programmatic value is that the MCB curriculum presents a curated set of courses from the BIOL and MICR curricula as a *focused pathway* for students interested in human health, disease, and advancements in biomedical research and technology. Without this program, a typical BIOL or MICR student with these interests would need to accommodate nearly half of these courses as electives in addition to fulfilling their major’s core requirements. The MCB program treats these courses as the core curriculum, allowing students to take all the molecular and cell biology focused courses in an efficient path that supports graduation in four years or less.

The MCB BS is an attractive major for students with disciplinary interests centered on understanding the cellular and molecular mechanisms that maintain human health and resist disease. In addition to the distinction that the MCB BS degree confers on their undergraduate academic record compared to receiving a general Biology degree, student feedback acknowledges this pathway and the learning achievements gained as important reasons for their successful entry into competitive graduate programs and medical schools (see student comments in Section 6). Graduates of the MCB program have obtained prestigious NSF Graduate Research Fellowships and NIH Graduate Training awards. In addition, our students and recent graduates have received over 40 scholarships, fellowships, and grants from diverse funding sources.

Table 6. Operating Costs (where new costs are projected) *

Operating Costs	2016	2017	2018	2019	2020	2021	Current
Projected	0	0	0	0	0	0	0
Actual	0	0	0	0	0	0	0

*There are no new program-specific operating costs for MCB BS since the program exclusively uses existing established courses and faculty for instruction.

Table 7. Existing Instructional Resources/Funding since 2016*

Instructional Resources	2016	2017	2018	2019	2020	2021
Tuition/Summer/Course Fees	412,713	423,780	446,752	265,718	306,784	295,454
Other Allocation	NA	NA	NA	NA	NA	NA

* See Appendix III for each calculation.

* MCB revenues were calculated based on the enrollment of MCB majors in their required courses for the MCB degree. Therefore it is a very conservative estimate and does not include non-majors enrolled in MCB courses nor non-major courses taken by MCB majors. Resident and non-resident tuition status was accounted for.

Table 8. Personnel

Personnel	2016*	2017	2018	2019	2020	2021
Projected Tenured Faculty	1.5	1.5	1.5	1.5	1.5	1.5
Actual Tenured and Tenure-track Faculty**	8	9	7	9	13	12
Actual Non-tenure Track Faculty**			2	2	3	3
Actual Lecturers	2	2				

*The provisional MCB proposal projection ends in 2015. We extend the 2015 estimate to the current year.

**These faculty are shared among multiple programs with no MCB program-specific costs.

5. How the program is organized to meet its outcomes

The MCB BS curriculum

All the School of Life Sciences BS program pathways begin in the freshman year with introductory courses in general biology and continue through the sophomore year with students focusing on required STEM courses in math, chemistry, and physics. The programs begin to diverge once students have taken BIOL 275 Cell and Molecular Biology, which is the gateway course for MCB that typically attracts students to switch into the major. At this point the 300- and 400-level core classes in the MCB BS pathway represent the selected courses focused on cell biology that would no longer be common core requirements across other majors. Thus, the MCB student continues a focused pathway based on these upper-division courses, whereas students interested in these subjects who are enrolled in other majors would need to accommodate these as electives. Once in the upper-division courses, students are encouraged to build upon this scaffold by using directed research opportunities to refine their laboratory and writing skills in labs across the UH Mānoa and Kaka‘ako campuses, including in SoLS, CTAHR, JABSOM and UHCC.

The required lower-division core courses for MCB students are:

BIOL 171/171L - Introduction to Biology I

BIOL 172/172L - Introduction to Biology II

MCB/BIOL 275/275L - Cell and Molecular Biology / Laboratory

The required upper-division core courses for MCB students are:

BIOL 375/375L - Genetics / Laboratory

MCB/BIOL/MBBE 407 - Molecular Cell Biology I

MCB/BIOL/MBBE 408 - Molecular Cell Biology II

BIOL/MBBE 402 or BIOC 441 - Biochemistry

MCB/MICR 314 - Research Ethics
MCB/MICR 461 - Immunology
MCB/BIOL 472 - Biology of Cancer

The required non-biology STEM courses are:

CHEM 161/161L and 162/162L or 181A/181L - General Chemistry
CHEM 272/272L and 273 - Organic Chemistry
PHYS 151/151L and 152/152L, or 170/170L and 272/272L -Physics
MATH 215 and 216 or 241 and 242 – Calculus I & II

In addition to the above, the MCB BS requires students complete 12 credits of approved major electives, including a minimum of 2 upper division laboratory courses. A maximum of 2 credits from BIOL 499 directed research courses may count towards fulfilling these. The official UHM program sheet for the MCB BS program is included in this report (Appendix IV).

Pathway for UH Community College students into the MCB BS

The majority of students switch to the MCB BS degree path following their completion of the gateway BIOL 275 Cell and Molecular Biology course. This serves as a smooth entry point into the major for students transferring to UH Mānoa from the community college level. To date the MCB BS alumni roster includes 21 students who transferred from a UH Community College, with 13 of them earning their Associate in Science in Natural Sciences Degree (ASNS) before completing their MCB BS. The average time for ASNS students to complete the MCB BS was 2.38 years, with 7/13 earning their BS within 2 years of transferring to UHM.

The MCB BS Program encourages cross-unit collaboration

As the organization of the MCB BS curriculum is predicated on the identification and incorporation of courses traditionally taught by different departments, a desirable effect of the program's success has been the fostering of collaborative faculty teaching that reaches across units at UH. A key component of the program early on was the contribution of Molecular Biosciences and Bioengineering faculty from CTAHR working with SoLS (or at that point the Department of Biology) in the development of the MCB/BIOL/MBBE 407 and 408 Molecular Cell Biology I & II courses to bolster upper-division training in cell biology. It is important to note that the undergraduate MBBE program has a different educational focus than the MCB BS. As quoted from the MBBE departmental website:

*“The Department of Molecular Biosciences and Bioengineering (MBBE) is involved in teaching, innovation, and industrial application of modern technology for **agricultural and industrial development in Hawai‘i.**”*

There is no perception of redundancy or competition between MCB and MBBE for attracting students, as the focus on human health sciences and biomedical research presented by MCB BS distinguishes it from MBBE (see Appendix I – Borthakur / MBBE letter of support.) Therefore, while there is shared faculty expertise in teaching common molecular biology concepts between the two programs, this complementation strengthens the cross-listed courses to the benefit of both MCB and MBBE students who enroll.

More recently, SoLS has strengthened teaching relationships with the UH Cancer Center to leverage its world class research faculty and facilities toward expanding the breadth of cell biology topics taught to MCB BS students. For several years now, UHCC faculty have been hosting MCB BS students' research projects in their laboratories through mechanisms such as UROP and the Cancer Center Summer Research Internship. In Fall 2022, SoLS will introduce a Cancer Biology seminar course that

will involve UHCC faculty presenting their work to life-sciences undergraduates, both at the UHM campus and through formal class field trips to the Kaka‘ako campus. This course will not only broaden the undergraduate’s awareness of the various fields in cancer research that are represented at UHCC but will encourage students to make personal connections with participating UHCC faculty that will undoubtedly influence their interest in seeking meaningful undergraduate research opportunities as they pursue their baccalaureate degree. The MOU signed by SoLS and UHCC to formalize this teaching collaboration is another example of how the program is organized to make use of existing resources that support not only student training at UHM, but creation of opportunities for faculty collaboration that connect different UH campuses (see Appendix I – Ramos / UHCC letter of support.)

SoLS is currently working with JABSOM to develop an educational pipeline that directly connects the undergraduate MCB BS program with the graduate Cell and Molecular Biology (CMB) program. The result will be a new combined 5-year bachelor’s and master’s (BAM) degree pathway that will allow top achieving BS candidates to have their fourth year of study represent both the completion of their BS and the first year of their MS. The involvement of JABSOM faculty in the training of undergraduates during the transition phase will present exciting new opportunities for SoLS students to engage in research projects starting at an earlier time point in their educational path, and that will support greater flexibility in the development of their projects and training. In this manner, MCB BS will directly support the preparedness of students who will contribute to the quality of JABSOM’s educational mission (see Appendix I – Le Saux / CMB letter of support.)

The MCB BS program serves as the bridge upon which these connections between SoLS and CTAHR, and UHCC, and JABSOM, will continue strengthening. In this capacity, the MCB BS exemplifies not only a strong undergraduate training program but serves as a model for bringing together existing UH personnel and resources to stimulate new cross-unit, inter-campus collaborative research and extramural grant-funding possibilities for faculty.

6. Evidence of student learning and student and program success

The programmatic Student Learning Outcomes (SLOs) of MCB BS adhere to the standardized goals shared by all School of Life Sciences programs in developing scientific knowledge, literacy, critical thinking, ethical conduct, and scientific communication skills among our undergraduates (Table 9).

Table 9. MCB BS programmatic SLOs.

SLO 1 - Students will be able to explain the molecular processes that integrate to create a functional eukaryotic cell.
SLO 2 - Students will be able to demonstrate scientific literacy by critically evaluating scientific evidence, identifying gaps in knowledge, and applying strong evidence-based biological arguments to real-world problems.
SLO 3 - Students will be able to apply the scientific method to generate new hypotheses, formulate experimental approaches and outline potential outcomes, applying appropriate logical and quantitative methods.
SLO 4 - Students will work individually and in teams in an ethical manner and demonstrate respect for a diversity of viewpoints.
SLO 5 - Students will, in oral and written forms, be able to communicate biological information clearly and professionally.

The following curriculum map shows how SLOs are supported across the core courses, providing opportunities for the SLOs to be introduced, emphasized, and/or mastered (Table 10).

Table 10. MCB BS Curriculum map.

MCB BS Curriculum Map					
Course	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5
	Explain eukaryotic molecular processes.	Demonstrate scientific literacy.	Apply the scientific method.	Work in an ethical manner.	Communicate biod. information.
Intro. to Biol. I (BIOL 171/L)	I		I	I	I
Cell & Molec. Biol. (BIOL 275/L)	I	I	I	I	I
Research Ethics (MCB 314)				E	
Genetics (BIOL 375/L)	E	E	E	E	E
Princ. of Biochem. (BIOL 402/L)	E	E	E	E	E
Immunology (MCB 461/L)	E		E	E	E
Molec. Cell Biol. I (BIOL 407)	M	M	E	E	E
Molec. Cell Biol II (BIOL 408)	M	M	M	M	
Biol. Of Cancer (BIOL 472)	M	M	M	M	M

I = Introduced; E = Emphasized; M = Mastered

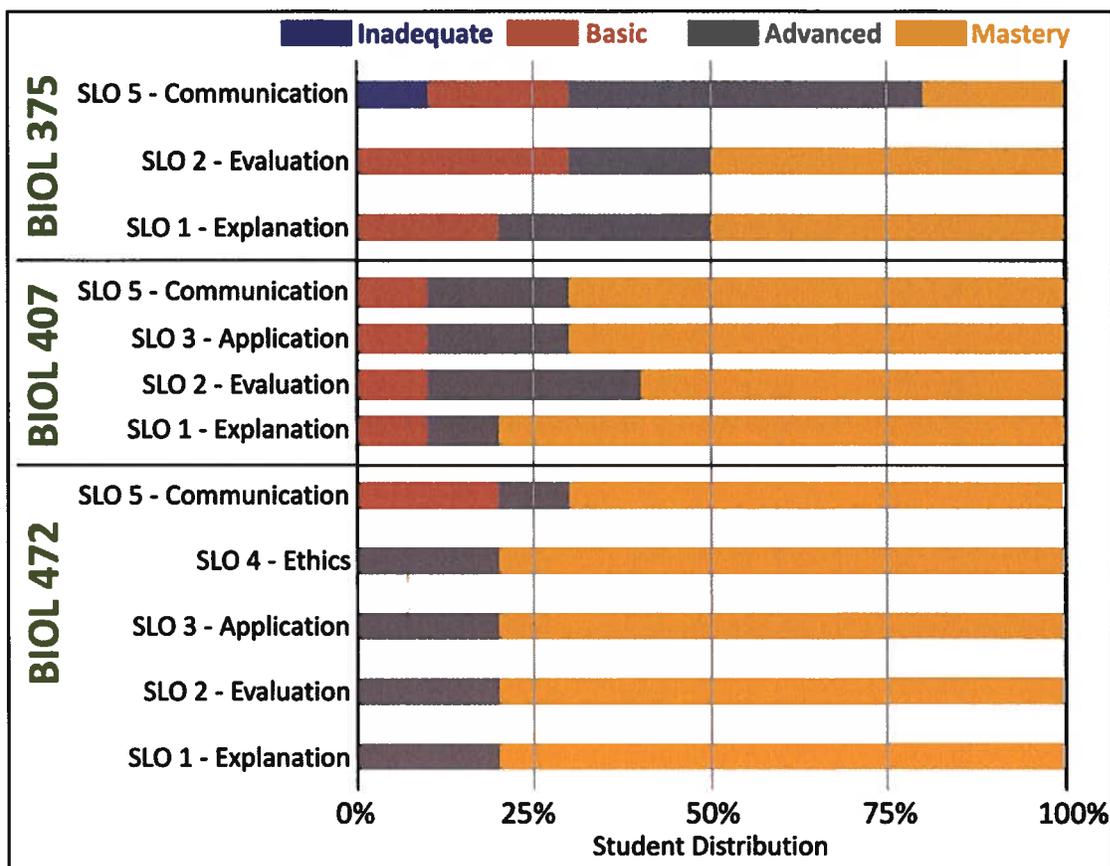
Program-level assessment of SLOs

Assessment data were collected in Fall 2021 to determine how well MCB BS students were meeting SLO benchmarks in three representative upper-division courses: BIOL 375 Genetics, BIOL 407 Molecular Cell Biology I, and BIOL 472 Biology of Cancer. For each course, a written assignment from the syllabus that reflected a minimum of three program SLOs was chosen, and ten randomly selected students had their assignment evaluated by the instructor of record to determine if their work met these SLOs at a level of basic expectation, advanced performance, or mastery.

These course data were arranged below to reflect the typical student journey, i.e., BIOL 375 and BIOL 407 in the junior year, followed by BIOL 472 during the senior year (Fig 2.)

Based on these assessment data, we conclude that most students progressing through the MCB BS program are demonstrating advanced performance or better in meeting SLOs by their junior year, with almost 80% exhibiting mastery of all five program SLOs by graduation.

Figure 2. Program-level assessment of SLOs

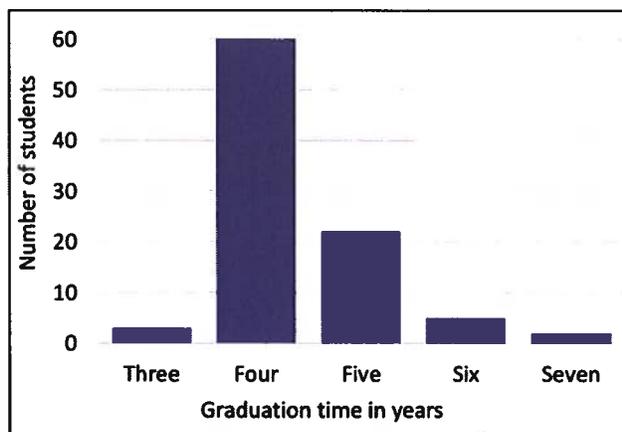


Trends in on-time graduation, retention, and GPA

We obtained data addressing on-time degree trends, retention / persistence, and average grade-point averages across all SoLS programs from the Dean’s Office of the College of Natural Sciences. These raw data have been included in Section 2, Table 4.

On-time graduation

Figure 3. Based on 92 MCB BS graduates from 2011-2019, 95% earned their MCB BS degree within five years of total undergraduate study, and 68% graduated in 3-4 years.



Program retention

The MCB BS program has an average retention rate of 85% per cohort year from 2011 to 2019, which is the highest among the five SoLS BS programs (Table 11). Microbiology is second highest at 80%, with Biology and Botany programs tied for third at 71%. We believe the high persistence in the MCB BS may result from the program offering a focused course of study, appealing to students who have a strong sense of what they want to achieve during their undergraduate training compared to peers who choose broader life-sciences degree paths. This may translate to greater satisfaction in the program’s selection of courses because MCB majors

have a clearer appreciation for how the subject matter applies to their interests.

Table 11. Persistence of MCB BS students compared to other SoLS BS majors.

Cohort Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
MCB	88.9	83.7	86.9	79.7	82.7	93.1	91.8	70.7	85.4	84.8
Microbiology	78.8	84.9	89.1	81.7	74.2	76.8	82.5	72.7	77.4	79.8
Botany	70.6	91.7	64.7	86.7	57.9	64.3	64.7	66.7	74.1	71.3
Biology	68.6	67.3	72	68.3	70.7	69.2	72.9	72.7	78.3	71.1
Marine	72	64.3	64.5	63.6	64.6	62	63.3	66.1	65.6	65.1

Grade point average (GPA)

Students enrolled in the MCB BS program from 2012-2020 held an average GPA of 3.53, which was the highest among the five SoLS BS programs (Table 12; 0.2 points higher than general Biology BS students). As with the high retention rates of students in the MCB BS, we believe the excellent academic performance of MCB students reflects that they are more likely to have stronger motivation for continuing with graduate-level education in medicine or biomedical research than peers who choose the general Biology path, and thus they are more likely to thrive in a more focused degree pathway and be more academically competitive.

Table 12. GPA at graduation for MCB BS compared to other SoLS majors.

Cohort Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
MCB	3.51	3.21	3.5	3.6	3.77	3.56	3.55	3.52	3.55	3.53
Botany	3.33	3.64	N/A	3.99	3.34	N/A	N/A	3.48	2.97	3.46
Microbiology	3.17	3.27	3.34	3.49	3.38	3.43	3.38	3.45	3.35	3.36
Biology	3.21	3.35	3.16	3.26	3.34	3.35	3.35	3.41	3.41	3.32
Marine	3.16	3.27	3.25	3.16	3.19	3.17	3.12	3.28	3.19	3.20

Indicators of program quality

In Fall 2021 we surveyed recent MCB BS graduates to invite reflection on their choice of major and to learn about accomplishments that they attribute to the training they received in the program. This included self-reporting of current employment or student status in an advanced degree program. Sixty-eight graduates from 2017-2021 with active hawaii.edu email addresses were invited to participate, and twenty-seven completed the survey. The survey prompts were:

- 1) Semester of graduation (Spring 2017 - Summer 2021)
- 2) What path have you taken since earning your BS?
- 3) Please cite any publications on which you are listed as an author.
- 4) Please list any awards or special recognition you have received.
- 5) What role did the MCB BS program play in your intellectual and career development?
- 6) Do you feel you could have learned the same in a different degree program?

Note: The complete, non-curated responses are included as Appendix II, and the original Google survey form can be accessed here: <https://forms.gle/wdNW9CJbGkk7wNcDA>

The following are selected, unedited survey responses to the question, “What role did the MCB BS program play in your intellectual and career development?”

- *“As a Pre-PA student, the MCB BS program laid the foundation for the studies I hope to complete in PA school. In particular, Immunology, Virology, all 3 MCB classes, and Biology of Cancer, were some of the most important classes I took while at UH.”*

- *“I firmly attest that the course requirements for the MCB program was appropriately challenging and taught me the basic knowledge to conduct biomedical research. In my current position as a PhD student at Harvard University, I feel on par with my classmates (ranging from state universities to ivy leagues). I believe my education at UH Manoa and in the MCB program strongly contributed to my success.”*
- *“Before joining the MCB program, I knew that I wanted to pursue a career in medicine. Being a part of this program further solidified my career path as the various courses offered in MCB exposed me to the rigor and content that I would expect in medical school. I became a much more confident student due to the outstanding professors who were so passionate about their lessons that it made the learning environment interactive and fun and facilitated a level of understanding that went beyond memorization.”*

The following are selected, unedited survey responses to the questions, “Do you feel the knowledge you are now using (or plan to use) in your current job or program could have been gained from a different degree program (such as Biology BS)? Why/why not?”

- *“No. MCB is the only program that provides a course study that is fully relevant to the biomedical sciences. It is THE dedicated pre-medical track at UH Manoa.”*
- *“I think the MCB program is irreplaceable in terms of what it offers undergraduate students! Personally, I felt that MCB had more opportunities to delve deeper into human health/disease than other programs like General Biology.”*
- *“Absolutely not. I think that the MCB BS program is the best tailored fit toward those pursuing basic science research in the field or a medical profession. The program is much more specific to the molecular mechanisms that is the foundation for both topics. The classes that were required for the program, while more challenging than those of other degrees, prepared us for the realities and actual difficulties of these vast fields. The curriculum was very in depth and specific toward medicine and research methods. I am very glad that I decided to switch from a BS in Biology to a BS in MCB.”*

Summary of publications

MCB BS students and alumni actively contribute to new knowledge in the field as undergraduates and as recent graduates of the program. Respondents in our alumni survey are listed as authors on:

- 17 papers in peer-reviewed journals (including two in *Nature Communications*.)
- 8 manuscripts currently undergoing peer-review for publication.

Summary of awards and honors

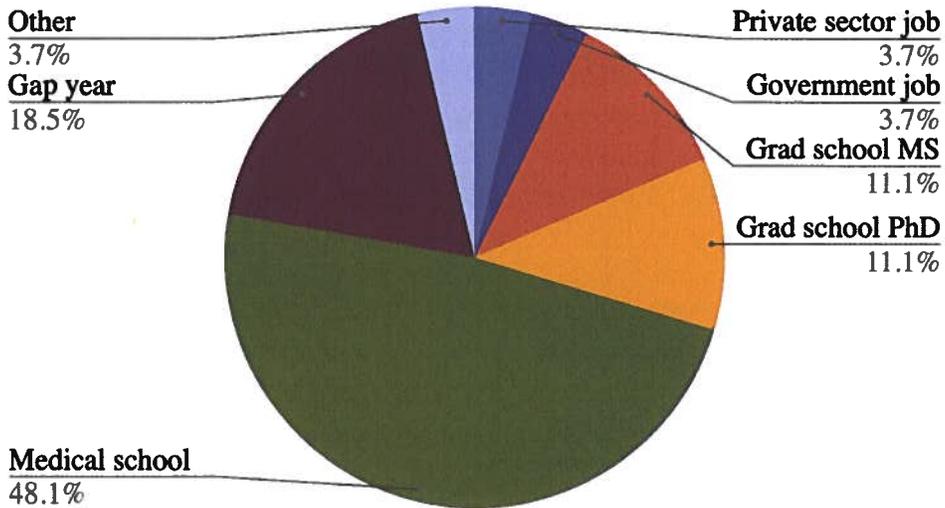
Our alumni have obtained more than 40 diverse scholarships, fellowships, and grants either as undergraduates or since graduating from the program, including prestigious federal competitions. Many MCB students maintain high GPAs earning recognition on the Dean’s list and other academic honors commensurate with their outstanding scholastic achievement. Some examples are

- NSF Graduate Research Fellowships (multiple recipients)
- NIH Graduate Training awards (multiple recipients)
- Best “Undergraduate Presentation” at the 43rd Tester’s symposium
- Chancellor’s Scholarship
- Department of Health STEM fellowship
- UHM OVCR Student Award for Excellence in Research 2021
- Doctor of Medicine Early Acceptance Plan Scholarship (multiple recipients)
- UH Regents Scholarship
- ...and the list goes on.

Current positions of MCB BS alumni

Of the 27 respondents in our alumni survey, **81% have matriculated to the next educational level towards careers consistent with the training goals of the MCB BS program.** Half of them, 48% (13), are currently enrolled in medical school and another one-third, 33%, enrolled in graduate programs (6 currently enrolled, 3 graduated). Because the survey follows graduating classes from 2017-2021, survey participants have not yet completed their MD or PhD degrees.

Current positions of 2017-2021 MCB BS graduates



APPENDICES

APPENDIX I – Letters of Support for the MCB BS Program

1.1	Clifford Morden, Ph.D.	A3
	Professor and Interim Director School of Life Sciences University of Hawai‘i at Mānoa	
1.2	Dulal Borthakur, Ph.D.	A4
	Professor and Chair Department of Molecular Biosciences & Bioengineering College of Tropical Agriculture and Human Resources University of Hawai‘i at Mānoa	
1.3	Olivier Le Saux, Ph.D.	A6
	Professor and Chair Department of Cell and Molecular Biology John A. Burns School of Medicine	
1.4	Joe Ramos, Ph.D.	A7
	Interim Director University of Hawai‘i Cancer Center	
1.5	MCB BS alumni:	A9-A30
	Alyssa Roberts Emily Acoba Tony Head Jessica Chen Austin Corpuz Jasmine-Rae dela Cruz Julia Lee Kelsea Jones Maile Amine Megan Andrada Shantel Pascual Trevor Hirata Tricia Khun Victor Kilonzo Darcy Tokunaga	

APPENDIX II – MCB BS Alumni Survey ResponsesA31-A41

APPENDIX III – Tuition generated by MCB BS enrollmentA42-A44

APPENDIX IV – MCB BS program sheetA45-A48



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MĀNOA

College of Natural Sciences
School of Life Sciences

22 November 2021

MEMORANDUM

TO: Aloysius Helminck
Dean, College of Natural Sciences

FROM: Clifford Morden
Interim Director, School of Life Sciences

SUBJECT: Support for Establish Program Proposal: BS Degree in Molecular Cell Biology

Cliff Morden

Digitally signed by Cliff Morden
DN: cn=Cliff Morden, o=University of
Hawaii, ou=PCSU,
email=cmorden@hawaii.edu, c=US
Date: 2022.01.07 14:20:11 -10'00'

I wish to convey my support to establish the Bachelor of Science Degree in Molecular Cell Biology (MCB). The program was provisionally established in 2011 and has remained as such due to a number of unforeseen occurrences. Throughout this time, however, we have continued to produce exceptionally strong students and have acted on plans to expand the degree resulting in new partnerships across the UH Manoa campus.

The MCB major continually produces exceptional students. This is demonstrated in their high GPA (averaging 3.53, highest among SoLS majors) and their high rate of continuing their education either in medical (48%) or graduate (22%) school. Students also are frequently involved in research projects through UROP, Honors Program or Cancer Center Summer Research Internships, etc. MCB students also receive recognition for their work through a variety of awards (i.e., a recent graduate received the 2021 Student Award for Excellence in Research at UHM).

The MCB major is also well-supported by other programs on campus which puts into practice the call to SoLS from UH Administration to integrate with other colleges. With its focus on human health, we have strong relations with faculty from JABSOM, the UH Cancer Center (UHCC), and CTAHR. With JABSOM, we are working on details to establish a Bachelor's & Master's (BAM) 5-year degree program in conjunction with their graduate program in Cell and Molecular Biology (CMB). With UHCC, we recently developed an MOU that will integrate their faculty into the instruction of MCB courses beginning in 2022. We have cross-listed courses with CTAHR Molecular Biology and Bioengineering (MBBE), and faculty in this college regularly instruct these courses. With the agriculture and biotechnology focus in MBBE, students with human health interests will continue to gravitate toward the MCB program whereas students with agriculture and applied interest will be better served by MBBE. As such, a perceived overlap between the degree programs is not present.

There are no additional costs associated with this degree. Courses being taught are populated by an assortment of students from a wide variety of majors across UH Manoa. Participation in course instruction comes from our faculty, those from other units on campus, and soon from researchers at UHCC.

There is a huge up-side to establishing the MCB degree. Supporting it provides a unique opportunity for training our undergraduate students and preparing them for their future careers.

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UNIVERSITY OF HAWAI'I AT MANOA
College of Tropical Agriculture and Human Resources
Department of Molecular Biosciences & Bioengineering

11/4/21

Dr. Clifford Morden
Director, School of Life Sciences
University of Hawaii at Manoa
Honolulu

Subject: Support for MCB undergraduate program

Dear Cliff,

I am writing this letter on behalf of the Department of Molecular Biosciences and Bioengineering (MBBE) to express my strong support to the Molecular Cell Biology (MCB) undergraduate degree program under the School of Life Sciences. The MCB program was established several years ago when Paul Patek was the Chair of the Department of Microbiology. My department offered support to this program at that time and we continue the same level of support now. I would like to reemphasize the following:

1. The MCB program does not overlap with the Molecular Biosciences and Biotechnology (MBB) undergraduate degree program in my department. While the MCB program's major focus is 'Molecular Cell Biology', the major focus of our MBB program is 'Molecular Biotechnology'. There is no competition between MBB and MCB programs because students are attracted by the different focus of studies between the two programs. Those students who are interested in human health and medicine join the MCB program while other students who are interested in biotechnology join the MBB program.
2. MBBE supports MCB through our cross-listed courses such as MCB/MBBE 407 and MCB/MBBE 408.
3. The continued existence of MCB BS allows a mechanism by which School of Life Sciences faculty and CTAHR faculty have opportunities to collaborate both in instructional and research matters, thus encouraging cross-unit use of resources.

I strongly believe that the MCB and MBB programs will continue to work together in training our undergraduates in two distinct but interconnected areas of biology at UH Manoa.

Sincerely,

Dulal Borthakur
Professor and Chair

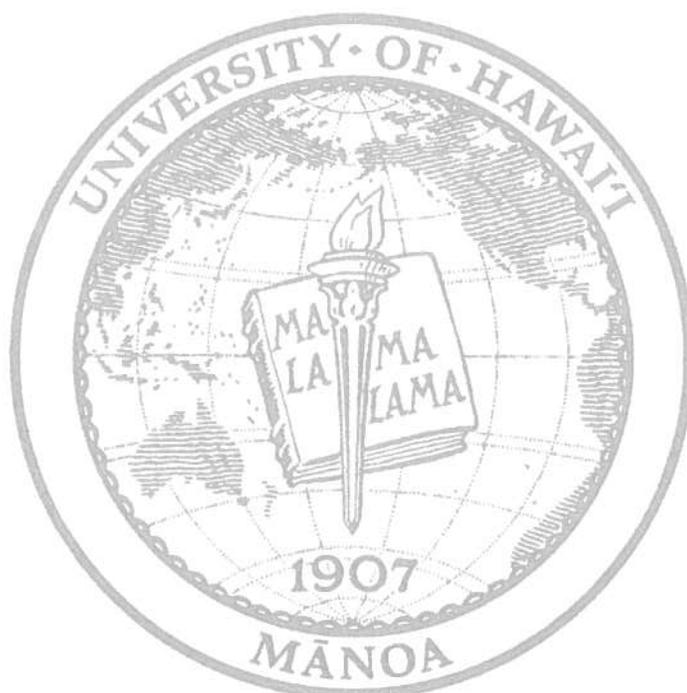
1955 East-West Road, Agricultural Sciences 218, Honolulu, Hawaii 96822
Tel: (808) 956-6600; Fax: (808) 956-3542; E-mail: dulal@hawaii.edu; <http://www.ctahr.hawaii.edu/mbbe/>
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(Continued from page 1)

(2)



Dulal Borthakur, PhD
Professor and Chairman





UNIVERSITY
of HAWAII
MĀNOA

November 12, 2021

To Whom It May Concern:

I am writing this letter as Chair of Department of Cell and Molecular Biology (CMB) at the John A. Burns School of Medicine (JABSOM). I also serve as co-Chair of the CMB graduate program. In that capacity and on behalf of the faculty in the Department of CMB, I offer our full and unconditional support towards the undergraduate Molecular and Cell Biology (MCB) BS program becoming a permanent program at UHM. Indeed, beside the fact that many of our department faculty, including myself, have actively contributed to the teaching of MCB students over the years, the undergraduate MCB BS program also produces strong candidates for our graduate CMB program. This partnership is essential to the vitality of both programs. The awareness of the graduate CMB program begins at the undergraduate level, and is fostered by our faculty participation in teaching MCB courses thus supporting graduate enrollment numbers.

To emphasize further the importance of our program relationship, efforts are already underway to create a 5-year BAM program between the BS and MS programs that will propel talented students in an accelerated path towards a graduate degree. Furthermore, we are developing a post-baccalaureate certificate program in pre-medical studies that will use lectures and lecturers from the MCB program. I consider that a strong continuity between undergraduate and graduate education in molecular cell biology offered by UHM is key to attract bright, motivated local students to stay in Hawaii for their education, mitigating the loss of these young talents to other mainland schools. Retaining JABSOM-educated physicians is a legislature mandated mission for our medical school, but the necessity to educate locally and retained bright graduate students to become the next generation of Hawai'i's researcher, faculty, academicians and others is just as important. As stated above, collaborative lecture teaching and involvement of undergraduate students in research laboratory at JABSOM has been a reality for many years. So, we value strongly the MCB BS program as a permanent mechanism by which we will continue to consolidate and further build collaborative cross-unit teaching and research opportunities between our programs as we are all part of the same mission of UHM.

In summary, the permanence of the MCB BS program is not only essential for a vibrant CMB graduate program but will give students many opportunities to discover and to learn biomedical research and perhaps even become physicians.

Please don't hesitate to contact me, if you have any questions,

Sincerely,

A handwritten signature in blue ink that reads "desaux".

Olivier Le Saux, Ph.D.
Professor and Chair
Department of Cell and Molecular Biology
John A. Burns School of Medicine
University of Hawai'i at Manoa
651 Ilalo St., Biosciences 222G
Honolulu, HI 96813

651 Ilalo Street, Biosciences 222
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November 4, 2021

Howard C. Shen, Ph.D.
School of Life Sciences
University of Hawai'i at Mānoa
2538 McCarthy Mall, Edmondson 216
Honolulu, HI 96822

Dear Dr. Howard Shen:

I am writing as UH Cancer Center Interim Director, Researcher in the Cancer Biology Program, and co-leader of the Cancer Center Cancer Research Education and Training Core to voice our strong support for advancement of the Molecular Cell Biology (MCB) Bachelor of Science (BS) Program from “Provisional” to “Established” status. We deeply value the connections that the UH Cancer Center has built with the MCB program over the last few years and fully recognize and attest that the BS program has an important role in supporting the success of our programs.

The UH Cancer Center is one of only 71 National Cancer Institute-designated centers in the country and the only one in Hawaii and the Pacific. The Center’s mission is to reduce the burden of cancer through research, education, community outreach, and patient care with an emphasis on the unique ethnic, cultural, and environmental characteristics of Hawaii and the Pacific. Currently, the Center is conducting more than 100 cancer research projects in two large interdisciplinary programs: Cancer Biology and Population Sciences in the Pacific. Moreover, a major component of the Cancer Center is the Cancer Research Education and Training Core led by Drs. Ramos and Maskarinec. As part of the educational mission of the UH Cancer Center we have created several organized research experiences for UH undergraduates. A signature program is our Summer Research Program which is funded by an NIH R25 mechanism and runs every summer hosting up to 20 students doing hands on research with our researchers. We have designated a minimum of 5 of those positions for UH undergraduates. Dr. Shen and the MCB program have been instrumental in helping to find the best students for the program every year. From their success, it is clear that MCB BS trains students in subject matter and laboratory skills relevant to working with research groups at the Cancer Center. More generally we have found that the strong undergraduate training in molecular cell biology supports the development of bright, talented young researchers who are very well trained for next level research here in our various programs and for thesis projects or other research projects at the Cancer Center and Medical School on the Kaka'ako campus.

The undergraduate BS pathway at UHM supports the Cancer Center's broader educational mission. A strong continuity between undergraduate and graduate education in molecular cell biology at UH attracts bright, motivated local students to stay in Hawaii for their

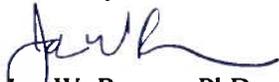
701 Ilalo Street, Honolulu HI 96813 | Tel (808) 564-5843 | Fax (808) 586-5857 | www.uhcancercenter.org
A National Cancer Institute-designated Cancer Center

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early career development, mitigating the loss of that young talent to other mainland schools and research institutions. We are working with MCB to tighten this pipeline. The BS program is a mechanism by which we can build collaborative cross-unit teaching and research opportunities between UHM and Cancer Center faculty. Our dedication to this collaborative teaching effort is evidenced by the recently signed MOU between UH Cancer Center and Life Sciences as a first step in easier communication and teaching between the two units. We are also working with MCB to create a new seminar course to further help support the BS program.

In summary, the MCB BS program benefits many other programs outside of the School of Life Sciences, and in particular those here at the Cancer Center, by training young scientists who may continue learning and working at the Cancer Center and by creating collaborative research opportunities between units for students as well as faculty. We are thrilled to support the MCB BS for transition to Established program.

Sincerely,



Joe W. Ramos, PhD
Interim Director
University of Hawai'i Cancer Center

Alyssa Roberts

948 Ala Lehua Street, Honolulu, HI 96818 | 808-358-2879 | amrobert@hawaii.edu

October 13, 2021

College of Natural Sciences
University of Hawai'i at Mānoa
2565 McCarthy Mall, Keller 201
Honolulu, HI 96822

To Whom This May Concern,

I am pleased to write a letter of support for the establishment of the Molecular Cell Biology Bachelor of Science (MCB BS) degree program. I originally began my undergraduate education pursuing a Biology BS degree but switched over to the MCB BS degree program in my third year. Since then, I have graduated with an MCB BS degree and am now a medical student at the University of Hawai'i at Mānoa's John A. Burns School of Medicine.

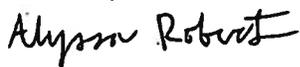
I was mainly attracted to the MCB BS program after discovering that their requirements included courses such as "Immunology" and "Biology of Cancer." I found that these subjects were much more suited to my pre-medical interests compared to subjects required by the Biology BS program such as ecology and zoology. Thus, switching programs allowed me to take better-suited courses as requirements rather than trying to fit them into my schedule as electives. In addition, the MCB BS program has no program-restricted courses, meaning many of the Biology BS courses that I had already taken fulfilled MCB BS course prerequisites as well.

Not only are the MCB BS courses engaging, but they are also extremely practical. Every required MCB BS course covered topics that appeared in the Medical College Admissions Test (MCAT) and again in medical school. Molecular and cell biology can be quite complex, and many medical students have deemed our molecular and cell biology lectures as being some of the most difficult. That being said, taking MCB BS courses as an undergraduate significantly helped me to reduce the struggle that I have seen many of my peers face in learning the subject.

For students not interested in clinical medicine but are instead interested in fields such as basic science research, the MCB BS program can still be of tremendous value. While conducting laboratory research for my undergraduate senior honors project, I found that the MCB BS courses were instrumental to my understanding of key concepts and mechanisms. In addition, the MCB BS laboratory courses introduced me to the same techniques that I later utilized in my research. Thus, the teachings of the MCB BS program extend far beyond just the medical realm.

The MCB BS program offers students the unique opportunity to gain a solid foundation in subjects that will be essential for their future careers in science. If established, I firmly believe that the program will prove to be an invaluable asset to the University of Hawai'i at Mānoa and will continue to benefit countless students.

Sincerely,



Alyssa Roberts

Thursday, November 2, 2021

Aloha,

My name is Emily Erika Acoba, and I am writing this letter to express my ardent support of the Molecular Cell Biology degree program becoming an established degree program at the University of Hawai'i at Mānoa. I am currently a first-year medical student at the John A. Burns School of Medicine and a National Health Service Corp Scholar, and none of these achievements would have been possible had I not received my B.S. in molecular cell biology.

The academic highlights of this program that set it apart from other degrees at the College of Natural Sciences are the specific courses in molecular cell biology and the biology of cancer. While Biology of Cancer is not unique to the molecular cell biology degree, together with Molecular Cell Biology I and II, these courses formed the basis of much of the knowledge I still use in medical school. To be sure, I draw on knowledge from much of my undergraduate training, however these three courses have allowed me to grasp difficult concepts in medical school that would have been much more difficult if I had not taken these courses. Moreover, the relationships I developed with the professors of these three courses are a major reason why I got into medical school and received a full-ride scholarship from the National Health Service Corps. The professors from these courses wrote me letters of recommendation that made achieving my goals possible, and those letters would not have been possible without this degree.

Furthermore, the focus of the molecular cell biology degree aligned more with my interests than other degree programs in the College of Natural Sciences. I was weighing a B.S. in Biology as a freshman, and I decided against it because it covered many topics that I was not necessarily interested in such as ecology or evolutionary biology. When I came across the Molecular Cell Biology major, I was drawn to it because the required courses and electives aligned more with my interests as an aspiring physician. It was clear how the courses I would take for the degree would be applicable in a clinical setting, and as mentioned above, those courses are proving more than valuable in medical school.

Another highlight of the degree program for me was the flexibility it offered. Another major I considered was Microbiology, and I decided against it because the Molecular Cell Biology program was not as rigidly structured as Microbiology, and therefore it allowed me to take more courses outside of my major. This was fruitful because I was able to complete a minor

in Ilokano. I am certain there are many Microbiology majors who complete minors or even second majors, however the Molecular Cell Biology program was more accommodating to my schedule and my interests.

At a glance, the Molecular Cell Biology program is quite similar to other biological sciences degrees, and to be fair, there is significant overlap between them. However, each program remains unique, and what sets Molecular Cell Biology apart is the focus of its courses on topics that are relevant for aspiring physicians or those interested in scientific research with clinical implications. Students in this program can profit from the unique sequence of courses, particularly Molecular Cell Biology I & II and Biology of Cancer, and grow in their knowledge of medically and clinically relevant sciences. Physicians and clinical science researchers are only going to grow in demand, and this degree program will be a crucial training ground for those future professionals that come through this university.

Sincerely,

Emily Erika N. Acoba

Emily Erika Acoba

eeacoba@hawaii.edu

21 October, 2021

To whom it may concern,

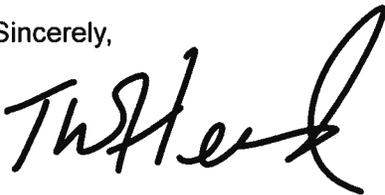
I graduated from University of Hawaii at Manoa (UHM) with a Bachelor of Science degree in Molecular Cell Biology (MCB BS), cum laude and with Honors, in the Fall of 2018. Currently, I am in my second year of the Cell and Molecular Biology Masters (CMB MS) program, also at UHM. After completing the Masters program in the Spring, I plan on applying to medical school, and if accepted, will work towards becoming a physician.

The MCB BS degree was attractive to me because it focused on understanding the makeup and behavior of cells, and culminated in a capstone course on cancer. Cancer was, and is still, a subject that I deeply care about - especially after watching my mother die in a hospital bed in 2000, while undergoing chemotherapy for myelodysplastic syndrome. I was not aware of the degree's provisional status, and am grateful for being able to complete the course of study when I did (2013 - 2018). The MCB program is the main reason I achieved a perfect score - 132 - on the *Biological and Biochemical Foundations of Living Systems* section on the Medical College Admission Test (MCAT). I struggled with the other sections of the MCAT, but am still happy with my overall score. Additionally, the MCB program left me well prepared to tackle the CMB Masters, and potentially medical school and/or the CMB Doctorate.

I would recommend the UHM MCB program to any student working towards a greater understanding of cells and associated processes, whether he intends to move on to medical school, research, or industry. The MCB program taught me as much about my own interests and capabilities as it did about cells - the fundamental units of life. There is still a great deal to discover within cells and systems of cells, and the MCB program both supplies students with a solid foundational understanding and inspires further progression into undiscovered territory.

While pursuing further education, I have spent over 25 years working full time in the IT industry, where my primary function is gathering, condensing, repackaging and redistributing information to help others make decisions. Hopefully in the near future I'll be able to perform this function as a professional researcher and doctor, helping improve the health and wellbeing of people in the community. The MCB BS is a critical component of my progression towards a career in research and medicine; I fervently support the program and thank all the faculty and staff involved.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tony Head', with a large, stylized flourish at the end.

Tony Head
MS Student, Cell and Molecular Biology
University of Hawaii at Manoa

Dear whom it may concern,

My name is Jessica Chen and I graduated from University of Hawai'i at Mānoa (UHM)'s Molecular Cell Biology (MCB) program in the Spring of 2018. I am currently a first year PhD student in the Virology program at Harvard University and have spent the past three years as a postbaccalaureate research fellow at the National Institutes of Health (NIH). I am writing in high support of the BS in MCB program to become an established UHM program.

There are many compelling reasons why the MCB program should become an established program. I can only speak of my own experiences through the MCB program and the results of the training and support I received.

First and foremost, I want to highlight **the phenomenal teaching** I have received through the MCB program. I am currently taking an undergraduate immunology course to fulfill my degree requirement at Harvard. While I am enjoying my course at Harvard, I found the curriculum and academic rigor to be on par with the training I received through Dr. Howard Shen's immunology course (MICR 461) and the MCB program. In terms of my graduate level courses, I feel confident in my ability to express my scientific knowledge and evaluate molecular biology techniques. Many of these, I would like to point out, are **in line with the student learning objectives of the MCB program.**

Second, the **variety of course offerings to fulfill elective requirements allows for specialization and diversification.** In 2014, I initially entered UHM with the intention to complete a BA in Biology. After a few major switching (from BA Biology to BS Biology to BS Microbiology), I decided upon selecting the BS in MCB as the degree I would ultimately receive upon graduation. For each decision I made in switching majors, I was fine-tuning my interests in microbiology and molecular biology. The ultimate reason why I decided to switch from BS in Microbiology (a somewhat similar degree) to BS in MCB was due to the elective offerings. Having worked as a peer advisor for the Department of Biology from 2016 to 2018, I was fully aware of the difficulty of creating a four-year plan with limited course offerings. This was especially the case with the BS in Microbiology degree as I would frequently hear complaints from my fellow classmates about the limited offerings per semester and conflicts with their schedules. While I can go into details about the differences between the two natural sciences degree plans, I think it would be more noteworthy to look at the [program sheets](#) for BS in Microbiology and BS in MCB, in particular the Group 1 and Group 2 elective options (for microbiology see Additional Course and for MCB see Molecular Cell Biology Related Requirements). There are significantly more elective options for the BS in MCB program as well as more diversity in the courses with offerings from ICS, mathematics, and zoology. This not only allows for specialization and diversification of interests but **also contributes to the flexibility of course scheduling (that allows for a four-year graduation) which is heavily in line with UHM's 15 to Finish campaign.**

Third, the range of electives allowed for the completion of the degree (without course overrides or substitutions) provided me with the **freedom and flexibility to pursue extracurricular activities.** I am incredibly guilty of always having too much on my plate. I graduated in Spring 2018 with a 3.78 GPA, BS in MCB with honors, BA in Art, and an undergraduate certificate in Mathematical Biology. Suffice to say, scheduling for courses was a bit of an issue. If this doesn't sound crazy enough, in my senior year, I

was juggling three part-time jobs (peer advisor, grader for physics, and Kaplan student brand ambassador), an ASUH executive position (Senator-at-Large and chair of the Undergraduate Academic Affairs Committee), executive board positions for two clubs (Pre-Medical Association and Mortar Board Senior Honor Society), served as the Ceramics program volunteer coordinator, a board member for SAPFB, and a co-founder of UHM's food pantry, Food Vault Hawai'i. Many of these positions I have held for consecutive years. Thinking back, I honestly don't understand how I managed to do all of this and graduate in four years and sleep but I definitely want to **credit the MCB program for making my life a little easier by having lots of options and opportunities to fulfill my degree requirements.**

Fourth, the **MCB community reinforced in me the desire to empower others.** I have met wonderful professors and students through the MCB program, some of whom I might not have known if I did not choose this program. I am very grateful to have been taught by Dr. Heinz De Couet (BIOL 407) and Dr. Dulal Borthakur (BIOL 408). I most likely would not have taken these courses if I was not in the MCB program. Some fond memories I had was going to Dr. De Couet's office hours and chatting with him about life and about science. I am also extremely grateful for the support and kindness Dr. Borthakur showed me when he attended my research presentation at the Tester Symposium. I also want to highlight my research experience with Dr. Megan Porter. I met Dr. Porter through a required class (BIOL 275) for many of the life sciences majors. She became my mentor for my honors thesis and was incredibly understanding in my desires to pursue multiple degrees (especially a degree in Art). Dr. Porter also trained me in grant writing and prepared me for graduate school. With her support, I was awarded the Kosaki Student Assistance Award, Hokama Award, and Undergraduate Research Opportunities Program (UROP) funding for my research. It was through these instances that led me to apply and be awarded the National Science Foundation Graduate Research Fellowship Program (NSF GRFP). Lastly, I want to mention my interactions with Dr. Howard Shen, who taught two of the MCB required courses (MICR 461 and MCB 472). Prior to completing his PhD, Dr. Shen received training as a postbaccalaureate fellow at the NIH. Upon learning that, I spoke with him on multiple occasions about his experiences. His enthusiasm for the NIH postbaccalaureate program and encouragement led me to apply and receive a position at the NIH. I am truly grateful for all my interactions with the members of the MCB and Natural Sciences community. It takes a village to raise a child. It took the MCB community to raise and teach me the breadth and depth of biological knowledge and instill a passion for the sciences. **The interactions I had with many faculty members and community strengthened my resolve to create an inclusive environment and share resources to enable others to succeed.**

Lastly, I implore you to look at the **success of other graduates of the MCB program.** The MCB program outputs successful candidates in medicine, biomedical research, and many other fields. This not only attests to the necessity for the BS in MCB program to become a permanently established program but also demonstrates the drive and passion of the students who go through the program. Please do not do a disservice to the graduates of this program and future students of this program by removing the BS in MCB program.

In summation, the BS in MCB program is a vital program in the School of Life Sciences. The MCB program draws passionate students in with a rigorous but appropriate curriculum, flexible elective options that offer specialization in molecular biology related fields, and a passionate community of faculty members. I sincerely hope you will consider the BS in MCB program to be a permanent program at

UHM. Should you have any questions, please do not hesitate to contact me at jessicachen@g.harvard.edu.
I am more than happy to share my thoughts and experiences about the MCB program at UHM.

Sincerely,

A handwritten signature in black ink that reads "Jessica Chen". The signature is written in a cursive, flowing style with a large initial "J" and "C".

Jessica Chen

To Whom It May Concern:

My name is Austin Corpuz and I am an alumnus of the UH Mānoa Molecular Cell Biology program writing in support of its establishment as a permanent degree track.

I received my BS in Molecular Cell Biology in 2017 and have since gone on to attain my MS in Cell and Molecular Biology before matriculating at JABSOM as a current second year medical student. I can confidently say that the focused coursework of UH's MCB program has more than sufficiently equipped me with the foundational knowledge to excel in graduate study, biomedical research, and now medical education. I can specifically cite the Biology of Cancer capstone course as the catalyst which inspired me to pursue opportunities in cancer research at the UH Cancer Center as a graduate student. Today, oncology remains one of my specialties of interest.

Additionally, I continue to benefit from the lasting support of MCB's network of faculty and colleagues who now comprise a community of likeminded biomedical research collaborators, mentors, and classmates in both graduate and medical school.

Simply put, UH Mānoa's MCB program has been *the* premier dedicated pre-medical and/or pre-biomedical research track for as long as it has been offered. I am one of many MCB program alumni actively pursuing dream careers as future physicians and scientists who will undoubtedly bring positive change to the world. To remove this program during our current global health crisis could only be a detriment to society.

Sincerely,

A handwritten signature in black ink, appearing to read 'A Corpuz', with a stylized flourish at the end.

Austin Corpuz, M.S.
adcorpuz@hawaii.edu
808-721-7946

Dear UH Faculty Senate, President Lassner, and UH Board of Regents,

The MCB program is a program that deserves to stay. I was originally a biology major, but I switched into the MCB program because the classes and electives only offered in this program felt much more relevant in my pursuit of a career in medicine. As a biology major, I had doubts if medicine was something I still wanted to pursue. I wasn't excited to take any of the classes I was currently taking as a biology major, nor was I thrilled to take any of the other upper division biology electives. Taking molecular biology (BIOL 275) was the first time I was genuinely excited for a class. Shortly after taking this class, I learned there was a program with similar classes. I met with an advisor to discuss changing majors and considered switching into biochemistry, chemistry, or MCB. After discussing my options with my advisor, I decided MCB was the direction I wanted to go. The classes I took in the MCB program such as molecular cell biology I and II (MCB 407 and 408), immunology (MCB 461/MICR 461), virology (MICR 490), and biology of cancer (BIOL 472), were classes that reaffirmed to me that medicine is what I want to pursue. The classes I was projected to take if I switched into biochemistry or chemistry didn't seem relevant to my end career goals, however the classes offered in the MCB program had much more relevant applications for a future healthcare provider and that's how I decided to switch to MCB.

This program heavily emphasized the mechanisms and basis of diseases on the molecular level. Learning about diseases from this perspective allows a prospective pre-medical student, such as myself, to have a better understanding of how existing treatments work and how new treatments may target a different part of a molecular pathway. If I didn't enter the MCB program and if I didn't take immunology, virology, and biology of cancer, I wouldn't have discovered my interest in pathology of diseases.

I am currently working as a medical assistant at Primary Care Clinic of Hawaii in Hilo and shadowing different specialties to gain clinical experience and to discover which areas I would be most interested in pursuing. I plan on applying to medical school next cycle (in 2022). Hawaii is in desperate need of physicians and I hope to one day practice here. I really hope the MCB program sticks around because without this program, I wouldn't be continuing my pursuit of medicine. The MCB program has been such an enjoyable and enriching experience and I hope it's a program future students will be able to partake in. If I can provide any additional information, please feel free to contact me at jrdc24@hawaii.edu.

Mahalo,
Jasmine-Rae dela Cruz

November 4, 2021

To Whom It May Concern:

My name is Julia Lee and I am a UH Mānoa alumni. I graduated with the class of Spring 2020 with a B.S. in Molecular Cell Biology (MCB). I am currently a Medical Assistant at Medicine Pediatrics Associates and plan to apply to Physician Assistant (PA) school. I am writing this letter in the hopes that you will be persuaded by my story and that of the other MCB graduates to make MCB an established program at UH Mānoa.

When I reflect upon my time at UH, I consider myself lucky to have found a degree that fit my personality and educational goals so well. Like many other college students, there was a period when I was unsure of what direction to go and what degree to choose. MCB was introduced to me at an opportune time and presented to me the most useful route to graduating within 4 years in addition to setting the stage for my future.

When I initially switched degrees from Biochemistry to Biology, I had already taken Cell and Molecular Biology (BIOL 275) with Dr. Howard Shen. At the time, I had a lot of uncertainty about majoring in Biology, yet I was still confident in my career path. I had a gut feeling that something wasn't quite right, so I made the decision to switch to MCB. I did this for 3 main reasons. First, I wanted to learn more about MCB instead of taking general biology classes, such as ecology, morphology, or evolutionary biology. Second, I knew MCB was a smaller, more tight-knit community of students, so I would be able to form a study group more easily with other students. Third, I knew Dr. Shen would be my professor for at least 2 future classes, and I was extremely interested in taking Biology of Cancer (MCB 472). I knew his teaching style coordinated well with how I learned best and I wanted to take a class that few students would be able say they took.

Safe to say, my decision to switch to MCB paid off because I found Biology of Cancer one of the most intriguing and useful classes I took at UH. Aside from my interest in the topics covered, it was one of two classes that gave me a proper "how to" when reading scientific research papers. MCB 472 and MCB 407 were the first classes that gave me the opportunity to not only understand research articles, but how to read them, break them down, and summarize them. In other classes, I was rarely afforded the opportunity to analyze an entire article, but after this class, I can now confidently read, understand, and communicate what is presented in the texts. There were a few other classes that touched upon it, but none in the depth necessary to fully understand the writing, leading many students to quickly disregard these articles with no consequences.

Academics aside, I am happy to have made an amazing group of friends in the MCB program. Like many other students, the transition from high school to college was difficult for me. I didn't realize how few new friends I had made in college until I began making friends who were also majoring in MCB. Unfortunately, our time in person was cut short due to the start of the pandemic, but we still managed to keep in touch by having study sessions over Zoom or

Facetime. Due to these stressful circumstances, my mental health declined during lockdown, but I believe the friendships I made and kept with the other MCB students helped to keep alleviate some of the stressors.

As someone aspiring to be a PA, it may seem obvious why I decided to major in a biological discipline. In addition to the reasons above, I chose MCB over Biology to help me stand out from other applicants. As a Medical Assistant at a pediatrics and internist office, taking MCB 472 became surprisingly useful as I assist managing several patients who were unfortunately diagnosed with cancer. Studying the basics about the biology of cancer in MCB 472 provided me with insight into the body's reactions that can be applied to actual patients, opportunities typically only shared by PA and medical students. It is experiences like these that make me grateful I chose MCB.

Thank you for taking the time to take my words into consideration. If you wish to discuss this further with me, I would be more than happy to answer any additional questions you may have. I can be contacted through my email, juliang@hawaii.edu or at my cell, (808)675-8655. I hope this encourages you to support finding the MCB program a permanent home at UH Mānoa.

Sincerely,

A handwritten signature in black ink, appearing to read 'Julia Lee', written in a cursive style.

Julia Lee

November 12, 2021

To the University of Hawaii at Manoa:

My name is Kelsea Jones and I graduated with my MCB BS degree in Spring 2019. After graduation, I started working as a health manager at Honolulu Primary Care Associates at Queen's Medical Center. I worked in primary care for over two years before embarking on my journey to Indianapolis, IN at Marian University's College of Osteopathic Medicine. I'm currently pursuing a Master of Biomedical Sciences in hopes of starting as an OMS-I next fall (2022). My goal is to become a primary care physician and specialize in either family medicine or internal medicine.

I started at UH Manoa as a biology major but changed to a MCB major as soon as I found out that MCB existed! I always knew I wanted to study biology for a pre-medical degree, but MCB offered a more focused and clinically applicable path for my life science studies. I was particularly intrigued by the capstone class – Biology of Cancer (MCB 472). This class was only offered to MCB majors, and I just knew I had to take this class especially because I never had this opportunity before; the opportunity to take an entire class on cancer! Other biology classes would briefly mention cancer, but I wanted to learn the “why, where, what, when, and how’s” of cancer on a cellular level.

I strongly believe that my MCB studies and Dr. Shen's mentorship through the MCB program led me to where I am today. The MCB program helped me realize that I want to use my years of science knowledge and apply it to the medical field.

Sincerely,



Kelsea Jones

Maile Amine
1268 Noelani St.
Pearl City, HI 96782

6 November 2021

University of Hawaii at Mānoa Faculty
2500 Campus Rd
Honolulu, HI 96822

Dear UHM Faculty Senate, Provost Bruno, President Lassner, and UH Board of Regents,

This is my letter of support for the University of Hawaii at Mānoa Bachelor of Science Molecular Cell Biology Program.

My name is Maile Amine and I am a 2018 graduate of the Bachelor of Science Molecular Cell Biology Program. I am planning to apply to medical school next year in 2022. I first started off as a Biology major in my first year, but then ultimately decided that I wanted to pursue a degree that was more specialized to my future career. It wasn't until I stumbled into my academic advising appointment during my second year that I knew I wanted to major in Molecular Cell Biology. I am so glad that I did because I was able to gain a deeper understanding on how Molecular Cell Biology plays a much larger role in the study of cellular processes, human health, disease, and treatment. Molecular Cell Biology also overlaps with other fields, including Genetics, Biochemistry, and Microbiology.

This program was very in depth in comparison to the other Life Sciences program at the university. It helped provide the foundation for understanding the mechanisms in health and disease. For example, I was able to learn from a molecular level standpoint all the way up to a greater scale like genomics. It is quite amazing to see the rapid advances made in biological sciences and medicine today. In addition, I was able to learn about gene therapy methods which can potentially allow physicians to treat defected genes. I was also intrigued by gene editing methods, specifically the CRISPR genome editing system. This has been used in oncology research which interests me since I have been in remission from leukemia for about 18 years now. I aspire to become a physician and I hope to do cancer research as well someday.

I am very pleased from the education I have learned from this program. I believe it has played a vital role in my future career and I hope that future students at the university can continue to take the courses that I did.

Sincerely,



Maile Amine

To whom it may concern,

My name is Megan Andrada, a 2016 UH Mānoa graduate with a Molecular Cell Biology degree. I aspire to become a family physician in Waialua with an interest specifically in rural health. I am currently in my gap year and working as a medical assistant for a gastroenterologist.

When I started at the university, I majored in Biology because of my interest in pursuing medicine. I was unaware that the university offered a MCB degree. Through the pre-medical association, I met upperclassmen who majored in MCB. They talked about their classes, and the biology of cancer class particularly caught my interest. Unlike the general biology major that offered ecology and botany classes I was not interested in, MCB offered classes related to my future career as a physician. Switching to MCB was the best decision I made, and I wish I had known about it sooner.

During the summer after junior year, I participated in the Minority Health International Research Training (MHIRT) Program and traveled to Bangkok, Thailand. I participated in research for nine weeks at Mahidol University School Faculty of Tropical Medicine. This was my first research experience, but I felt confident in the lab due to the techniques I learned in my lab classes. I also had background knowledge of Melioidosis, which my research focused on because of what I learned in my bacterial pathogenesis class.

Throughout the pandemic, I have used the knowledge I gained about vaccines in my virology class to help educate those in my family and my community who were hesitant to get vaccinated. We were split into groups and given the semester-long project to create a novel vaccine in class. This challenge helped us understand the parts of a vaccine and different types of viruses. Many people around me used the argument about having a vaccine made quickly but with no cure to cancer, but I realized how complex cancer truly is through my biology of cancer class.

I feel that my classes challenged me but also helped me grow as a person. I became better at reading research papers, presenting in front of others, and collaborating with peers. As a physician, I must keep up with the continuous advancements in medicine, show confidence when

caring for a patient, and help educate patients in a way they will understand. I still keep in close contact with many of those in my major as well. I felt supported by my professors and received feedback in order to continuously improve. Even after graduating, I still feel supported by my past professors, such as Dr. Shen, whom I can still turn to for advice on my journey to medicine. It just goes to show how much people in the program care about us becoming successful and reaching our goals. My only regret is not joining the program sooner, but I am grateful for the students I met along the way, which helped me decide to change my major.

Sincerely,

A handwritten signature in black ink, appearing to read 'Megan Andrada', written in a cursive style.

Megan Andrada

meganva@hawaii.edu

808-255-6855

To Whom It May Concern:

My name is Shantel Pascual, and I am writing to express my full support in establishing the Molecular Cell Biology Bachelors of Science (MCB BS) pathway as an official degree at the University of Hawai'i at Mānoa. I am an alumni who received my BS in molecular cell biology from UH Mānoa back in December 2018, and I am currently a first-year medical student at the John A. Burns School of Medicine (JABSOM).

I was first introduced to the MCB BS degree pathway during my third year of undergraduate studies by a few classmates who were already enrolled in the MCB program. During that time I was on the regular Biology BS pathway and had just completed my required BIOL 265 ecology credit. I decided to make the switch from Biology BS to MCB BS after comparing the degree course requirements and seeing the MCB pathway's focus on molecular biology and its applications to human health. Because I was a student interested in pursuing medicine, I knew it would be much more valuable for me to enroll in courses like immunology and cancer biology, both of which are MCB degree requirements, rather than courses related to botany and zoology. Overall, I believe that switching over to the MCB degree track aligned very well with my long-term career goals and provided me with an enjoyable and worthwhile educational experience.

Prior to my matriculation into medical school, I completed the 'Imi Ho'ōla Post-baccalaureate Program at JABSOM, which is an intensive one year program designed to address the educational needs of disadvantaged pre-medical students. I genuinely believe that the MCB program equipped me with a strong foundation in biomedical sciences, which allowed me to succeed in the highly rigorous program. As a current first-year medical student, I continue to see the utility of the knowledge that I gained through my MCB BS degree. I believe that my strong understanding of molecular biology, immunology and cancer biology from undergrad has made it easier for me to grasp the material in my foundational sciences lectures compared to my classmates who did not take those classes during their undergraduate studies.

I would highly recommend the MCB program to all students who are interested in pursuing careers in medicine or biomedical sciences or any student who is interested in studying molecular biology and its applications to healthcare. I hope to see the MCB BS pathway offered as an official degree for all future UH Mānoa students.

Sincerely,



Shantel Pascual

Email: sspascua@hawaii.edu

Phone number: (808) 754-2649

November 12, 2021

To Whom It May Concern:

I am writing on behalf of the MCB program to detail my experience learning under that curriculum and why I believe it would prove beneficial to become an established program at UH Manoa.

My name is Trevor Hirata and I received my MCB BS degree in the spring of 2020. During my time at UH, I was initially declared as a biology major but switched to MCB. To be frank, the biggest reason was that the prerequisite courses required for biology didn't sound as interesting as the courses required for MCB. For example, biology of cancer sounded much more interesting than ecology, and molecular biology sounded much more interesting than population genetics. This is not to say that those other courses are not interesting or respected in their own right, it's just that the courses outlined under the MCB program better matched my interests, and I feel grateful that that was an option for me.

Much of the motivation for what I am currently doing has come from taking immunology and biology and cancer. I learned so much from these courses and it piqued my interest enough for me to find a lab to work in at the UH Cancer Center. Technique wise, much of what is done in this lab has to do with western blotting, PCR's, and flow cytometry. Had I not already had an introduction to these topics in the lab courses I took under the MCB program, I don't think I would have been able to integrate into the lab as smoothly as I feel I did. In addition, I am also able to take what I learned from the research ethics course to monitor how I go about carrying out my tasks in the lab.

As I continue to work in the lab, as well as pursue my career interest in medicine, I look back at what the MCB program has provided me with and feel as though I am well equipped for my future endeavors. I think that many other students who have the same interests as I do, and are pursuing the same career choices as I am, will benefit greatly from having the MCB program as an option for them. For these reasons aforementioned, I feel strongly that the MCB program should become an established program at UH Manoa.

Sincerely,



Trevor Hirata
808-937-1013
thirata3@hawaii.edu

November 7, 2021

Dear UHM Faculty Senate, Provost Bruno, President Lassner, and UH Board of Regents,

My name is Tricia Khun. I received my Bachelor of Science degree from the University of Hawaii at Manoa's Molecular Cell Biology program and a Chinese minor in May 2019. I am currently in my second semester of the Master's program in Public Health specializing in social and behavioral health sciences at UH Manoa. I am also a current Foreign Language Area Studies (FLAS): Khmer language fellowship recipient. My current research is focused on improving access and health education amongst women as well as specific research throughout Cambodia and the Southeast Asian region. After my Masters program, I plan to apply to medical anthropology PhD programs to further my research. Although I chose to move on to study in a field outside of Molecular Cell Biology, I give my full support to the continuation of the Molecular Cell Biology, B.S. degree program.

In my last year in the B.S. Molecular Cell Biology program, I had the opportunity to pursue research in Cambodia under the Undergraduate Research Opportunities Program (UROP). I created the short documentary film, titled "The Tree of Life: A Khmer Short Film" which explored different ways of Khmer healing, reconnection, and finding identity. I had the privilege to share it with my mentors and the university at the UROP program showcase. I also had the opportunity to collaborate with Assistant Professor of Family and Consumer Sciences, Dr. Sothy Eng to conduct research, write journal articles that were published in the American Journal of Lifestyle Medicine, create the Home Garden Network program, and create a showcase of dance, music, and food that brought the Khmer Hawaii community together at the East West Center's first Khmer New Year cultural celebration event. Initially, during this time, I was a pre-med student and had plans and dreams to go to medical school after. However, all of these opportunities made me fall truly in love with the process of research, its meaning to the communities I was conducting the research alongside, and for the first time, I didn't feel so alone or empty. I was able to re-discover my own identity in the process and found healing in that through my research.

The B.S. Molecular Cell Biology program allowed me to take classes through interdisciplinary fields on the UH Manoa campus. I was able to take women's studies, cultural anthropology, history of human diseases and pandemics, biology of cancer, and Chinese language, to name a few. I was originally a B.S. general biology major, but I felt unsatisfied taking classes that predominantly talked about evolutionary biology and plant biology. I was attracted to the B.S. MCB program because it largely had that human component of illness and disease which ultimately led me to major in it. That is something I believe I wouldn't have gotten if I had stayed in the B.S. general biology program. I also felt fascinated about microbiology and the classes I was in during that time helped me to better understand and almost became, in many ways, a therapy to know how to deal with my dad being diagnosed with cancer. This ultimately inspired me to do cancer research last semester during my Master's degree in Public Health and that brought closure for me to heal from my dad's passing.

I hope that this program can be around for future generations of university undergrad students, especially those who are struggling to heal from a loved ones passing or diagnosis. This program provides the awareness and knowledge about human illness and disease that you wouldn't find in any other department at UH Manoa. This program is fitting for those especially who want to work in any people-centered, healthcare profession-- public health, medicine, medical anthropology, nursing, and beyond. This program is also for dedicated students who want to challenge themselves beyond the boundaries of biology and medicine. My only critique about this program is that there needs to be more faculty and diverse faculty teaching MCB courses, courses need to be available in both spring and fall semesters to reduce the average length of time to complete the degree (average seems to be 5-7 years at this point which is way too long for students), students in this program need to be given more support in terms of career and course advising as well as more research opportunities. I also want to add that the program also needs to teach in a way that allows students to collaborate in the same space such as in a round table and talk to each other about the topics they are learning in the classroom rather than using a lecturing approach. Our students deserve better, especially young women and students of color from underrepresented communities and minority groups. Their needs are different and they need to be supported in a male-dominated field such as biology and medicine. If we want to prioritize health and improve it, we need to start with our educational systems and make getting in and attending programs like these equitable for every student with funding and the right resources to support their learning, research, and education. Additionally, the program needs to continue including a more interdisciplinary approach that includes topics and courses on research ethics, cultural impacts around illness and disease, guest speakers in the field that students can talk with and be inspired by, and to present different career options to students beyond becoming a doctor or a biologist.

Overall, I am truly grateful to have been a part of the B.S. MCB program cohort. It gave me the resilience and tenacity to pursue my goals and dreams and I have also found identity, healing, and closure through the program.

Thank you for taking the time to read and listen. It is greatly appreciated and hopefully, the program can make these improvements as it continues the program!

Sincerely and best wishes,

Tricia Khun

tkhun@hawaii.edu

B.S. MCB program, Class of 2019

Dear Program Review Committee,

The Molecular Cell Biology (MCB) BS program has been essential in establishing within me an interest in biomedical research and medicine. I learned a plethora of insightful and exciting things during my time at UHM, many of which remain extremely relevant for my current and future endeavors. The MCB program has helped me develop critical thinking skills and research techniques that are pertinent to my current position as an NIH IRTA research fellow. The NIH IRTA program provides recent college graduates planning to apply to graduate or professional school the chance to spend one or more years conducting research full-time at the NIH. Additionally, the MCB BS program has given me a strong foundation and confidence to pursue plans to enroll in an MD/PhD program.

I started at UHM as a psychology major. Psychology is great, but as I continued undergrad, I realized that I wanted an education that is more grounded in the biological sciences due to my growing interest in neuroscience. The MCB BS program was exactly what I was looking for, and from then on, I decided to double major in both MCB and psychology. I would love to see the MCB BS program become a permanent degree program at UH Manoa. It provided me an excellent education rooted in the biological sciences. This program can surely aid future students to learn and grow in various ways by majoring in MCB.

Being in the MCB BS program granted me the opportunity to be involved in interesting research projects with Dr. Matthew Pitts at JABSOM, which led me to be a recipient of the 2021 Student Excellence in Research Award provided by the Office of the Vice Chancellor for Research at UHM. Additionally, the MCB BS program enabled me and my mentor Dr. Pitts to apply for and be awarded a 2020 Faculty Mentoring Grant for Summer Undergraduate Research a little over a year ago. The funding provided us a means to continue our research, and being in the MCB BS program in the first place opened the doors for me to have these research experiences and opportunities.

The MCB BS program is uniquely suited for students like me who are interested in the intersection between science and healthcare. The MCB BS program emphasizes molecular biology research methodology, understanding of molecular biology in the context of human health, and the role various eukaryotic systems play in healthcare in the most efficient way possible. No other degree program integrates the basic sciences, molecular biology research techniques, and relevance to healthcare as effectively as the MCB BS program does. I believe that UH Manoa should make the MCB BS program permanent, in order to continue to inspire students to enter fields in biomedical research, medicine, industry/biotechnology, teaching, etc.

Best,



10-8-21

Victor Kilonzo, Spring 2021

Contact Information: vkilonzo@hawaii.edu or vkilonzoo@gmail.com

Aloha,

My name is Darcy Tokunaga, and I am writing in support of the Molecular and Cell Biology (MCB) Bachelor of Science program at the University of Hawai'i at Manoa. I am startled to learn that a program as excellent as MCB is not guaranteed approval following the 2021-2022 school year. Thus, I strongly urge the University to establish the program that has been impactful for so many of us who have completed the program. In order to fully cultivate the significance of the program and its impact on students, I feel that it is vital to share some information about myself.

I received my Bachelors of Science in Molecular and Cell Biology during the spring of 2021. Going into college I was sure that I wanted to pursue a career in medicine; however, I knew little about which programs would help to prepare me for this field. Therefore, I initially signed up for the "blueprint" pre-medicine pathway and majored in Biology. I thought that taking this standard pathway was essential to acceptance in medical school, but began to question my passion in medicine after semesters of generalized biology that did not strongly relate to my interests in medicine. The study of biology and the organisms of life, such as plants, animals, and microbes, and their differences is an essential field. However, this major does not deeply investigate the *mechanisms* behind life, such as in the MCB field, that are essential to all beings such as developmental biology, biochemistry, molecular genetics, DNA technology, and much more. Both disciplines look at similar topics, however, the MCB pathway paints a much more specific picture of the mechanisms of health and disease that is essential for those interested in pursuing a career in medicine or basic science research.

Fortunately, I was introduced to the MCB program entering my junior year at the university and decided to switch to the program despite this major change being considered "late in my academic career". The MCB staff members were dilligent in coordinating a plan to ensure that I was able to successfully complete the program by the end of my four years at the university. I am extremely grateful for the supportive community that I have found in the MCB program, through my classmates and professors. In my previous degree, I always felt like just another grade in a group of hundreds of students in a class. I never felt like I mattered to the professors in my previous program, but learned to accept this as there were hundreds of students for them to balance. This was far from my experience in the MCB program, where I quickly learned about each professors passion to teach and passion to see their students succeed. I still rememeber being so confused when asked to stay back after class by my professor of MCB II, only to find that he was just concerned about my personal wellbeing because I failed an exam when I normally achieved high scores. Besides this, each professor held various learning sessions, or office hours to give each student an opportunity to have the tools that they needed to succeed in each class. This attention to detail and establishment of relationships with students is key to the success of participants in the program. Throughout my years in MCB, there was rarely a student who failed to receive a passing grade, while in my experience in Biology I saw countless students repeating each class needed for graduation. Many of us who have switched from Biology to MCB can agree based on our experiences that the MCB program was much more academically rigorous than the Biology pathway. However, it is because of this

support system provided by the teaching staff that each student was inspired to and given all the tools to diligently work toward passing and even exemplary grades in the curriculum.

With a staff as inspired by science as those in the MCB pathway, it is impossible to not become inspired yourself. Although I only planned on pursuing a career as a physician, I found myself interested in participating in basic science research because of the classes and scientific topics we were introduced to in the MCB program. Therefore, during my senior year I started researching as part of the Diabetes Research Center at John A. Burns School of Medicine and began to investigate the molecular foundations of type-II diabetes. The curriculum of the MCB program such as laboratory procedures, immunology, molecular genetics, and gene regulation helped me to feel prepared for laboratory work and has allowed me to advance in research quickly. Due to this quick advancement, I have been able to produce several manuscripts, abstracts, and conference presentations. These works have been crucial in my pre-medical success and ability to attain internships, such as the Hawai'i Pacific Health Summer Student Research Program, that will aid my success in a career in medicine. If I had not changed to Molecular Cell Biology, I would never realized my passion for bridging a career in medical practice and research. I hope some day to continue my research when I am a practicing physician and to work in conjunction with the medical school to unlock knowledge of various diseases and pathologies.

The MCB program has been pivotal to my continued pursuance and passion for medicine and science. Without the program, I truly do not believe that I would have achieved the academic lengths that I was able to due to the continued support of staff and the knowledge base that they provided us with. Please do not deny future students of the invaluable opportunity to participate in the Molecular and Cell Bachelors of Science program. Thank you for your consideration.

Sincerely,
Darcy Tokunaga
Email: dtoku11@gmail.com



APPENDIX II – MCB BS Alumni Survey Responses

What role did the MCB BS program play in your intellectual or career development?

Allowed me to major in a degree that I was interested in with a focus within general biology rather than taking classes that I felt weren't as pertinent. Taking many of the required courses within the MCB degree were also required by most medical schools so I felt that the program was comprehensive enough to prepare me for professional schooling.

Critical thinking and learning to apply concepts

My exposure to topics in molecular cell biology inspired me to pursue an MS in Cell and Molecular Biology where I participated in research in various fields from neuroscience to cancer biology. The breadth of foundational knowledge acquired from MCB's coursework has provided me a learning advantage as a current second year medical student. Through the dedicated mentorship of department faculty members such as Dr. Shen, I have received ample advice and recommendation letters, which have been instrumental in my journey through research and medicine.

It gave the science foundation I needed to do well in my first unit of medical school. Even after two gap years I still remember and use things I've learned in immunology and biology of cancer.

MCB allowed me to work effectively in multi-disciplinary fields. I researched with biochemists, worked with data scientists, and support physicians at Queens Medical Center. Every skill I have was incorporated in my MCB degree (except anatomy/physiology which was considered an elective).

Helped me stay sharp for the MCAT

Having a molecular cell biology program allowed me to take certain courses such as immunology and biology of cancer that were very helpful foundational course for medical school. I was also able to get a basic understanding of cell biology in my 408 course with Dr. Borthakur that was very helpful.

As a Pre-PA student, the MCB BS program laid the foundation for the studies I hope to complete in PA school. In particular, Immunology, Virology, all 3 MCB classes, and Biology of Cancer, were some of the most important classes I took while at UH. Undoubtedly, the concepts and information I learned in Immunology and Virology (unknowingly then) became extremely helpful to know now, as the world continues to try to find its way through the pandemic. The 3 MCB classes provided a solid foundation for my understanding of cells on a molecular level, aiding me for my future studies. Biology of Cancer was not only the most interesting class in my undergraduate career, but also one of the most useful, as it forced me to read and understand research papers, an opportunity I would not have otherwise sought. As someone who hopes to become a PA-C one day, this skill will become a necessity. I believe the classes in the MCB BS program are not only unique as compared to the Biology BS program, but provides further benefits for students who plan to further their education, go into research, or go into the medical field, than to students who major in Biology.

Pros and Cons of the MCB BS program:

Pros:

- Flexibility with course work and elective options, this allowed me to pursue a double major, honors, and an undergraduate certificate in Mathematical Biology (in my Senior year I also had 3 jobs, sat on the executive board for 2 clubs, was in ASUH as a chair and executive position, member of SAPFB, and ran the Ceramics studio volunteer) - NONE OF THIS COULD HAVE BEEN ACHIEVED WITHOUT FLEXIBILITY
- More structured program and more options than microbiology (at least at the time I was a student)
- Targeted towards my interests in molecular work
- Dr. Shen is running it

Cons:

- Lack of elective options offering (this is more of a UH Manoa issue rather than program issue) either in Fall or Spring (i.e. did not fit my schedule well)

In the Spring of 2018, I graduated with a BS in Molecular Cell Biology with honors, BA in Studio Art, and an undergraduate certificate in Mathematical Biology. The flexibility of the MCB program allowed me to pursue numerous extracurriculars as well as multiple intellectual development opportunities.

I firmly attest that the course requirements for the MCB program was appropriately challenging and taught me the basic knowledge to conduct biomedical research. In my current position as a PhD student at Harvard University, I feel on par with my classmates (ranging from state universities to ivy leagues). I believe my education at UH Manoa and in the MCB program strongly contributed to my success. In addition, I would like to point out that I conducted research for the elective requirements for MCB (I believe 2-3 of my electives were fulfilled by that). By doing so and applying for grants, I was awarded several undergraduate grants to conduct research including the UROP funding and the Hokama award. These were amongst the experiences that were crucial for my application for the NSF GRFP. I attribute the opportunities I was afforded by selecting the BS MCB program to my successful entry into the NIH postbaccalaureate fellowship program and PhD program in Virology at Harvard as well as my being awarded the NSF GRFP.

It gave me a better understanding of the details of human, animal, and bacterial health especially at the cellular level and its' mechanisms.

I first became interested in infectious disease when I took immunology. I liked how the concepts of molecular biology felt more purposeful and applied and I developed an interest in host pathogen interaction. Electives in the MCB program like virology helped strengthen this interest and the advanced MCB courses and capstone cancer biology course gave me a strong molecular background that helped me understand immunology and the molecular pathways that viruses disrupt.

I felt that the MCB BS program played an incredibly significant role in the transition from my undergraduate studies to medical school. The courses that are a part of the MCB BS program such as immunology, microbiology, genetics, and cancer research are all topics that are heavily emphasized in my medical school curriculum. Being introduced to this information at an early stage in my academic career was extremely beneficial for me as it helped me create a foundation that I am able to use in medical school and my future career.

The MCB program was my central education as an aspiring cancer researcher.

The MCB BS program has been essential in establishing within me an interest in biomedical research and medicine. I learned a plethora of insightful and exciting things during my time at UHM, many of which remaining extremely relevant for my current and future endeavors. My current position as an NIH IRTA research fellow involves me using critical thinking skills and research methodology that I learned back in undergrad. Additionally, all that I have learned in the MCB BS program will serve as a strong foundation if I manage to enter into an Md/Phd program in fall of 2022.

I should also mention that when I began at UHM I started out as a psychology major. Psychology is great, but as I continued undergrad I realized that I wanted an education that is more grounded in the biological sciences due to my growing interest in neuroscience. The MCB BS program was exactly what I was looking for, and from then on I decided to double major in both MCB and psychology. I would love to see the MCB BS program become a permanent degree program at UH Manoa. It provided me an excellent education rooted in the biological sciences. This program can surely aid future students to learn and grow in various ways by majoring in MCB.

The MCB BS Program played a huge role in both my intellectual and career development. The courses offered in the MCB BS Program were much more in alignment with my interests compared to the other majors. Not only did I feel that I was learning a lot, but I truly enjoyed what I was learning. Classes that

tied in with medicine (such as immunology and cancer) also helped to solidify my interest in healthcare and decision to attend medical school.

Created the foundations to my medical career

Provided most of the requirements to apply to most medical schools

Provided basic as well as advanced knowledge of molecular cell biology that could later be build upon in various careers

The program and relevant coursework gave me a strong biology foundation that allows me to pursue careers in diverse fields

The MCB BS program enabled me to meet and work with likeminded people that shared the same passions and similar career goals as me. I found it to be unique from other biology or other premed programs in that it focused on the details of molecular biology, which were critical for me in understanding the basic science research I was doing and laid an excellent foundation for medical school.

I learned to manage hefty workload. I also learned to network with peers, graduate students, postdocs and professors.

MCB gave me a great foundation in basic sciences that has helped me in medical school immensely I feel that the MCB BS program helped to prepare a good foundation for my studies in medical school and beyond. I appreciate that the MCB curriculum prepared me for not only the basic science curriculum typical of other degrees, but also allowed me to tailor my educational experience to my interests. I feel that the classes offered, particularly the MCB Bio of Cancer course, contributed to my interest in oncology as a potential specialty. I think it's a testament to the strength and variety of the MCB program's courses and professors that I genuinely feel I had the opportunity to explore my academic/professional interests and am still able to apply knowledge from the curriculum to my current studies in medical school.

I thought the the MCB BS has shaped my interest in medical research in the future even following becoming a medical doctor. The program additionally prepared me for my current research in basic science and has proactively prepared me for medical school curriculum much more than a Biology BS degree would.

A significant one. I was originally a Biology major but after getting some on-hands research experience I decided to make the switch to MCB as it aligned very much with my interests. It was the first time in my life where what I learned in class was actually relevant to what I was doing in real life. The program helped me discover a lot of my scientific/research interests and my love for immunology. My only regret during my time as an MCB undergrad in regards to the coursework was being unable to take immunology with the amazing Dr. Shen himself (took it the year before he started teaching the course). I also think the material I learned, even at the introductory level, like the Biology of Cancer, has helped me be a more effective and informative instructor to my students during my TA & mentor duties. Overall, everything I learned during my upperclassman years as an MCB student remains relevant to my work -- both at the graduate and teaching level -- today.

When I first began at UH Manoa I wasn't aware of all the majors the school had to offer until I met upperclassmen who were part of the MCB program. Once I learned about the classes that the MCB program had to offer, I changed my major. Classes such as Biology of Cancer and Virology sparked my interest because I knew I could apply what I learned to my aspiration to become a physician. Not only did I grow through collaborating with classmates on group projects and presentations in classes such as Virology and Bacterial Pathogenesis, I also became better at reading research papers, writing, and presenting in my Biology of Cancer class. I feel that I was able to mature and grow as an individual while being challenged at the same time. I always felt support from my professors and feel that the

things I learned through the program has helped me and will continue to help me in the future. Throughout my 4 years of undergrad, I never had a teacher like Dr. Shen. I wish I could have taken more classes other than Immunology and Biology of Cancer with him because of his teaching style. He cared about our learning and it really showed, especially the way he kept us engaged and interacted with us during class. I feel that I was able to retain the things I learned in my classes instead of just memorizing for an exam because it applied to real world topics that interests me.

The MCB program had instilled valuable knowledge and skillsets that have helped me throughout graduate school.

Before joining the MCB program, I knew that I wanted to pursue a career in medicine. Being apart of this program further solidified my career path as the various courses offered in MCB exposed me to the rigor and content that I would expect in medical school. I became a much more confident student due to the outstanding professors who were so passionate about their lessons that it made the learning environment interactive and fun and facilitated a level of understanding that went beyond memorization. It was the validation I needed that pursuing medicine was what I wanted and I could do well in medical school.

The MCB BS program has solidified for me to continue pursuing a career in medicine. I was originally a biology major, but a lot of the electives didn't seem relevant to medicine. The classes and electives in the MCB program were a much better fit for me. Instead of taking something like botany, I took immunology, virology, and biology of cancer. These classes have furthered my interests in medicine. I was surprised with how much I really enjoyed these classes and for me this has shown me that I should continue my education in this direction. Dr. Shen is also a great professor and his teaching style has facilitated turning difficult concepts into something much more comprehensible and something I'm excited to learn about.

Do you feel the knowledge you are now using (or plan to use) in your current job or program could have been gained from a different degree program (such as Biology BS)? Why / why not?

Not as much. Biology BS is a lot more general; MCB has more relevance to the genetic make up of our body which is important for studying medicine.

In some ways, yes. General science knowledge can be obtained with BS biology. However, I feel the critical thinking skills and narrowing down/specializing in certain topics could only be gained from MCB.

No. MCB is the only program that provides a course study that is fully relevant to the biomedical sciences. It is THE dedicated pre-medical track at UH Manoa. Perhaps a program that comes close is MBBE, however, its course study is notably more applicable to careers in agriculture and industry.

No. I was originally a BS Biology major and switched to BS MCB in college because the classes were more in line with my career goals (i.e. immunology, biology of cancer). It was one of the best choices I made in undergrad.

I could have gained my MCB knowledge from other majors, but I would have had to pursue multiple majors to do so. MCB is diverse enough to offer me a strong foundation in chemistry, biochemistry, physics, microbiology, biology, and psychology. With a strong foundation and a healthy drive, I am capable of diving deeper into these topics to better acclimate to my work environment.

Yes. It's really detailed knowledge of cell systems

Potentially, I know there is some overlap in courses that can be taken with a biology BS degree but there was certain preference for MCB students to take courses (like those mentioned above) that were important for my career post-graduation.

As briefly mentioned above, I believe some of the things I learned in the MCB BS program went beyond the scope of the Biology BS program. In particular, reading and learning how to read research papers in the Biology of Cancer class not only will help me for my plans in the future for PA school, but at the time, also helped me with other classes I had taken at the simultaneously, such as Research of Ethics. While the basic understands of Biology for my future studies could also be attained through a BS in Biology, I would argue the MCB BS program provides more depth to students like me, who wanted to learn more about the intricacies of cells, and take interesting classes, such as Biology of Cancer.

I entered into UH Manoa with the aim of getting a BA in Biology, I quickly switched to BS Biology then BS Microbiology. It wasn't until my junior year that I switched to BS MCB. As a previous peer advisor in the Department of Biology, I learned and understood how to plan my courses to get the most out of my degrees. I believe the MCB provided me with the best opportunity to pursue additional interests such as art while still providing a strong scientific foundation.

In theory, yes I could have potentially received the same or similar education with another degree offered. The similarity of the Microbiology degree and the MCB degree could have resulted in me gaining the same knowledge; however, I like to point out the degree and elective requirements are quite different. The Microbiology degree was significantly more restrictive with elective requirements (without needing to get an override or approval for substitutions) whereas the MCB degree allows for more flexibility and specialization. Based on the availabilities of courses, I would have struggled to achieved what I was able to do with the BS MCB degree program. In addition, my graduation would have most likely been postponed due to scheduling issues.

To be honest, while I could have received the same education/knowledge from another degree at UH Manoa, there would most likely not be anyway for me to complete all my course work while double majoring, honors, and an undergraduate certificate. I understand that UH Manoa has a priority for students to complete their degrees in 4 years (with branding like 4 to finish, etc.). If you want students to strive and succeed their educational goals (by educational goals, I mean multiple majors + lots of extracurriculars) in 4 years, look no further, the MCB program offers the flexibility for that. Also, if you look at the students the MCB program outputs and their current career trajectory, you can see the quality of education the program provides.

In summation, I strongly recommend the BS MCB program to be a permanent program at UH Manoa. It is a unique and specialized program that allows for students to follow their interests with the variety of electives while receiving thorough education in molecular and cellular biology.

Yes and No. The MCB BS program gave me a better work ethic and discipline to study hard, but it was definitely missing an interdisciplinary and community aspect to the program that could have made it better. It was also longer to get a degree in MCB BS because some classes were only offered in spring or only in fall, but not both. There was also less guidance in terms of close advising. It's a great program, but needs improvement.

Yes and no. I currently study infectious disease and some courses in the microbiology dept would've been beneficial and some of the courses that did help me like immunology overlap with that program. But I also think that the knowledge I got from the MCB program gave me a deeper understanding of the molecular processes that underly the concepts in my studies and research that give me an advantage I wouldn't have otherwise. Retrospectively, I'm glad I chose MCB.

I do not feel that a different degree program such as Biology BS would have given me the same level of foundational knowledge that the MCB BS program was able to provide for me. Although other programs offer many interesting courses, some of these courses that are included in the curriculum are not as relevant to my particular interests and future education. However, the MCB BS program was structured in a way that included foundational courses that would ultimately prove to be very beneficial for someone pursuing a career in the medical field.

Probably. However, I believe that I would have gravitated towards MCB electives even if enrolled in Biology. I chose the MCB program because of its relevance to cancer. The only thing that really

surprised me about the program were the large number of students apparently not interested in cancer research.

It is entirely possible that some of the knowledge I'm using in my current position could have been gained from similar degree programs, like the Biology BS or MBBE BS. However, I'd have to say that the distinct elective and core courses offered by the MCB BS make it unique and not like the aforementioned Biology or MBBE BS programs. The MCB BS program emphasizes molecular biology research methodology, understanding of molecular biology in the context of human health, and the role various eukaryotic systems play in healthcare in the most efficient way possible. No other degree program integrates the basic sciences, molecular biology research techniques, and relevance to healthcare as effectively as the MCB BS program does. I believe that UH Manoa should make the MCB BS program permanent, in order to continue to inspire students to enter fields in biomedical research, medicine, industry/biotechnology, etc. In short, if I were to major in Biology instead of MCB, for example, I'd have gained good knowledge and skills, but I don't think I'd have as integrated of an education that the MCB BS offers.

I was initially in the Biology BS degree program but switched to the MCB BS degree program in my junior year. Having attended classes in both programs, I think switching over to MCB was one of the best decisions I made. The classes required in the MCB program are much more applicable to what I am currently learning in medical school compared to the classes required in the Biology program (i.e. MCB's immunology and cancer classes vs. Biology's zoology and ecology classes). For example, many of my classmates in medical school have expressed that they were struggling with our current immunology unit and that they felt that it has been one of the hardest. However, because I was able to take immunology during my undergraduate program, I felt very prepared for the unit and had an easier time following along. I've noticed that in medical school, many of the classes that discuss things on a molecular level seem to be the ones that students find most challenging, so having a solid background from MCB has helped tremendously!

I feel there is a fair overlap, however some required classes in MCB I truly appreciate. Particularly the molecular classes, immunology, and cancer biology served to be useful for my medical career and I believe most Biology BS students do not have to take these classes.

Possibly. A general Biology BS may have been too broad for me to transfer my skills from one area to another (i.e. medicine to agriculture or vice versa). Or I would have had little direction in what courses to take that would have built a strong biology background.

I feel like the classes and instructors in the upper level MCB courses provided an excellent conceptual framework for the concepts I learned throughout medical school, ranging from genetics, immunology, and the biology of cancer. I do not think the details and underlying conceptual framework could be gained to this level from a different degree program as an undergraduate.

Yes, because medical students enter school with very diverse degrees. However, I really enjoyed the classes offered specifically to molecular cell biology students. I do think I have a pretty good understanding of research thanks to my background. I also thought that the professors in my program were passionate about the material. All in all, I really think this should be a permanent degree. I'm very happy that Dr. Shen will be involved with the program.

No, I feel that MCB offered specific courses (Bio 407 & 408, Cancer Biology, Immunology) that prepared me for an intense medical school curriculum

I think the MCB program is irreplaceable in terms of what it offers undergraduate students! Personally, I felt that MCB had more opportunities to delve deeper into human health/disease than other programs like General Biology. Those opportunities to study more specific topics like Research Ethics, Immunology, and Bio of Cancer not only developed my interests, but also laid a vital groundwork for success in my current program. I'm very thankful that MCB curriculum exposed me to these topics, and am thankful for how well it has prepared me.

Absolutely not. I think that the MCB BS program is the best tailored fit toward those pursuing basic science research in the field or a medical profession. The program is much more specific to the molecular mechanisms that is the foundation for both topics. The classes that were required for the program, while more challenging than those of other degrees, prepared us for the realities and actual difficulties of these vast fields. The curriculum was very in depth and specific toward medicine and research methods. I am very glad that I decided to switch from a BS in Biology to a BS in MCB.

Yes and no. But mostly no. When I was taking MCB a lot of the biology electives overlapped with each other so I probably still would have ended up taking the courses I did anyways as an MCB. BUT because of my switch to MCB and not having to take certain Biology requirements, it freed up my schedule to pursue more molecular biology related electives. That and the fact immunology was a requirement at the time (not sure if it still is) and also allowed me to fit in another elective slot to explore additional courses that aligned with my interests. Overall, I imagine MCB had me more fulfilled than I would have felt had I done a general Biology BS. I don't think I would have gained the same knowledge as a Microbiology major as I probably wouldn't have had the time to take BIOL 407+408. Biology of Cancer was also a high point of my coursework and it would have been more of a coin flip for me taking it also due to schedule constraints if I were a something else like a Microbiology major.

I don't think that I could have gained the knowledge I have now if I was a part of a different degree program. The classes offered/required were all interesting and I enjoyed what I learned. I didn't want to take classes such as Ecology that the Biology degree required because it didn't interest me. During my gap year as a medical assistant I am able to see things I have learned in my classes and how they apply to the real world. In my Bacterial Pathogenesis class we learned about biowarfare and in Virology we learned about different viruses and were given a task to design our own "vaccine". Then the pandemic began and I was able to understand what was going on in the world. I used what I knew and it allowed me to help explain it to those who don't have a background in science or were hesitant to get the vaccine. In Biology of Cancer we learned about the constant evolution of new technology and discoveries. At my current office, with a simple collection of a patient's spit, we are able to send the spit to a lab with AmbryGenetics and they are able to test for a variety of cancers.

No, I believe that the course structure was perfect for someone who is interested in pursuing a career in research. The depth of molecular biology and introduction to pathophysiology (i.e., cancer biology) was sufficient to kindle excitement and aspiration to further seek the academic sciences.

As a first year medical student, I rely on everything that I learned during my time as an undergraduate at Manoa. We learn material at such a fast pace so having a strong foundational background has been key to my success thus far, largely attributed to the knowledge I learned during my time in the MCB program. I started out as a Biology BS major but then decided to change to MCB due to the fact that I felt Biology was too general for me as I already knew my end goal was to become a physician. Both majors offer similar foundations however, MCB has key courses that really allow the students to gauge their ability to do well in a graduate/professional school setting and solidifies their career calling. I feel that a more general biology degree does not provide that kind of specificity that I appreciated from MCB.

Without the MCB program I don't think I'd be as excited or interested in continuing my pursuit into a medical career. I was originally a biology major, but I switched into the MCB program because the classes and electives in this program were so much more relevant to what I want to do.

Please cite any publications on which you were listed as an author starting from when you were still an undergrad

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Nontuberculous Mycobacterial Skin and Soft Tissue Infection Cases at Hawai'i Pacific Health (Manuscript in Preparation and Poster Presentation Hawai'i Health Workforce Summit)

Use of extracorporeal membrane oxygenation, multiple bedside bronchoscopies, and prone positioning in a patient with life threatening pulmonary hemorrhage from p-ANCA related disease (Manuscript in Preparation)

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N/A

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Species characterization and hybrid investigation in juvenile spiny lizards (*Sceloporus* spp.) by genetic sequencing

Manoa Horizons Journal

Please list any Awards or Special Recognition you've received starting from when you were still an undergrad to present.

"Best Undergraduate Presentation" at the 43rd Albert L. Tester's Symposium

Dean's list. Sophomore honor's award

Phi Beta Kappa

Golden Key Honor Society

Numerous graduate school and medical school scholarships

Phi Beta Kappa, Magna Cum Laude, NHSC Scholarship, Donovan K.I. Ching scholarship

Undergrad:

2014: Chancellor's Scholarship

2015: Department of Health - STEM Fellowship,

2016: Undergraduate Achievement Scholarship, Honors Program Achievement Scholarship

2017: Richard and Mildred Kosaki Student Assistance Award, Undergraduate Achievement Scholarship, Honors Program Achievement Scholarship (2x), CASAA Scholarship Fund, Jhamandas Watumull Arts and Sciences Scholarship, Rodney P. Santos Scholarship Fund, Undergraduate Research Opportunities Program (UROP) Funding, Yoshitsugi Hokama Research Award, Phi Beta Kappa induction

2018: Honors Program Achievement Scholarship, Postbaccalaureate Intramural Research Training Award, 1st Place Poster - Spring 2018 Undergraduate Showcase

2021: National Science Foundation Graduate Research Fellowship (NSF GRFP)

Undergraduate Research Opportunities Program (UROP)

Foreign Language Area Studies: Southeast Asia, Khmer (FLAS)

Deans List

DMEAP scholar recipient

Leeward Community College, UH System: AA Liberal Arts, with Honors

University of Hawaii: B.S., Molecular Cell Biology, cum laude and with Honors

UHM Undergraduate Research Opportunities Program (UROP):

An in silico Model for the Osmotic Control of Prolactin Transcription in *Oreochromis mossambicus*. Mentors: Dr. Andre Seale, Dr. Zoia Stoytcheva

2021 Honors Senior Project Prize Awardee (Spring 2021)

2021 UHM OVCR Student Award for Excellence in Research (Spring 2021)

2020 Faculty Mentoring Grant for Summer Undergraduate Research (Summer 2020)

UROF Research Project Grant Funding (Summer 2019)
Golden Key International Honor Society Member (Fall 2018 - Present)
Sophomore Merit Scholarship Recipient (Summer 2018)
Doctor of Medicine Early Acceptance Program Scholarship
Graduation with Distinction (Summa Cum Laude)
Phi Beta Kappa Honor Society
University of Hawaii at Manoa Honors Program
University of Hawaii at Manoa Dean's List
Hawaiian Electric Industries Scholarship
Regents Scholars
Virginia & Barry Weinman/Queen's Scholarship receipt
College of Natural Sciences Student Marshal Spring 2018
Dean's List
USDA NIFA Grant Graduate Assistantship
2015-2019 University of Hawai'i Regent's Scholarship Award
2015-2019 University of Hawai'i at Manoa Dean's List
2015 Sunshine Brooks Foundation Scholarship Award
2015 Ke'ehi Memorial Organization Scholarship Award
2016 Sunshine Brooks Foundation Scholarship Award
2016 University of Hawai'i at Manoa Achievement Award (Microbiology)
2016 Honors Program – Sophomore Highest Honors
2016 Ke'ehi Memorial Organization Scholarship Award
2017 Ke'ehi Memorial Organization Scholarship Award
2018 Rodney P. Santos Scholarship Award
2018 Ke'ehi Memorial Organization Scholarship Award
2018, 2019 Jhamandas Watumull Arts & Sciences Scholarship Award
2019 Seniors Honors Project Award
2019 Territorial Savings Bank Scholarship Award
2020 Dr. Hans and Clara Zimmerman Foundation Health Scholarship
2020 Ke'ehi Memorial Organization Scholarship Award

I received a research presentation award during a medical conference.

PBK Honor Society, Mortar Board Honor Society
Regents Scholarship (2015-2019)
UH Manoa, Magna Cum Laude (2019)
JABSOM MD Alumni Scholarship (2021-2022)
Summer Student Research Program Scholar
Honors Program Graduate
Hawaii Healthcare Workforce Summit-3rd Place Poster Presentation
INBRE Recipient, MHIRT 2017 Cohort Recipient, 3rd Place at Biomed Symposium (Spring 2018),
NISBRE Attendee

Golden Key International Honour Society
National Society of Collegiate Scholars
Phi Beta Kappa
Dean's List (University of Hawaii, Manoa)
Leadership and educational outreach award (Baylor College of Medicine)
T32GM088129 (T32 training award)
F31CA247257 (NCI graduate fellowship)
Dean's award for excellence (Baylor College of Medicine)
Deans list

APPENDIX III – Tuition generated from MCB BS enrollment

*: MCB revenues were calculated based on the enrollment of MCB majors in their required courses for the MCB degree. Therefore it is a conservative estimate and does not include non-majors enrolled in MCB courses nor non-major courses taken by MCB majors. Resident and non-resident tuition status was accounted for.

Overall Enrollment	Number of students	Percent of students
Hawaii	290	77.5%
US mainland	74	16.2%
US national	1	0.3%
International	9	2.3%
Total	374	

Enrollment	2016	2017	2018	2019	2020	2021
Hawaii	54	55	56	39	42	44
US mainland	17	18	18	7	8	6
US national	1	0	0	0	0	0
International	0	0	1	2	3	3
Total	72	73	75	48	53	53

Tuition for the graduation in MCB program (estimation)

2015-2016 based on <http://www.catalog.hawaii.edu/15-16/tuitionfees/regtuition.htm>

Undergrad	Full-time per semester	Part-time per credit hour
Resident	\$ 5,172.00	\$ 432.00
non-resident	\$ 15,348.00	\$ 1,279.00
150% resident	\$ 7,758.00	\$ 646.50

2020-2021 based on <https://manoa.hawaii.edu/catalog-2020-21/tuition-fees-expenses/reg-tuition-schedule/>

Undergrad	Full-time per semester	Part-time per credit hour	Yearly increase (2015-2020)	
Resident	\$ 5,652.00	\$ 471.00	\$ 96.00	\$ 7.80
non-resident	\$ 16,668.00	\$ 1,389.00	\$ 264.00	\$ 22.00
150% resident	\$ 8,478.00	\$ 706.50	\$ 144.00	\$ 12.00

Required Credits for graduation in MCB

	Credit lecture	lab	total	
BIOL171/L	3		1	4
BIOL172/L	3		1	4
BIOL 275/L	3		2	5
BIOL 375/L	3		2	5
BIOL 407	3			3
BIOL 408	3			3
BIOL 402	4			4
MICR 314	1			1
MICR 461	3			3
BIOL 472	3			3

Total

35 credits for graduation in MCB

8.75 credits per year by assuming 4 years graduation time

Estimated revenue

	2016	2017	2018	2019	2020	2021
Resident	\$ 207,805.50	\$ 215,407.50	\$ 223,146.00	\$ 158,067.00	\$ 173,092.50	\$ 184,338.00
non-resident	\$ 204,907.50	\$ 208,372.50	\$ 223,606.25	\$ 107,651.25	\$ 133,691.25	\$ 111,116.25
Total	\$ 412,713.00	\$ 423,780.00	\$ 446,752.25	\$ 265,718.25	\$ 306,783.75	\$ 295,454.25

APPENDIX IV – MCB BS Program Sheet

University of Hawai'i at Mānoa
College of Natural Sciences/School of Life Sciences Program Sheet 2021-2022
Bachelor of Science (BS) in Molecular Cell Biology
Admissions: Open Process: Declaration
Min. Total Credits: 120 (111 in core & major + 9 in electives)

UHM General Education Core Requirements	
Foundations	
<input type="checkbox"/>	FW ENG 100, 100A, 190, ESL 100, or AMST 111
<input type="checkbox"/>	FQ* MATH 215, 241, or 251A
<input type="checkbox"/>	FG (A / B / C)
<input type="checkbox"/>	FG (A / B / C)
<i>*Note: This requirement changed in Fall 2018. If you entered the UH System prior to that, please see your college/school advisor.</i>	
Diversification	
<input type="checkbox"/>	DA / DH / DL
<input type="checkbox"/>	DA / DH / DL
<input type="checkbox"/>	DB BIOL 171, 172
<input type="checkbox"/>	DP CHEM 161
<input type="checkbox"/>	DY BIOL 171L, 172L, CHEM 161L
<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	
<input type="checkbox"/>	101
<input type="checkbox"/>	102
<input type="checkbox"/>	201
<input type="checkbox"/>	202
Credit Minimums	
●	120 total applicable
●	30 in residence at UHM
●	35 major-required lower division/25 upper division (300+ level) credits
Grade Point Average	
●	2.0 cumulative or higher (Note: Other GPAs may be required.)
●	Good academic standing

Degree Requirements	
<input type="checkbox"/>	Calculus I
<input type="checkbox"/>	Calculus II
<input type="checkbox"/>	Chemistry I with lab
<input type="checkbox"/>	Chemistry II with lab
<input type="checkbox"/>	Physics I with lab
<input type="checkbox"/>	Physics II with lab
<i>Refer to major requirements for the specific courses that satisfy these requirements.</i>	
College Requirements	
●	8 KRS activity
●	9 Directed Reading / Research
●	12 Practicum / Internship

*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 Molecular Cell Biology

Admission: Open

Application: NA

Min. major credits: BS = 47 (78-80 with related requirements)

Min. C grade (not C-) in all prerequisite courses

Molecular Cell Biology Core Requirements (35 credits) BIOL 171*^{DB} / 171L*^{DY} BIOL 172*^{DB} / 172L*^{DY} BIOL 275 / 275L BIOL 375 / 375L BIOL 407 (Fall only) BIOL 408 (Spring only) BIOL 402/MBBE 402 or BIOC 441 MICR 314 (Spring only) MICR 461 BIOL 472 (Spring only)**Molecular Cell Biology Related Requirements (12 credits total from Group 1 and 2)****Group 1 Courses**

ICS 475, MATH 304, 305, MICR 351, 431, 463, 470, 475, 490, PHYL 301, ZOOL 420, 442, BIOL/MICR/BOT/ZOOL 499

 _____ _____ _____**Group 2 Courses (2 courses)**

BIOL 408L, MICR 351L, 461L, 463L, 470L, 475L, 490L, PHYL 301L, ZOOL 420L

 _____ _____**Related Major Courses (31-33 credits)** MATH 215*^{FQ}, 241*^{FQ}, or 251A*^{FQ} MATH 216, 242, or 252A CHEM 161*^{DP} / 161L*^{DY} CHEM 162/ 162L CHEM 272/ 272L CHEM 273 PHYS 151/151L or 170/ 170L PHYS 152/152L or 272/ 272L

Notes

University of Hawai'i at Mānoa
College of Natural Sciences/School of Life Sciences Program Sheet 2021-2022
Bachelor of Science (BS) in Molecular Cell Biology
Admissions: Open Process: Declaration
Min. Total Credits: 120 (111 in core & major + 9 in electives)

Student Academic Success Center; Sinclair 301; (808) 956-5911; cnsadvis@hawaii.edu; natsci.manoa.hawaii.edu/sasc
School of Life Sciences; Edmondson 216; (808) 956-8303; lifesci@hawaii.edu; lifesciences.manoa.hawaii.edu

Rev RK 7/2021



UNIVERSITY
of HAWAI'I*
MĀNOA

UNIVERSITY OF HAWAII
BOARD OF REGENTS

School of Architecture
Office of the Dean

'22 JAN 27 A9:09

DTS 22137 A1c

December 29, 2021

MEMORANDUM

TO: Randolph G. Moore
Chair, Board of Regents

VIA: David Lassner
President

VIA: Michael Bruno
Provost

VIA: Laura E. Lyons
Interim Vice Provost for Academic Excellence

FROM: William Chapman
Interim Dean, School of Architecture

SUBJECT: REQUEST FOR ESTABLISHED STATUS FOR THE BACHELOR OF ENVIRONMENTAL DESIGN (BEnvD) AT THE UNIVERSITY OF HAWAI'I AT MĀNOA

SPECIFIC ACTION REQUESTED:

It is respectfully requested that the Board of Regents grant established status to the Bachelor of Environmental Design (BEnvD) in the School of Architecture at the University of Hawai'i at Mānoa.

RECOMMENDED EFFECTIVE DATE: Upon approval.

ADDITIONAL COST: No additional costs anticipated.

PURPOSE:

As detailed in the attached request, we believe that the Bachelor of Environmental Design (BEnvD) should become a permanent program at UH Mānoa. Without this program, many students from Hawai'i would have no place to locally study architecture and would be forced to travel to the mainland for college. For students of limited financial means or those who wish to remain in Hawai'i, study at a mainland college or university is a practical impossibility. As a local and indigenous-serving program - joined by mainland and international students who are interested in tropically-focused design and sustainability - the program's ethnic and cultural diversity plays a critical role in challenging architectural discourse by emphasizing inclusivity and socially and environmentally-responsible design. The program also reaches many students who would not otherwise be able to study Environmental Design and **architecture**.

Because of their holistic training in **architecture**, landscape architecture, and urban design, BEnvD graduates will not only lead the State of Hawai'i in developing responses to climate change, housing problems, and urban development as we move into the challenging years of the middle 21st century, but its reach will extend globally. The BEnvD is a critical source of creative capital for Hawai'i's professional architecture firms and others across the world. The BEnvD provides the required pre-professional training that students may enroll in professional architecture programs, such as our Doctor of Architecture (DArch) and Master of Landscape Architecture (MLA) programs. The BEnvD is thus perhaps the most important program at the School of Architecture, providing a necessary pipeline through which our students may achieve graduate degrees, which allow them to become licensed professionals.

BACKGROUND:

This request is being submitted in accordance with Board of Regents Policy 5.201, Section III.B.3., which states that the request for "established" program shall be submitted to the board for approval. The School of Architecture (SoA) implemented its university-approved Bachelor of Environmental Design in Spring 2014. The BEnvD serves as a pre-professional undergraduate degree, either as a terminal degree to enter the work force or as the foundation for graduate study in any number of fields notably, architecture, planning, landscape architecture, or construction management. The BEnvD emphasizes the study of built and natural environments and provides a solid foundation for graduate education and/or careers in the design and building professions, including architecture, landscape architecture, urban design, and construction management. For those students who go on to study architecture and landscape architecture at the graduate level, our NAAB-recognized pre-professional degree allows them to enter two-year MArch (Master of Architecture proposal pending at UHM) and MLA programs either at UHM or at other institutions, versus three-year programs reserved for those students without a pre-professional degree.

Honolulu, the rest of O'ahu, and the neighbor islands provide a critical locus of design discourse, linking research and creative activity. Through our undergraduate studios, which explore urban, architectural, landscape, and ecological design at multiple scales, the school provides training in a range of disciplines, covering multiple perspectives and interests. The BEnvD curriculum is structured to expose students to increasing levels of complexity in design work as they progress through the studio sequence. Students also engage with questions related to design at the urban scale and design of the landscape, with a concentrated focus on design for sustainability and resilience. This pedagogy coalesces with faculty-led research projects at the Environmental Research and Design Lab (ERDL).

The BEnvD will continue as a priority for the campus/college because the program's principal objective has been to increase the number of trained architecture professionals for the state of Hawai'i and the world. It is also formulated to meet the needs of local students, many of them first-generation college students, from a wide range of ethnic and cultural backgrounds. The four-year pre-professional degree prepares students for a career in architecture, landscape architecture, planning and related fields. Students receive

training in design, history, studio practice, computer-aided design as well as satisfying all General Education courses for their degree. Some students will move directly from their degree to the work force, obtaining qualification for licensing through a longstanding apprenticeship program with architectural or other firms. About one-third will transition directly to our existing three-year professional DArch program; others will apply in the last year to programs in other states or countries and/or enroll in the SOA's MLA program or other graduate programs in the university.

The program continues to meet its enrollment goals. Because the BEnvD was created partly to break up the 7-year Doctor of Architecture into two separate programs, we expected to maintain our levels of enrollment and have found in the past two years that our enrollment is increasing, despite an overall decline in enrollment across UHM. Our graduation rates have remained solid, and we have met (and sometimes exceeded) our students needs through instructional and facilities resources.

The program integrates well with programs on this and other campuses and there are significant opportunities for future collaborative developments that will increase interest and enrollment in the BEnvD program. Currently, we accept transfer students from both Hawai'i and mainland community college systems. We are working actively towards developing a curriculum with Honolulu Community College (HCC) in order that transfer students from their architectural drafting program to be able to meet more of their BEnvD requirements before transfer to UHM. We have also instituted a 2+2 program with Hoa Sen University in Vietnam, so that Hoa Sen students will be able to graduate in two years with a UH Mānoa BEnvD degree. We continue to seek out potential collaborations with other campuses and programs.

The BEnvD will continue to meet needs and generate demand because it responds to genuine needs in the community, including work in architectural and planning firms, government offices, and non-profit organizations. It is the only pre-professional architecture degree in Hawai'i. For many local students who are limited in their means, it is their only opportunity to study architecture. BEnvD graduates, especially those who go on to a higher professional degree, contribute to the state's expertise in areas of environmental design, urban design and housing. Students find employment in Hawai'i, on the continent and abroad.

BOR Chair Randolph G. Moore
December 29, 2021
Page 4

ACTION RECOMMENDED:

It is respectfully recommended that the Board of Regents grant established status to the Bachelor of Environmental Design in the School of Architecture at the University of Hawai'i at Mānoa .

Attachment: **Established Status Request for the BEnvD**

cc: Executive Administrator and Secretary of the Board **Kendra Oishi**
William Chapman, Interim **Dean**
Karla Sierralta, Associate Professor & Director of Undergraduate Studies

Bachelor of Environmental Design (BEnvD), School of Architecture

Request for Established Status

March 2021 (Revised November 2021)

1. Overview

The School of Architecture (SoA) implemented its university-approved Bachelor of Environmental Design (BEnvD) degree in a new four-year configuration in Spring 2014. The BEnvD serves as a pre-professional undergraduate degree, either as a terminal degree to enter the workforce or as the foundation for graduate study in any number of fields: architecture, planning, landscape architecture, or construction management. In 2020 the school initiated the process of moving the program from “provisional” to “established” status. A committee, consisting of Daniel Harris-McCoy, Associate Professor of Classics at UHM, Brennon Morioka, Dean of the College of Engineering, and David Miller, Principal and Lead Architect, Architects Hawaii International (AHI) convened in March 2020, undertaking their review of the program between then and October 2020.

The review committee’s final report, issued on October 2, 2020 stated the team’s recommendation for the change in status, noting that: “The program is already performing well both in term of its metrics (# of majors, SSH, etc.), curricular excellence, the employability of BEnvD alumni post-graduation, preparedness to succeed in related advanced degree programs, and the quality of their contributions to the broad field of design.” It further concluded that “based on the clear commitment of the School of Architecture faculty, staff, students, community stakeholders, and University administrators to the BEnvD program and the future need for well-trained design professionals in Hawai’i, all signs suggest that the BEnvD program will continue to grow in both size and quality.”

The program’s principal objective has been to increase the number of trained professionals for the state of Hawai’i and the world. Some students move directly from their degree to the workforce, obtaining qualification for licensing through a longstanding apprenticeship program with architectural or other firms. About one-third transition directly to our existing three-year professional DArch program; others apply in the last year to programs in other states or countries and/or enroll in the SOA’s MLA program or other graduate programs in the university.

The BEnvD answers to genuine needs in the community, including work in architectural and planning firms, government offices, and non-profit organizations. Significantly, BEnvD graduates, especially those who go on to a higher professional degree, contribute to the state’s expertise in areas of environmental design, urban design and housing. Students find employment in Hawai’i, on the continent and abroad. Those entering the DArch Global Track (GT) program have an opportunity to earn a MArch at Tongji University—one of the top architectural and design schools in China—while simultaneously completing their UH professional degree. This and other study abroad opportunities allow our students to enter into the global workplace with knowledge and tools for improving the world as well as pursuing their own careers.

The enrollment has been within the parameters anticipated at the onset of the program. Enrollment has increased proportionally each year since the beginning of the program, with a slight fall in numbers of entering students and enrolled upper-level students in the academic years beginning in 2018 and 2019. This slight dip reflects an overall decrease in enrollment at UHM at the same time. The numbers of students completing the program are complicated by the fact that it is a four-year program, not a two-year major, and that the program attracts transfer students and students

graduating from the community colleges' pre-architecture programs as well. In addition, students tend to stagger their graduations, some completing in the summer term and some in the fall and some the following spring. As a result, the graduation rate is in fact higher than records might suggest. Enrollments remain strong, and the 2020-2021 school year has a total undergraduate enrollment of 204, exceeding the projected number by two percent.

Resources applied to the program align with the original BEnvD proposal. Unlike most new programs, the BEnvD was essentially "carved out" of an existing seven-year professional program. Courses were designed and adapted to meet the needs of this broader pre-professional degree. When the program started, the SOA had 18 FTE. Currently, the school has 15.75 FTE due to retirements. As with other architecture schools in the country the SOA depends heavily on outside lecturers, both to support the curriculum and to bring current ideas and an understanding of contemporary practice into teaching.

The school's operations are paid for through General Funds and allocated Tuition Funds. In addition, the SOA receives Special Funds from Outreach College for programs taught in the summer and through our dual-degree Global Track program (in addition to other special courses, including the DArch Praxis internship). Both the IT lab and the 3D Fabrication Lab are paid for in large part through an approved Professional Fee that all SOA students pay.

The original proposal estimated 8 FTE for the program, based on the balance of undergraduate teaching among the faculty members. Some faculty teach primarily in the BEnvD program. Others teach in the MLA and DArch programs. The 8 FTE is an estimated average. Projected instructional costs for the proposal were based on the assignment of 8 FTE to the program, and the employment of three lecturers. Salaries, excluding fringe benefits, were estimated at \$502,730 for the initial year (2013-2014), ending with a total of \$705,105 for the final year of provisional status (2018-2019). (These costs included the costs of three lecturers annually as well). Actual instructional costs \$589,445 for year 1, \$576,148 for year 2 and \$584,647 for year 6. Overall, then, the BEnvD costs significantly less than originally projected.

The BEnvD applies the UHM SLOs and ILOs and incorporates NAAB (National Architecture Accrediting Board) standards for programs leading to professional degrees. In addition to required Mānoa General Education courses and studio work, students complete a wide variety of other coursework, including classes in the history of world architecture and urbanism, environmental systems, professional ethics, and urban ecological analysis and design. Students in the BEnvD program also have a chance for international experience through workshops in Korea and Japan as well as study-abroad experiences through the university's Study Abroad Center (SAC).

Since 2016, when the first BEnvD cohort graduated, the school has awarded 161 students with BEnvD degrees, with an annual average of 32.2 degrees. The BEnvD's enrollment was at its maximum of 225 majors in 2016-17 but declined to 182 in 2019-20. Enrollment is now increasing again, with 204 presently in the program. The average time to degree was an average of 4.34 years during the provisional period, due to the structured character of the program and the necessary studio sequence. Enrollment numbers roughly match those of the university as a whole, rising in high enrollment years and dropping in years 5 and 6 (2018-19 and 2019-20). The actual enrollment increased to 204 in 2020-21, 2 percent above the originally projected number.

Students have benefited from a number of awards, recognitions and scholarships. These are provided by architecture and landscape architecture professional organizations, by firms, and by individuals, largely through the UH Foundation. These awards strongly link the school to the professional community, as do opportunities for student engagement through the two student

organizations, AIAS and SCASLA.

2. Alignment with Strategic Plans

The University of Hawai'i's Strategic Directions for 2015-2021 emphasize two key objectives: to bring greater visibility to the university becoming an indigenous-serving institution and to advance sustainability efforts. In addition, the Strategic Objectives call for improving efficiencies and leveraging resources.

The University of Hawai'i is one of the most culturally diverse universities in the United States, making the SOA, perhaps, the most ethnically diverse architecture schools in the nation. With its student body of Native Hawaiians, Pacific Islanders, Japanese, Korean and Chinese locals, as well as Filipinos, Vietnamese, Thai and Laotian students, the School of Architecture reflects the ethnic makeup of the State of Hawai'i. In addition, the school has underwritten several initiatives to recruit Native Hawaiian students and also is introducing aspects of Hawaiian culture into school events and pedagogy. The School of Architecture's student body shows a healthy gender balance. Student leadership in the school is synonymous with AIAS (the American Institute of Architecture Students) organization, which comprises a diverse group of BEnvD and DArch students and encourages the exchange of ideas between undergraduate and graduate students

One of the School of Architecture's BEnvD's particular strengths lies in the SOA faculty's expertise in sustainability, a key component of both the university's and UHM's strategic plans. SOA offers more landscape-focused courses than other BEnvD programs, and the school's curriculum focuses on issues of sustainability and resilience in environmental design. The school's Environmental Research and Design Lab (ERDL) is designed to advance sustainable design and higher education through research and outreach. The facilities not only benefit the university and its Bachelor of Environmental Design students, but also act as a resource for the professional community outside of campus.

Although the BEnvD is a pre-professional degree, it is an important first step toward a career in architecture and allied arts. According to the U.S. Bureau of Labor Statistics Employment of architects is projected to grow one percent from 2019 to 2029, slower than the average for all occupations but still significant. Improved building information modeling (BIM) software and measuring technology are expected to increase architects' productivity, thereby limiting employment growth for these workers. The average annual salary for architects from the same source is \$83,430; for landscape architects, \$76,730. Most of the graduates of the BEnvD program either enter the field working directly in an architectural, planning or landscape architecture firm or continue their education to complete a professional degree in architecture planning or landscape architecture. A review of recent offerings for experienced architects in Hawai'i lists positions for the U.S. Department of the Navy, ranging from \$73,901 to \$103,875 a year and jobs with the Hawai'i State Government ranging from \$55,200 to \$64,620 a year. A private sector position as a Principal Architect with twelve years' experience ranges from \$95,000 to \$150,000.

3. Program Enrollment

The estimated program enrollment was set at the time of the program's initiation based on the numbers of students enrolled at that time. Year 1 (2014-15) was projected at 229. This number was increased to 236 for the next two years; and then 242 for two years and 248 for year 6. Enrollment in the current year (2020-21) was estimated at 200, based on the then actual enrollment. Actual numbers were lower than projected, in large part, to an overall decrease in the number of UHM students. This has been attributed to a number of factors—high levels of employment that directed students into the workforce; a fall-off in the number of high school graduates as part of broader demographic patterns—but none of this was unique to the School of Architecture. Actual enrollment

in year 1 was 165; year 2, 190; year 3, 194; year 4, 205. Two subsequent years witnessed a decrease in students. In the current year enrollment has jumped to 204, or over the estimate.

Specific numbers of graduates for each year were not projected in the original proposal—it was estimated that 50 to 60 would graduate annually—but in fact the graduation rate, while never reaching these numbers, has remained steady over the provisional period. The first four years’ students transferred from the DArch professional program, resulting in the fact that there were graduates even in the first year of the four-year degree program. The first year’s graduating class had ten students; the second year had 45; the third year 38; the fourth dropped to 31. Year 6, 2019-20 had only 27 graduates; but the current year (2020-21) has a projected graduating class of 36. The retention rate has been surprisingly strong, hovering between 83.9 and 88 percent over the five years measured as part of the provisional period.

Graduation rates have also been relatively consistent. In 2014-15 the average time to completion of the BEnvD was 3.66, a figure skewed by the fact that students had previously completed credit hours in the original seven-year DArch professional track. The time to degree shifted to 4.5 for the first full graduating class. In 2019-20 the time to degree is 4.34 years. Students earned an average of around 150 credits throughout that time.

Enrollment

	Year 1 2014-15	Year 2 2015-16	Year 3 2016-17	Year 4 2017-18	Year 5 2018-19	Year 6 2019-20	Current Year 2020-21
Projected Enrollment	229	236	236	242	242	248	200
Actual Enrollment	165	190	194	205	187	182	204

Program Completion Projection

	Year 1 2014-15	Year 2 2015-16	Year 3 2016-17	Year 4 2017-18	Year 5 2018-19	Year 6 2019-20	Current Year 2020-21
Projected Completion	50	50	50	50	50	50	50
Actual Completion	10	45	38	31	30	27	36

4. Instructional Resources and Revenue

Resources

The original proposal estimated 8 FTE for the program. This was based on the balance of undergraduate teaching among the faculty members. Some faculty teach nearly exclusively in the

BEnvD program. Others teach in the MLA and DArch programs. The 8 FTE is an estimated average. During the seven years in provisional status, the BEnvD FTE remained at 8, except in Year 6, when one exclusively undergraduate faculty member retired. That position was swept by the administration though we gained a new position shared with the College of Engineering which also has an undergraduate-BEnvD focus, bringing the number back to 8. Costs for the program are estimated on the basis of the salaries of these core 8 faculty members.

In addition to regular faculty the program depends on part-time lecturers. The proposal estimated an annual average of three lecturers, at an unidentified cost. Actual costs for other instructional personnel were far lower than estimated, beginning at \$3,302 and only once exceeding \$30,000. The other personnel cost is a portion of the salary of the Director of Student and Academic Services, which was originally estimated proportionally at \$30,000 (year 1) and \$35,000 (year 6).

Most faculty teach approximately half of their time in the undergraduate program and the other half in one of the two graduate programs. Projected instructional costs for the proposal were based on the assignment of 8 FTE to the program, and the employment of 3 lecturers. Salaries, excluding fringe benefits, were projected at \$502,730 for the initial year (2013-2014), ending with a total of \$705,105 for the final year of provisional status (2018- 2019). (These costs included the costs of three lecturers annually as well). The actual costs of salaries are roughly in line with projections, beginning slightly higher with \$586,143 devoted to the program and ending with \$684,792 in 2020-21. Year 6, 2017-18, was originally projected at \$754,462, including full-time faculty and lecturers; the actual instructional costs assigned to the program for that year were only \$584,647. In 2014-15 (year 1) the school used only one lecturer for the BEnvD program. In 2015-16 (year 2), 3 lecturers. In the final year of provisional status (year 6), we employed 2 lecturers. Other Personnel Costs were based primarily on the cost of the Director of Student and Academic Service's salary and the cost of student assistants.

Between 2013 and 2020 the school expended \$134,927 on new equipment purchases and rentals. These included costs of laser printers, copying machines, monitors for classroom use, classroom equipment, projectors and screens, an informational monitor, and new tools in the 3D Fabrication Lab and IT Lab (Digital Technology & Information Laboratory). Facilities and equipment are used by all students in the school, not only those in the BEnvD program. Therefore, Unique Program Costs are not recorded. The costs for equipment for the IT Lab and the 3D Fabrication Lab are covered by the annual student fees. Costs of actually printing and materials is paid directly by students on a cost-only basis.

Key services for students in the BEnvD program are the IT Laboratory and the 3D Fabrication Lab. The IT Lab is located on the second floor of the architecture building and houses the School's IT Services. It is equipped with computer workstations, scanners, large- scale plotters, servers, a duplicating machine, and other highly advanced technology. The IT Lab's director continuously monitors and upgrades the digital and audiovisual infrastructure of the school, including classrooms projection equipment, smart boards, faculty computers, school servers, and software. Well-trained and knowledgeable student assistants are also available to assist students and faculty members.

Costs and Revenue

The BEnvD program has been able to meet its costs and generate a modest amount of revenue while continuing to increase enrollments at a desirable rate. As demonstrated in the table below, the overall actual instructional costs were below the projected costs by year 6 of the program.

Lecturer costs, as a part of overall Instructional Costs, were far less than originally projected. Originally, lecturers were budgeted at approximately \$20,000 per annum rising to \$30,000 by the end of the probationary period. In fact, Year 1 (2014-15) only required a single lecturer at \$3,302. The lecturer costs rose in Year 2 (2015-16) to \$18,646 and Year 3, to \$16,860. Year 5 (2018-19) were the highest, at \$38,329; Year 6 (2019-20) saw lecturer costs fall to \$12,504.

Unique program costs were estimated at \$20,000 rising to \$37,500 over the course of six years. Equipment purchases and rentals were far less than originally estimated. Also, many of the costs were covered through donations, the Professional Fee and the separate budgets of the two lab directors. Total costs for equipment, rentals, repairs and other equipment needs were \$134,927. The undergraduate program accounts for only a portion of these amounts. They are not broken out as "unique" costs in the accompanying table.

The revenue for the program was projected at \$576,050 considering all sources, including tuition in year 1 (2013-2014), rising to \$720,954 in year 6 (2018-2019). The projected "Other Revenue" including money from grants and programs other than Tuition funds and not including in-kind contributions, was estimated at \$229,000 in 2014-15 (year 1) rising to \$242,000 in 2019-20 (year 6). In fact, the program brings in very little additional revenue other than tuition; the students' Professional Fee of \$500 per semester (originally embedded in the annual tuition number) contributes largely to the overall revenue of the program, but this was not included in the original projections. The BEnvD program has little opportunity of attracting or obtaining grants, other than scholarships for students from a variety of sources; the lab fees are in fact the single important additional revenue source.

The school's income comes in the form of General Funds (G Funds), Tuition, awarded by formula and tradition not on the basis of SSH, returns on research (RTRF), and Outreach Funds (the latter of which apply only to the school's graduate programs). Additional funds come through the annual Professional Fee (Lab Fee), instituted in 2018-19. A fair estimate for the BEnvD program is 70 percent of tuition funds for the years 2014 to 2018, with a combined tuition and Professional Fee for years 2018-19 and subsequent years. (The Professional Fee was embedded in tuition revenue until the 2018-19 academic year.) It is important to note that faculty salaries are paid from G Funds and Tuition; as a result, the Net Cost (Revenue) basis for determining the overall cost of the program is not fully applicable. However, using the base salaries of the eight, primarily undergraduate-teaching faculty members as a guide the cost over six years are as follows: Year 1 (2014-15), \$586,143; Year 2 (2015-16), \$500,961; Year 3 (2016-17), \$558,288; Year 4 (2017-18), \$642,381; Year 5 (2018-19), \$612,930; Year 6 (2019-20), \$572,143. Faculty salary costs followed a relatively constant projection until Year 6, when the total faculty salary costs dropped. This was due to the retirement of one of the key undergraduate faculty members, a circumstance that required the hiring of additional lecturers.

Overall, the costs of the program came close to that projected over the six-year provisional period. The estimate was \$552,730 for the first year, \$635,575 for the third year, and \$775,105 for the sixth year. The actual costs were \$624,029 for the first year, \$613,024 for the third year, and \$624,865 for the sixth year. ***If we use the AY 2019-2020 data as a snapshot, the total revenue generated through fees and tuition was (\$669,762) minus the total costs (\$648,471) shows a modest yet positive net revenue of \$21,291. For many reasons, this type of calculus is not an ideal way to gauge the health of an academic program, but it is one metric among many that could be considered.***

Existing Instructional Resources/Funding

Instructional Resources	Year 1 2014-15	Year 2 2015-16	Year 3 2016-17	Year 4 2017-18	Year 5 2018-19	Year 6 2019-20	Current Year 2020-21
Combined Tuition/Summer/ Course Fees	535,305	579,330	623,133	669,762	669,762	669,762	---
Actual Tuition Fees	673,976	653,307	688,280	632,947	577,646	456,155	433,759
Actual Fees	**	**	**	**	221,000	194,548	195,500

** Professional fee embedded in tuition amount.

Personnel

Personnel	Year 1 2014-15	Year 2 2015-16	Year 3 2016-17	Year 4 2017-18	Year 5 2018-19	Year 6 2019-20	Current Year 2020-21
Projected Full-time Faculty	8	8	8	8	8	8	8
Actual Full-time Faculty	8	8	8	8	7.5	7	8
Projected Lecturers	3	3	3	3	3	3	---
Actual Lecturers	1	3	2	4	7	2	1
Projected Instructional Costs	537,921	575,575	615,866	658,977	705,105	754,462	---
Actual Instructional Costs	589,445	519,607	576,148	673,230	651,259	584,647	696,349
Projected Other Personnel Costs	30,000	30,000	35,000	35,000	35,000	35,000	---
Actual Other Personnel Costs	34,584	35,712	36,876	37,476	39,822	40,218	---
TOTAL PERSONNEL COSTS	\$624,029	\$555,319	\$613,024	\$710,706	\$691,081	\$624,865	---
Actual Full-time Faculty Costs	586,143	500,961	558,288	642,381	612,930	572,143	684,792

Actual Lecturer Costs	3,302	18,646	17,860	30,849	38,329	12,504	11,557
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Operating Costs

	Year 1 2014-15	Year 2 2015-16	Year 3 2016-17	Year 4 2017-18	Year 5 2018-19	Year 6 2019-20	Current Year 2020-21
Unique Projected Operating Costs (from Provisional proposal)	20,000	20,000	25,000	35,000	35,000	35,000	---
Actual Unique Program Costs*	---	---	---	---	---	---	---
Actual Non-Unique Program Costs**	---	49,750	4,759	21,786	35,026	23,606	---

* There are no unique equipment and purchases or other program costs for the BEnvD program.

** Equipment purchases are paid for using RCUH funds.

5. Organization of Program

The BEnvD consists of a single major. SSH is a factor of the number of students in the BEnvD program in any given year over the six years covered by the review. Approximately two-thirds of faculty teaching time was applied to the undergraduate BEnvD; the number of 8 FTE out of then 15.75, reduced to an effective FTE of 13.75, meant that two-thirds of the faculty were “assigned” to the BEnvD program (when in fact nearly all 13 faculty members actually teach in the program in any given year). The number of undergraduate classes offered ranged from 16 in 2014- 15 to 18 for the year 2016-17 and 2017-18 and peaking at 19 in year 6 (2019-20). The average class size was 24 in 2014-15, 30 in 2017-18 and 38 in 2020-21 (current year).

As the review report indicated, the SOA has a healthy SSH and robust FTE to SSH record. Our SSH have been steadily increasing even though our yearly course offerings have remained steady between 16–19 courses and between 19 and 24 sections respectively. In the first year of the program, FTE by credits resulted in an SSH of 1376. By 2017, our total SSH grew to 1868. In the fall 2020, the total SSH was 1978, representing an 43.75% increase in total SSH between AY 2014-15 and AY 2020-21. This growth demonstrates the continued growth of the program and an efficient use of resources for the courses and sections offered yearly.

The overall ratio of FTE to SSH for AY 17-19 for the entire School of Architecture was 1:275.05, which reviewers found, was “impressive, especially considering the personalized instruction and contact time required for its courses.”

Courses, Sections, SSH

	Year 1 2014-15	Year 2 2015-16	Year 3 2016-17	Year 4 2017-18	Year 5 2018-19	Year 6 2019-20	Current Year 2020-21
Projected No. Courses	16	16	18	18	16	19	19
No. Actual Courses Offered	16	16	18	18	16	19	19
Projected No. Sections	<i>N/A: No. of sections were not projected in the BEnvD proposal or in subsequent years</i>	N/A	N/A	N/A	N/A	N/A	N/A
No. Actual Sections Offered	22	22	23	23	19	24	24
Projected Annual SSH	<i>N/A: SSH Projections were not made in the original BEnvD proposal and in subsequent years</i>	N/A	N/A	N/A	N/A	N/A	N/A
	1376	1577	1695	1868	1695	1888	1978

The school's BEnvD Self-Study document states, the BEnvD curriculum is "holistic" and "futures focused" and prepares its students to "re-envision the built environment as an interdisciplinary problem of building technology, materials, cultural and natural landscapes, urban design, anthropology, socioeconomics, sustainability, and resilience in a rapidly changing world." This commitment is evidenced in both the courses offered in the BEnvD curriculum and by opportunities available to BEnvD students such as the UH Community Design Center (UHCDC) and UH Environmental and Research Design Lab (ERDL). The review committee recognized that: "Both qualitatively and quantitatively, the BEnvD program has been strong."

The BENV D curriculum is credit-intensive and highly structured. Completion of the program requires that students take 102 credits of coursework, including core coursework, architecture and university electives, and related prerequisite coursework in Physics, Math, and History. Courses are highly sequenced from the first through fourth years, although students are required to take 12 credits of Architecture electives and 6 credits of University-wide electives, which allows for some flexibility. The University-wide electives are not specified on the program sheet but are chosen by the students in collaboration with the advisor and tend to relate to planning, sustainability, geography, business, American Studies, and/or engineering. The original program proposal called for six areas of concentration that students began to select in their third year. The concentrations were landscape architecture, architecture, historic preservation, construction management, planning and interior design. These were phased out beginning in Spring 2017 following agreement from the Interim Vice Chancellor for Academic Affairs, Michael S. Bruno (dated March 3, 2017). A series of landscape architecture courses replaced several of the required concentration courses, strengthening the course offerings in the areas of sustainability and environmental design.

The undergraduate curriculum features both major course requirements and general education courses alongside each of the first three years, ending with all major architecture and landscape architecture requirements (studios) in the fourth year. The program now follows roughly three "strands" (instead of the earlier six). These are design studios, design/practice/technology

courses, and courses on history and theory. In addition to its courses and studios the school also offers many extracurricular learning opportunities for BEnvD students. The annual lecture series brings international design leaders who engage both the academic and professional audience, allowing students to network with the lecturers and local built environment professionals at post-lecture receptions. Numerous design exhibitions at the Shen Architecture Gallery feature studios and projects covering a range of design-oriented topics. Further, students in the BEnvD program have a chance for international experience through studios in Korea and Japan as well as study-abroad experiences through the university's Study Abroad Center (SAC). The SOA has memoranda of understanding and agreement with Chulalongkorn University in Thailand, several Vietnamese colleges and universities, as well as numerous programs sponsored by SAC. Beginning in 2020 the school also has an MOU with the Istituto Universitario di Architettura di Venezia (IUAV) Italy's leading college of architecture and planning. An anticipated summer program for BEnvD students was postponed in 2021 due to the Covid-19 pandemic.

Following their interviews, the review committee stated that "students appear highly satisfied with the BEnvD curriculum. They feel as though they are receiving a valuable education and emphasized the breadth of their education as one of the hallmarks of this value." The committee found further that "the students felt well-prepared to enter the workforce and, conversely, architects in the Honolulu community said they like to hire BEnvD students, and that students who joined their firms." Firms found, in fact, that BEnvD degree holders were "curious and teachable, and served as assets to their firms."

Overall, the BEnvD program offers cost effective training in architecture and allied disciplines. More importantly, the BEnvD offers a well-rounded program of learning for future architects, planners, landscape architects and members of other design fields and expands their opportunities for future employment. Architecture, far more than many disciplines, has been affected by the rise in technology in terms of computer-aided applications both for "designing" buildings and later construction. This has expanded the scope of what architects and others in design field do but it has also cutbacks on the opportunities for entry-level positions and repetitive work, such as drafting (much of which is now outsourced to cheaper labor markets). The design field today requires practitioners familiar with broader human issues and a knowledge of history, context and the environment, not merely the technical aspects of design. The BEnvD clearly supports this endeavor and prepares students for eventual careers in the built environment.

6. Student Learning and Success

Learning Objectives

The Student Learning Outcomes for the BEnvD were revised and finalized in Spring 2019 under the direction of the Assessment Office. Each syllabus lists the SLOs, as well as the NAAB Student Performance Criteria relevant to that particular class. Because the BEnvD is a pre-professional program, it focuses less on the broad SLOs and more on whether the students meet what were once the NAAB SPC [Student Performance Criteria], as they are a more precise measure of student achievement in particular NAAB-identified areas. The school continues to adhere to the NAAB SPCs. However, NAAB has now revised its conditions, and the SPC is now reformulated as Performance Criteria. The school will be making further adjustments in the future to address this change. Additionally, the BEnvD curriculum was formulated specifically to address all of the 2012 UHM ILOs. Adherence to NAAB SPCs also directly supports all UHM ILOs.

Graduations and Time to Degree

Since 2016, when the first BEnvD cohort graduated, the school has awarded 161 students with BEnvD degrees, with an annual average of 32.2 degrees. The BEnvD's enrollment was at its maximum of 225 majors in 2016-17 but declined to 182 in 2019-20. Enrollment is now increasing again, with 204 presently in the program.

The average time to degree was an average of 4.34 years during the provisional period, primarily due to the fact that there is a very structured program of required classes, taken in a specific sequence, in which the content of design studios and other courses build upon each other progressively. For students who declare a BEnvD major in the first semester of their freshman year, the degree can be easily completed in four years. However, if a student declares the BEnvD major later in their college career, or transfers in from a community college, their time in the BEnvD can extend beyond four years in order for them to complete the required sequence of courses.

In order to complete their degree in a timely manner, students must closely follow the program chart and its specific sequence of classes and prerequisites. The information is available in STAR; however, every attempt is made to meet with each student to review program requirements and to be in line with UH Manoa's requirement for mandatory advising for students in their freshman and sophomore years. An additional effort is made to provide academic plans for transfer students to map out the best degree path using existing transfer credits that apply to our degree program.

Overall, the BEnvD enjoys academic strength; the mean GPA from 2014-2019 was a healthy average of 3.17. However, as enrollment across the University has declined in recent years, so too has the school's enrollment. The enrollment decline is directly in line with the yearly drops in enrollment across the University. The school is currently undertaking efforts to increase BEnvD enrollment, such as increased high school recruitment through the Recruitment Committee and holding an annual Open House.

Awards

A measure of student success is recognition through the many awards given to students in both the undergraduate and graduate programs in the School of Architecture. These range from a few hundred to several thousand dollars and help fund student education and give recognition to outstanding performance. The awards program also brings students and the professional community into close contact, largely through the several awards ceremonies, as well as opportunities for follow-up internships and employment.

Post-Graduation Employment

As emphasized above, the BEnvD program is a pre-professional degree program, leading ideally to a graduate degree in architecture, landscape architecture, planning or another related field. About one third of our students follow this track, enrolling in the DArch program, the MLA program or another professional degree either at UHM or elsewhere. Other students take time off before they undertake a professional degree or begin work in an architecture, planning or landscape architecture firm, intending to gain their professional credentials through apprenticeship. (Hawaii is one of the few states that still allows architects to gain a professional license through experience and completion of the licensing exams).

Firms have expressed overall satisfaction with students and their knowledge and abilities. Many architecture firms lament the end of the school's older BArch program—a five-year professional degree to prepare architects for careers in the field and for licensure. However, some firms have expressed satisfaction with BEnvD graduates in that they are quick learners and open to instruction. However, most firms hire graduates of professional programs—including the school's DArch program—in which case they gain fully trained students ready to become licensed architects.

Future Directions

The BEnvD program has successfully completed its sixth year of provisional status. The School of Architecture is pleased with student progress and the success of the program's graduates. As the program moves into established status, the SOA Curriculum Committee is examining ways that more "technical" architecture courses might be infused into the BEnvD curriculum. Moving the present ARCH 415 studio to the spring term—discussed among faculty and program directors—would provide for greater "closure" if this were to become a true capstone project. This curricular change would help relieve the problem of students graduating in the fall term or having a light academic load in the spring prior to receiving their degree. The Architecture Faculty Senate has also passed a resolution that students complete a term abroad as part of their degree requirements. This step would strengthen the students' exposure to architecture elsewhere in the world and provide a hallmark for the program as a whole.

The SOA is confident that the reintroduction of a MArch degree, the paperwork for which is nearly complete, will strengthen students' professional options. Anecdotal evidence and discussions with individual students suggest that more graduating BEnvD students will be inclined to sign up for the MArch professional track than currently enroll in the longer DArch program. The architecture community, including our advisory organizations, have universally backed this proposal as well. The hope is that as many as half to two-thirds of the students will opt for the MArch degree (along with the MLA and other professional degrees) following completion of the BEnvD. This new option will strengthen the architectural and landscape architectural training of students and provide a growing professional workforce for Hawaii's future—and that of the rest of the world as well.



UNIVERSITY
of HAWAII
MĀNOA

UNIVERSITY OF HAWAII
BOARD OF REGENTS

College of Education
Office of the Dean

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MEMORANDUM

January 12, 2022

TO: Randolph G. Moore
Chair, Board of Regents

VIA: David Lassner
President

VIA: Michael Bruno
Provost

VIA: Laura E. Lyons
Interim Vice Provost for Academic Excellence

FROM: Nathan M. Murata
Dean, College of Education

SUBJECT: Request Approval of the Proposal for New Academic Program:
Bachelor's of Education (BEd) in Special Education

SPECIFIC ACTION REQUESTED:

It is requested that the Board of Regents approve the attached proposal for a New Academic Program: the BEd in Special Education will have two tracks leading to teacher licensure: (a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12.

RECOMMENDED EFFECTIVE DATE:

Fall 2022.

ADDITIONAL COST:

There are no additional costs associated with this request.

PURPOSE:

The BEd in Special Education is a priority for the UHM Department of Special Education because it will fill a gap in avenues for teacher licensure by creating an undergraduate option for the areas of Mild/Moderate Disabilities – Secondary Education and Severe Disabilities/Autism – PreK-12. Currently, licensure in these areas is only at the Post-Baccalaureate or MEd levels.

Randolph G. Moore

January 12, 2022

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BACKGROUND:

In accordance with RP 5.201, Section III.A.1.a., this request is being submitted to the Board of Regents for approval. The statewide BEd in Special Education will have two tracks leading to teacher licensure: (a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12. The UH System does not currently offer a teacher-licensure program at the bachelor's degree level in these two specialty areas. This new program will fill that gap in avenues for special education teacher licensure. Providing this new opportunity for licensure is critical because there is a chronic and persistent shortage of licensed special education teachers in Hawaii and throughout the U.S. The shortage of licensed special education teachers is particularly problematic for the Hawaii Department of Education because the federal special education law (Individuals with Disabilities Education Act) requires licensed special education teachers for students with disabilities.

ACTION RECOMMENDED:

It is recommended that the Board of Regents approve the attached proposal for a New Academic Program: BEd in Special Education will have two tracks leading to teacher licensure: (a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12.

ATTACHMENTS:

1. Proposal
2. Approved ATP for BEd in SPED

**Proposal for New Academic Program:
Bachelors of Education (BEd) in Special Education
Department of Special Education, College of Education
Revised 01-12-2022**

I. Executive Summary

The statewide BEd in Special Education will have two tracks leading to teacher licensure: (a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12. The UH System does not currently offer a teacher-licensure program at the bachelor’s degree level in these two specialty areas. This new program will fill that gap in avenues for special education teacher licensure. Providing this new opportunity for licensure is critical because there is a chronic and persistent shortage of licensed special education teachers in Hawaii and throughout the U.S. The shortage of licensed special education teachers is particularly problematic for the Hawaii Department of Education because the federal special education law (Individuals with Disabilities Education Act) requires licensed special education teachers for students with disabilities. The 63-credit 2-year program will provide the 3rd and 4th year of an undergraduate degree program. It is a field-based program that will be offered statewide through UH Outreach College using distance learning coursework. Each year of the program, two cohorts (Mild/Moderate Disabilities – Secondary Education track, and Severe Disabilities/Autism – PreK–12 track) of 24 students each will begin the program. In year 2+, with two cohorts running concurrently, a total of 96 students will be enrolled in the program. At the end of year 2, and in all subsequent years, 46 students will graduate the program and be recommended for licensure as special education teachers (anticipating attrition of one student/cohort). There will be no resources needed. The program will be self-sustaining, funded by revenues generated by offering the entire program through Outreach College.

II. Program Purpose and Outcomes

II. A. Meeting Needs of Students, Local Community, State, and Nation

The BEd in Special Education is a **priority for the UHM Department of Special Education** because it will fill a gap in avenues for teacher licensure by creating an undergraduate option for the areas of Mild/Moderate Disabilities – Secondary Education and Severe Disabilities/Autism – PreK-12. Currently, licensure in these areas is only at the Post-Baccalaureate or MEd levels.

The US and Hawai’i have experienced a shortage of licensed special education teachers for decades. In 1994 a federal court approved the *Felix Consent Decree* requiring Hawai’i to take several measures to improve special education services. A major factor in this class action lawsuit was Hawai’i’s failure to meet the federal requirement of providing qualified and licensed special education teachers for all students with disabilities. In the last several years, Hawai’i has had to fill 1200-1300 teacher vacancies annually, with approximately half of those vacancies in special education. In the 2017-18 school year, the Hawai’i Department of Education was unable to find licensed teachers for 27% (377) of its vacancies. In November 2018, Corey Rosenlee, President of the Hawai’i State Teachers Union, presented data to the Hawai’i Board of Education showing that the teacher shortage in Hawai’i was getting worse:

- The number of teachers leaving Hawaii rose 71% in the five years prior to 2018.
- 5-year teacher retention dropped in 2018: 51 percent of teachers hired in the 2013-2014 school year were still in Hawaii classrooms five years later, down 54 percent from 2017-2018.

- Special education teacher vacancies rose to 352 in 2018; there were 311 vacancies in 2017.
- The number of unqualified teachers who had not gone through a teacher preparation program increased from 473 in 2017 to 508 in 2018

In November 2019, the Hawai'i DOE reported that there were more than 2200 special education teacher positions in the state, and about 500 were filled with unlicensed special education teachers. In December 2019, the Hawai'i Board of Education approved a pay differential of \$10,000 annually to aid in the recruitment and retention of special education teachers. The need for licensed special education teachers in Hawai'i is significant and persistent.

Given the serious teacher shortage in Hawai'i and the Felix Consent Decree (described above), the Hawaii DOE has contracted with the UHM Department of Special Education to prepare special education teachers for the state. The contract has been ongoing since 1998, with the current contract for just over \$2M to fund student stipends and faculty positions. Students enrolled in the BEd in Special Education will be eligible for DOE stipends to cover their tuition costs. Stipend recipients have a *pay-back* requirement of teaching special education in the Hawaii DOE for three years once they are licensed.

II. B. Alignment with UH Academic Master Plan and Strategic Priorities

The goals of the BEd in Special Education are to

1. **Provide an undergraduate special education teacher licensure program for two specialty areas that are not currently available at the undergraduate level in the UH System.** Note that the BEd Program in the UHM College of Education includes two dual-licensure tracks (general education and special education) for PreK-3 and elementary grade levels in mild/moderate disabilities.

Establishing the BEd in Special Education addresses UHM ILO 1b. Specialized study in an academic field. The field of special education is an academic field grounded on the value-based policy that all students are entitled to an appropriate education. In 2020, appropriate education is defined by a breadth of research-based and evidence-based practices which are essential competencies throughout the specialized courses and fieldwork of the BEd in Special Education Program.

2. **Establish a high-quality undergraduate special education program that meets the Personnel Standards of the Council for Exceptional Children (CEC) and those of the Council of Chief State School Officer's Interstate Teacher Assessment and Support Consortium (InTASC).**

As noted in Goal 1, the BEd in Special Education addresses ILO 1b. Specialized study in an academic field. Addressing the Personnel Standards of the Council for Exceptional Children (CEC) and those of the Council of Chief State School Officer's Interstate Teacher Assessment and Support Consortium (InTASC) operationalizes the specialized field of study, Special Education. It provides a reference to ensure that the program is defined by best practices of the field. This second program goal also addresses ILO 2a. Think critically and creatively, and ILO 2b. Communicate and report. Throughout the BEd in Special Education, teacher

candidates are taught to engage in critical and creative thinking as they assess student learning, design instructional programs, and plan classroom management and organizational strategies. They learn and demonstrate effective written and oral communication, individually and in collaborative groups throughout their coursework. Educational technology as a teaching tool, assistive technology, and instructional delivery mode are embedded in the BEd in Special Education curriculum. Additionally, this program goal addresses ILO 3a. Continuous learning and personal growth, by including substantial attention to the Model Code of Ethics for Educators (MCEE). The MCEE has been adopted by the Hawai'i Teachers' Standards Board and is explicitly taught and discussed in the field experiences/seminars of the BEd in Special Education.

3. Assist the State of Hawai'i in addressing the severe and persistent shortage of special education teachers by providing a new entry point for prospective teachers to obtain licensure.

This program will increase the numbers of special education teachers throughout the state (a minimum of 40 new teachers each year) and will emphasize preparing special education teachers who are culturally respectful and competent (ILO 3b.). Cultural respect and competence are crucial to establishing effective relationships with Hawai'i's diverse student population and their families. In turn, these effective relationships will increase the retention rate of program graduates in the teaching force because program graduates will experience a positive impact on the children and families in their communities. A respect for culture and cultural competence is achieved by increasing awareness and knowledge of Hawai'i's cultures through course content and field-based assignments. The BEd in Special Education also ensures that teacher candidates have four semesters of field experiences across school settings that represent Hawai'i's diversity in cultures and economic status.

The overwhelming majority of UHM students enrolled in this program will be residents of Hawai'i. As such, the BEd in Special Education addresses ILO 3d. Civic participation in their communities: Teaching is civic participation.

4. Deliver the BEd in Special Education statewide to allow students on Oahu as well as the neighbor islands to enroll in the program.

Delivering the BEd in Special Education statewide models ILO 3b. Respect for people and cultures, in particular Hawaiian culture, because the statewide program will be delivered in all communities of the state. Program faculty will establish relationships with schools statewide, and thereby, have the network to provide field experience and civic participation opportunities (ILO 3d.) for teacher candidates across Hawai'i's diverse communities.

II. C. Enrollment Projections, Profiles, Graduation Estimates, and Career Opportunities

As delineated in Table 1 below, a cohort of 24 students will be admitted each academic year to each track (Mild/Moderate Disabilities—Secondary Education track; and Severe Disabilities/Autism track); admissions will only be in the Fall. Beginning Year 2, there will always be two cohorts of 24 students

running in each track (48 students per track; total of 96 students). The UHM Department of Special Education employs a recruitment specialist who will actively recruit for the BEd in Special Education once it is approved. The Special Education recruiter recruits statewide for all departmental programs, and attends UHM, COE, and Special Education recruitment events. Additionally, the recruiter regularly provides on-line recruitment events which are publicized through the COE website and by direct contact with prospective students in a recruitment data base.

Although the UHM Department of Special Education does not currently offer a BEd in Special Education, the recruitment specialist has had 92 inquiries for a BEd in Special Education over the last six years. The rapid enrollment increase in the new Blended Early Childhood Education and Early Childhood Special Education track of the BEd in Elementary Education Program also suggests that there will be strong interest in a BEd in Special Education: In 2018, the first cohort of the Blended Early Childhood Program began with 24 students, and in Fall 2020 we admitted 38 new students, requiring two cohorts. The BEd in Special Education will be particularly attractive to neighbor island students because it will be the only option for special education teacher licensure at the bachelors degree-level, other than the Blended Early Childhood Program.

Based on the profiles of students enrolled in the Blended Early Childhood Program and recruitment inquiries, about half of the students will be traditional undergraduate students, and half will be non-traditional students who have an Associates degree and have been working as educational assistants for five or more years with the Hawaii Department of Education. Many of the nontraditional students will be married and/or parents of young children. About half of the students will be residents of Oahu, and half will be residents of the neighbor islands.

Most program graduates will seek employment with the Hawaii DOE (see “Placement of Graduates” in the **V. Program Effectiveness** below). As noted below, if students have received a stipend from the Hawaii DOE for their tuition, they will be required to *pay back* the tuition by accepting employment with the DOE for three years. Students will often have experiences across multiple schools during their fieldwork and student teaching, and thus will build a network with potential employment opportunities. Furthermore, each spring, the Hawaii DOE Office of Talent Management (personnel office) meets with graduating teacher licensure students to explain the employment process with DOE. UHM COE and other teacher preparation programs also host an employment fair each spring which is attended by a large number of school principals from throughout the state who interview the graduating students. Private schools in Hawaii are also potential employers for program graduates. And finally, given that the shortage of special education teachers in nationwide, there are many career opportunities available for program graduates outside of Hawaii.

Table 1. Enrollment Projections: Provisional Years

BEd in Special Education	Year 1 ¹	Year 2 ²	Year 3	Year 4	Year 5	Year 6	Current Year
Projected Enrollment: a. Mild/Moderate, Secondary Track	24	48	48	48	48	48	

b. Severe Disabilities/Autism, PreK-12	24	48	48	48	48	48	
TOTAL BEd in SPED ENROLLMENT:	48	96	96	96	96	96	

Notes: ¹In Year 1, one cohort of 24 students will be admitted in each track; ²In Year 2, a second cohort of 24 students will be admitted. Two cohorts of 24 students will run concurrently in Year 2 and forward.

Table 2. Program Completion Projections

BEd in Special Education	Year 1 ¹	Year 2 ²	Year 3	Year 4	Year 5	Year 6	Current Year
Projected Completions:							
c. Mild/Moderate, Secondary Track	0	23	23	23	23	23	
d. Severe Disabilities/Autism, PreK-12	0	23	23	23	23	23	
Total BEd in SPED Program Completions	0	46	46	46	46	46	

Notes: ¹The BEd in SPED is a two-year program and will not have any graduates at the end of Year 1;

²Beginning in Year 2, one cohort in each track will graduate every year. An attrition rate of 1 student/cohort/track is anticipated based on current experiences in undergraduate teacher licensure programs.

III. Program Organization

III.A. Curriculum Organization Linked to Program Goals

Goal 1. Provide an undergraduate special education teacher licensure program for two specialty areas that are not currently available at the undergraduate level in the UH System.

The BEd in Special Education Program is a four-semester program (i.e., years 3 and 4 of an undergraduate degree program). It includes a 24-credit set of core courses taken by all students in the program. The core covers foundational and general special education concepts and skills. All students will be in a field course (field experience or student teaching) each semester of the program. The setting for field courses will be aligned with the student's selected program track, Secondary Mild/Moderate Disabilities Track, or Severe Disabilities/Autism Track. And finally, the BEd in Special Education will have two tracks of specialized coursework, Secondary Mild/Moderate Disabilities Track, or Severe Disabilities/Autism Track. Students will complete the 18-credits of coursework associated with their licensure track. The specialization tracks address knowledge and skill competencies specific to the needs of students with mild/moderate disabilities at the secondary level, or students who have severe disabilities/autism.

The BEd in Special Education Core Courses, Field Courses, and Specialization Courses (Tracks) are:

(New courses/new course alphas are in italics; New course proposals are attached)

Before applying to the BEd in Special Education Program (for both tracks):

General Education Courses:

Required:

- HWST 107 Hawaii Center of the Pacific
- Math 100 or higher

Highly recommended courses but not required:

- Math 111 Math for Elementary Teachers I
- Math 112 Math for Elementary Teachers II

Note that Math 111 and Math 112 are highly recommended for both tracks for the Bed in Special Education because all special education teachers need to know the foundations of math education, even those teaching at the secondary level (they are not required, however, because these courses can be very difficult for the students to access in some parts of the state).

Licensure Tracks Prerequisite:

- SPED 304 Foundations of Inclusive Education
(The COE will either provide a 200 level sped prerequisite course or have agreements with the CCs to develop a course to substitute for the 304 as do the current MOAs with LCC and KCC.)

CORE Courses (24 credits):

- 425 Partnerships with Families and Professionals
- 480 Instructional and Assistive Technology
- 485 Classroom Organization and Management
- ITE 320 Instructional and Assessment Methods for Multilingual Learners
- 306 *Special Education Law and Policy*
- 310 *Introduction to Special Education Assessment*
- 311 *Introduction to Specialized Instruction*
- 489 *Intensive Behavioral Interventions*

FIELD Courses (21 credits)

- 400 Field Training in Special Education (3 semesters @ 3 cr each)
- 390 Student Teaching in Special Education (10 cr)
- 391 Seminar in Student Teaching in Special Education (2 cr)

Secondary Special Education – Mild/Moderate Disabilities Track (18 credits):

- 421(e) *Strategies for Reading Difficulties – Mild/Moderate Disabilities* (3 cr)
- 422 *Literacy (Writing) for Secondary Students – Mild/Moderate Disabilities* WI (3 cr)
- 461(e) *Assessment, Planning, and Instruction for Students with Mild/Moderate Disabilities* (3 cr)
- 463 *Inclusive Practices Across the Curriculum - Mild/Moderate Disabilities* (3 cr)
- 455 *Secondary Transition – Mild/Moderate Disabilities* (3 cr)
- 487 *Characteristics/Strategies for Teaching At-Risk Students* (3 cr)

Severe Disabilities/Autism Track (18 credits)

- 332 *Children with Communication Needs* (3 cr)

- 412 Individuals with Severe Disabilities/Autism (3 cr)
- 453 *Physical and Medical Needs – Severe Disabilities/Autism* (3 cr)
- 454 *Serving Non-School-Age Individuals with Severe Disabilities/Autism* (3 cr)
- 460 *Introduction to Assessment and Instruction – Severe Disabilities/Autism* (3 cr)
- 462 Assessment and Instruction – Severe Disabilities/Autism (3 cr)

Program Credits

- CORE 24
- Track 18
- Field 21
- TOTAL *63

***Total major credits = 66; includes SPED 304 prerequisite**

Goal 2. Establish a high-quality undergraduate special education program that meets the Personnel Standards of the Council for Exceptional Children (CEC) and those of the Council of Chief State School Officer’s Interstate Teacher Assessment and Support Consortium (InTASC). The Personnel Standards of CEC are the most recognized specialty standards for the preparation of special education teachers in the nation. They align closely with the personnel standards of InTASC. UHM Special Education programs demonstrate that these standards are addressed in our accreditation process through the Association for Advancing Quality in Educator Preparation (AAQEP). The matrix in Appendix A shows the alignment of the BEd in Special Education coursework and fieldwork with the CEC and InTASC personnel standards.

Goal 3. Assist the State of Hawai’i in addressing the severe and persistent shortage of special education teachers by providing a new entry point for prospective teachers to obtain licensure.

As noted earlier in this proposal, the University of Hawai’i at Mānoa, the BEd in Special Education will fill the current gap in undergraduate special education teacher licensure options at UHM and the COE by giving prospective students the choice of teacher licensure programs across the range of disabilities (mild/moderate and severe) and grade levels (PreK-3, elementary, and secondary) at the undergraduate level. Currently, the only undergraduate special education licensure programs are combined general education and special education for mild/moderate disabilities at the PreK-3 and elementary grade levels. Expanding special education licensure options at the bachelor’s degree level is especially important on the neighbor islands and rural areas of Oahu where prospective students have less access to higher education and are thus less likely to already hold a bachelor’s degree (as required for obtaining special education licensure through a post-baccalaureate program).

Goal 4. Deliver the BEd in Special Education statewide to allow students on Oahu as well as the neighbor islands to enroll in the program.

The UHM Department of Special Education has been using distance technologies and hybrid teaching formats (primarily on-line coursework with periodic synchronous class sessions, and two face-to-face weekend class meetings at UHM) to deliver a post-baccalaureate special education (PB SPED) licensure program statewide for over a decade. Thus, our faculty are very experienced in delivering a program that reaches students on Oahu in areas distant from UHM, and those on Kaua’i, Mau’i, Moloka’i, Lana’i, and the Island of Hawai’i. The BEd in Special Education will use the same hybrid format as the PB SPED program, with evening classes to allow students to work, and two face-to-face weekends each semester

for highly interactive class activities. Note that students who work will need to arrange their work schedule to allow for field experiences and student teaching.

The BEd in Special Education two-year sequence of courses is presented in Appendix B. All course and field grades must be C or better to be included in the degree program. Students will enroll in 15 credits in semester 1 and 15 credits in semester 2 (three lecture courses and one field experience each semester); 6 credits in the summer between years 1 and 2; 12 credits in the first semester of Year 2 (three lecture courses and one field experience), and 15 credits in their final semester. The final semester is one lecture course, student teaching (10 credits), and student teaching seminar (2 credits). This program schedule is a similar balance of lecture classes and fieldwork as the existing BEd in Elementary Education.

III.B. Admission Policies

The admissions requirements for the BEd in Special Education are consistent with those of other BEd degree programs in the UHM COE:

1. 2.75 GPA or higher
2. Complete 57 credits prior to beginning the program. The 57 credits can be from UHM and/or approved transfer credits from another institution.
3. Complete UHM General Education Core and Licensure Track Prerequisite Requirements prior to the start of program. Applicants who have completed an articulated associates degree from a UH Community College are considered to have met the UHM General Education Core Requirements with possible exceptions (determined by an academic advisor in the COE Office of Student Academic Services [OSAS]).
4. 40 hours of documented current group leadership involvement with elementary- or secondary-aged youth, or 40 hours of volunteer/work experiences with youth with disabilities.
5. Complete a web-based recorded interview
6. Write a personal statement
7. Provide three (3) professional references

New cohorts start only in Fall semesters. Application deadlines are as follows:

- International Students: January 5 (refer to the [International Admission Process](#) for detailed information)
- February 1: General Priority Deadline
- March 1: General Final Deadline

Applications are submitted to the College of Education online *Makalei* system. The COE student services office (OSAS) manages all applications. Once all components of the applications are received, they are forwarded to the Department of Special Education for review and recommendations for admissions. OSAS makes the final decision on admissions (in collaboration with the chair of Special Education).

III.C. Advising and Counseling

OSAS is the advising office for all undergraduate teacher licensure programs in the College of Education and will provide advising and counseling services for the BEd in Special Education. The OSAS staff includes four academic advisors, and provide advising in-person, on the phone, and on-line via Zoom or Skype. Additionally, they provide different types of opportunities for advising, including (a) advising by appointment, (b) express advising for “quick” questions/information, and (c) walk-in

advising for peak times, such as registration periods. OSAS also provides a supportive program for Native Hawaiian students who are enrolled in the College of Education (Pu'uhonua Program), as well as, a special program to assist new students as they transition into the COE (Puahia Program).

III.D. Articulation Agreements with UH Community Colleges

Currently, there are applicable articulation agreements between the UHM COE and all UH Community Colleges, except for Windward Community College. The UHM COE, Department of Special Education, and OSAS have plans to immediately engage in discussions on articulation agreements with all of the community colleges to modify the existing agreements to articulate with the BEd in Special Education, and/or to develop new pathway options and agreements. These discussions will continue until articulation issues are resolved and multiple pathways become seamless transfer options for CC students. The articulation agreements allow students who desire the BEd in Special Education to complete their first two years of general education requirements at a community college at a lower tuition rate, and in many cases, in their home communities. Given that the BEd in Special Education is an on-line statewide program, it will be fully accessible to students on all islands. The Community College degree programs that articulate with the UHM COE BEd programs will also serve as a recruitment source for the BEd in Special Education (as evidenced by the Blended Early Childhood Program – BEd in Elementary Education Program).

Table 3. Anticipated Courses, Sections, SSH

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Current Year
Number of new courses offered ¹	15	25	25	25	25	25	
Number of new sections offered	24 (36 cr)	54 (63 cr)					
Annual SSH*	1728	3024	3024	3024	3024	3024	

¹Year 1 each track takes 12 courses (7 core courses required of both tracks only counted once; a field course required by both tracks each semester is counted as two courses); 7 core courses + 2 field courses + 6 track courses (3 for each track) = 15 new courses in Year 1.

Year 2 the first cohort (each track) takes 7 courses (1 core course required of both tracks only counted once; 3 field courses required of both tracks is counted as 3 courses); 1 core course + 3 field courses + 6 track courses (3 for each track) = 10 new courses. In Year 2, a new cohort begins and we offer the 15 new Year 1 courses. Total # of new courses offered in Year 2 and each subsequent year = 25 (10 for 2nd year cohort students & 15 for 1st year cohort students)

2 Yr 1, 48 students x 36 cr = 1728 SSH;

Yr 2 and all subsequent years, (48 students x 36 cr = 1728 SSH) + (48 students x 27 cr = 1296 SSH) = 3024 SSH

IV. Program Resources and Efficiency

IV.A. Program Costs

There will be no resources needed. The program will be self-sustaining, funded by revenues generated by offering the entire program through Outreach College (see Appendix C). There is a possibility that some additional personnel resources will be provided by the Hawaii DOE MOA with the COE.

Other program costs: Instructional and office supplies are minimal and can be absorbed by the Department of Special Education. There will not be new **library** costs associated with the BEd in Special Education because the UHM COE currently offers a number of special education programs for which there are adequate library resources. Most of these resources are electronic and can be used by multiple students concurrently. Because the BEd in Special Education is delivered primarily on-line, **classroom space** is not required.

IV.B. Program Revenues

Each track (Mild/Moderate Disabilities—Secondary Education and Severe Disabilities/Autism) will admit one cohort of 24 students in Year 1 of the program. Across the first year (Fall, Spring, and Summer semesters) the students will enroll in a total of 36 credits. With an Outreach College undergraduate tuition rate of \$471/credit and a total of 48 students, this will generate **\$813,888 in tuition in Year 1**. In Year 2, a second cohort will begin for each track, yielding 48 new students. Students in the new cohorts will enroll in 36 credits for Year 1 of their program. The 48 students in the first cohorts will enroll in 27 credits during Year 2 of their program. With two cohorts running for the two program tracks, a total of 96 students will be enrolled, and **\$1,424,304 will be generated as tuition revenues in Year 2 and subsequent years**. At present, Outreach College retains 27% of the revenues, returning 73% to the College of Education. This would result in revenue of over \$1,000,000 for the College of Education. These program revenues will fund this new program.

IV.C. Program Risks

As illustrated by personnel and operating costs, the BEd in Special Education is a resource-intensive program. If enrollment numbers are not as anticipated, there is a risk that personnel costs will exceed revenue. No additional risks are anticipated. Given the severe and persistent shortage of special education teachers in Hawaii, and the low retention rate of teachers in the state, there is little to no risk that there will be employment difficulties for program graduates.

IV.C. Impact of BEd in Special Education on Resources Within the Unit

There will be minimal impact of the BEd in Special Education on resources within the Department of Special Education because the program will be self-sufficient with revenues generated from the program offered statewide through Outreach College (see Appendix C). Faculty from other Special Education licensure programs may be available to assist with field experience/student teaching supervision during years when cohort enrollments are not at their maximum.

IV.D. Comparison of BEd in Special Education to Similar Programs

Currently, the status of special education licensure programs in the UH System is as follows:

- Many of the UH Community Colleges have Associate degrees in education, but no licensure.

- LCC offers an Advanced Professional Certificate in Special Education (PK-12) for those with a bachelors degree and no teaching license.
- UH Hilo offers graduate-level licensure programs in general education, not special education.
- UH Manoa currently offers a BEd in Elementary Education with an Exceptional Students and Elementary Education track that leads to dual licensure in elementary education and elementary special education, mild/moderate disabilities (UHM day school, Oahu only) and a Blended Early Childhood track that leads to dual licensure in early childhood education and early childhood special education, PreK – grade 3, mild/moderate disabilities (statewide Outreach Program).
- UH Manoa offers a statewide Outreach Post-Baccalaureate Certificate in Special Education, Mild/Moderate Disabilities, PreK-3, K-6, 7-12, and Severe Disabilities/Autism, PreK-3, K-6, 7-12. The Post-Baccalaureate Programs require that students have a bachelor's degree.
- UH Manoa offers a statewide Outreach Masters of Education in Teaching in Secondary Education with a track that leads to dual licensure in general education and special education. This program also requires that students have a bachelor's degree.

Like the proposed BEd in Special Education, the existing UHM licensure programs are two years in length and include four semesters of clinical field work. They are also aligned with national personnel preparation standards (CEC and InTASC). The Masters in Teaching Program is a dual-licensure program (General Education and Special Education at the Secondary Level), whereas the BEd in Special Education leads to licensure in Special Education only. The UHM Post-Baccalaureate in Certificate in Severe Disabilities/Autism is currently the only program in the state for preparing special education teachers for this specialty area.

IV.E. Consultation at Program Level Between Campuses and Within Originating Campus

In December 2016 and January 2017, UHM Special Education faculty (Mary Jo Noonan and Patricia Sheehey) and Special Education Department Chair Amelia Jenkins met with LCC faculty (Bobbie Martel, Christina Keaulana, and colleagues) to discuss the possibility of partnering for a 3+1 BEd Program with a specialization in teaching students with severe disabilities. The discussions did not go beyond a second meeting because LCC lacked faculty expertise to develop and deliver coursework in the specialization. Furthermore, UHM did not offer a bachelor's degree in special education, so a partnership for the 3 + 1 program was not feasible. In December 2019, UHM COE Dean Nathan Murata, Associate Dean Amelia Jenkins, and Special Education Chair Mary Jo Noonan met with LCC (Christina Keaulana and colleagues) to discuss the 3 + 1 program again. Because UHM did not offer a bachelor's degree in Special Education, the 3 + 1 partnership was not feasible. In the December 2019 meeting, UHM faculty discussed their plan to develop a BEd in Special Education with licensure tracks in mild/moderate disabilities – secondary level and severe disabilities/autism. Rather than a 3 + 1 partnership, the UHM faculty proposed an articulation agreement (a 2 + 2 MOA) similar to other MOAs that the UHM COE has with the UH Community Colleges. The UHM Special Education Faculty recommended the two-year UHM course sequence to support continuity across course and clinical

experience expectations and meeting national personnel preparation standards. The special education teacher preparation programs are two-year cohorted programs addressing the national and state standards for initial teacher licensure, and include college-wide shared assessments for accreditation over the two years of the program. Research supports the strengths of the cohort model; to admit students into the second year of a cohort without the same experiences of the first year cohort students, is contrary to best practices in teacher education. We support a 2+2 agreement with the CCs to provide a seamless transition of students from their AAT or AS degree into the BEd in SPED.

Table 4. Existing Resources and Funding

Existing Resources	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Current Year
Combined Tuition/Summer/Course Fees	48 students x 36 cr \$813,888	48 students x 36 cr + 48 students x 27 cr \$1,424,304	48 students x 36 cr + 48 students x 27 cr \$1,424,304	48 students x 36 cr + 48 students x 27 cr \$1,424,304	48 students x 36 cr + 48 students x 27 cr \$1,424,304	48 students x 36 cr + 48 students x 27 cr \$1,424,304	
Other Allocation (Grants)							

Table 5. Anticipated NEW Personnel and Ongoing Operating Costs (covered by funds generated through Outreach College)

Personnel	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Current Year
New Limited-Track Faculty (1-3)	2 new hires \$146,000	2 new hires + 2 continuing faculty \$292,000	\$292,000	\$292,000	\$292,000	\$292,000	

V. Program Effectiveness

The UHM COE teacher licensure programs are accredited through AAQEP and have a self-study/assessment system based on **measures of program quality** as part of the accreditation process. Additionally, Special Education Teacher-Licensure Programs are aligned with the Personnel Standards of CEC and InTASC. Using AAQEP program quality indicators and the personnel standards, The BEd in Special Education will be included in the AAQEP accreditation process and will use the assessment products listed in Appendix D and E to assess program quality. The assessment products include the successful completion of 30 credits of special education coursework (requirement of the Hawaii Teacher Standards Board); content measures (*signature assignments* from a range of coursework); application of content measures (associated with field experiences and student teaching); and professional dispositions (rated by field supervisors during the second semester of field experience). Furthermore, the four goals of the BEd in Special Education (described above in this proposal) will be evaluated using data collected for AAQEP accreditation. The data will be collected, analyzed, and reviewed annually.

The UHM COE conducts an annual Survey of Student Teachers (see Appendix F) and periodically, an Alumni Survey (see Appendix G) for all teacher preparation programs. The surveys address the graduates' judgment of their preparedness to teach, career satisfaction, and their satisfaction with their teacher preparation program. The survey data are reviewed each year by Departmental curriculum

committees for program improvement and are analyzed and reported as part of the AAQEP accreditation process. Additionally, the COE periodically conducts consumer focus groups to assess employer satisfaction with a cross-section of Hawaii DOE school principals and district-level personnel (see Appendix H). The BEd in Special Education program will be included in the annual surveys and focus group discussions for program assessment purposes.

Measures for each program goal are:

Goal 1. Provide an undergraduate special education teacher licensure program for two specialty areas that are not currently available at the undergraduate level in the UH System. There will be one measure of program effectiveness in producing new teachers in the two specialty areas that are not currently available at the undergraduate level:

- a. The enrollment target of 24 students per cohort (48 new students annually) in each BEd in Special Education track.

Goal 2. Establish a high-quality undergraduate special education program that meets the Personnel Standards of the Council for Exceptional Children (CEC) and those of the Council of Chief State School Officer's Interstate Teacher Assessment and Support Consortium (InTASC). The quality of the BEd in Special Education program will be measured using the AAQEP assessment system aligned with CEC and InTASC personnel standards and outlined in Appendix A. Each track will be assessed with seven measures:

- a. Successful completion of 30 credits of Special Education coursework (30 credits of *content knowledge* coursework is required in lieu of the Praxis exam for state licensure)
- b. Signature assignments that demonstrate content knowledge:
 - Mild/Moderate-Secondary Education track:
 - i. SPED 463 Effective practices synthesis paper
 - ii. SPED 489 Intervention project
 - iii. SPED 480 Technology project
 - Severe Disabilities/Autism track:
 - i. SPED 453 Case study
 - ii. SPED 489 Intervention project
 - iii. SPED 462 Instructional programs
- c. Clinical practice assessments (both program tracks)
 - i. SPED 400 Lesson planning
 - ii. SPED 390 Clinical practice rubric (student teaching evaluation)
 - iii. SPED 400 Dispositions rating

Goal 3. Assist the State of Hawai'i in addressing the severe and persistent shortage of special education teachers by providing a new entry point for prospective teachers to obtain licensure. Goal 3 will be assessed by four measures:

- i. Enrollment data (target of 24 students per track and cohort; 48 new students annually);
- ii. School placement data reported in the UHM COE annual alumni survey;
- iii. Hawaii DOE placement, retention, and vacancy data.

Goal 4. Deliver the BEd in Special Education statewide to allow students on Oahu as well as the neighbor islands to enroll in the program. Goal 4 will be measured by:

- i. The number and percent of students enrolled in the BEd in Special Education by school district and island.

University of Hawai'i at Mānoa
College of Education Program Sheet 2022-2023
Bachelor of Education (BEd) in Special Education

Specialization: Severe Disabilities/Autism
Admissions: Selective Process: Application

Min. Total Credits: 120 (94 (or 95) in core & major + 26 (or 25) in electives)

UHM General Education Core Requirements
Foundations
<input type="checkbox"/> FW ENG 100, 100A, 190, ESL 100, or AMST 111
<input type="checkbox"/> FQ* MATH 100 or higher MATH course
<input type="checkbox"/> FG (A / B / C)
<input type="checkbox"/> FG (A / B / C)
<i>*Note: This requirement changed in Fall 2018. If you entered the UH System prior to that, please see your college/school advisor.</i>
Diversification
<input type="checkbox"/> DA / DL
<input type="checkbox"/> DH HWST 107
<input type="checkbox"/> DB
<input type="checkbox"/> DP
<input type="checkbox"/> DY
<input type="checkbox"/> DS SPED 304
<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 College of Education.
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>) To graduate from COE, students must meet the College's higher GPA requirement(s). Good academic standing

College Requirements
Licensure Track Admission Requirements
<ul style="list-style-type: none"> Fall admission only. Submit an application no later than the following: <ul style="list-style-type: none"> March 1 for fall semester (Feb 1 priority deadline) Apply: https://Makalei.coe.hawaii.edu 2.75 cumulative GPA in all post-secondary institutions 57 credits Completion of all UHM General Education Core courses and licensure track prerequisite. Applicants who have completed an articulated A.A. degree from a UH Community College are considered to have met the UHM General Education Core Requirements with possible exceptions (see an academic advisor). 40 hours of documented current group leadership involvement with elementary-aged or secondary-aged youth or 40 hours of volunteer/work experience with youth with disabilities. Personal admissions interview. Completion of two (2) Writing Intensive (W) courses with a grade of C (not C-) or better prior to the start of the Licensure Track courses. <ul style="list-style-type: none"> Non-UH System transfer students must complete two (2) English Composition or Literature courses with a grade of C (not C-) or better prior to the start of the Licensure Track courses.
General Education Core
Required course: <input type="checkbox"/> HWST 107* ^{DH}
Highly recommended courses:
<input type="checkbox"/> MATH 111 <input type="checkbox"/> MATH 112* ^{FQ}
Licensure Track Prerequisite
<input type="checkbox"/> SPED 304* ^{DS}
Required Graduation Grade Point Averages
<ul style="list-style-type: none"> 2.75 cumulative GPA or higher

This program sheet was prepared to provide information and does not constitute a contract. Meet regularly with your department's undergraduate advisor to ensure you are on track with your major requirements.

Major Requirements for BED in Special Education

Specialization: Severe Disabilities/Autism

Admission to Licensure Track: Complete all General Education courses and Licensure Track Prerequisite.

Application: Deadline = Fall entrance only. February 1-priority; March 1-final.

Min. major credits: 66, includes SPED 304 pre-requisite

Min. C grade (not C-) in all ITE and SPED courses

Licensure Track Prerequisite (3 credits) SPED 304* DS*Students must take SPED 304 prior to the start of the licensure track courses.***Licensure Track Requirements****Special Education Core Courses (24 credits)**

Required Core Courses	<input type="checkbox"/> ITE 320	<input type="checkbox"/> SPED 306	<input type="checkbox"/> SPED 310	<input type="checkbox"/> SPED 311
	<input type="checkbox"/> SPED 425	<input type="checkbox"/> SPED 480	<input type="checkbox"/> SPED 485	<input type="checkbox"/> SPED 489

Severe Disabilities/Autism Track Courses (18 credits)

Required Courses	<input type="checkbox"/> SPED 332	<input type="checkbox"/> SPED 412	<input type="checkbox"/> SPED 453	<input type="checkbox"/> SPED 454
	<input type="checkbox"/> SPED 460	<input type="checkbox"/> SPED 462		

Severe Disabilities/Autism Field Courses (21 credits)

Required Field Courses	<input type="checkbox"/> SPED 400	<input type="checkbox"/> SPED 400	<input type="checkbox"/> SPED 400	<input type="checkbox"/> SPED 390
	<input type="checkbox"/> SPED 391			

*SPED 400 (taken three times) is two full days of field experience (7:30 am – 2:30 pm) each week in PK-12 classrooms.**SPED 390 & 391: concurrent registration required. Content knowledge verification must meet one of the HTSB-approved options in order to submit a Student Teaching Application.***Notes**

College of Education, Office of Student Academic Services: Everly 126; (808) 956-7915; osas@hawaii.edu; coe.hawaii.edu
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 Associate Director: Denise Abara; Everly 126; (808) 956-5192; dabara@hawaii.edu
 Education Faculty Advisors: Alyssa Kapaona; Everly 126; (808) 956-4269; akapaona@hawaii.edu
 Jolene Muneno; Everly 126; (808) 956-4268; jsmuneno@hawaii.edu

Pu'uohonua: Hale for Native Hawaiian Student Support, puuhonua@hawaii.edu
 Puahia: First Year & Transfer Student Support, puahia@hawaii.edu
 Tinalak: Filipino Student Support, tinalak@hawaii.edu

University of Hawai'i at Mānoa – Four-Year Academic Plan 2022-2023

College of Education

Bachelor of Education (BEd) in Special Education

Specialization: Severe Disabilities/Autism

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	
FW	3	DB (or DP)	3	SPED 306	3	SPED 332	3
FG (A/B/C)	3	DY	1	SPED 310	3	SPED 400	3
DA/DL	3	Elective	3	SPED 311	3	SPED 453	3
MATH 100 or higher	3	Elective	3	SPED 400	3	SPED 460	3
MATH course** (FQ)	3	Elective	3	SPED 485	3		
Elective	3						
Credits	15	Credits	13	Credits	15	Credits	12
Spring		Spring		Spring		Spring	
DP (or DB)	3	Submit Application in January		SPED 400	3	SPED 390	10
HWST 107 (DH)	3	SPED 304 (DS)	3	SPED 412	3	SPED 391	2
FG (A/B/C)	3	Elective	3	SPED 425	3	SPED 489	3
DS	3	Elective	3	SPED 454	3		
Elective	3	Elective	3	SPED 462	3		
		Elective*	2				
Credits	15	Credits	14	Credits	15	Credits	15
Summer		Summer		Summer		Summer	
				ITE 320	3		
				SPED 480	3		
Credits	0	Credits	0	Credits	6	Credits	0
Total Credits	30	Total Credits	57	Total Credits	93	Total Credits	120

Notes:

Additional Admission Requirements: 40 hours of documented experience; interview; a minimum of 55 credits

Summer course work is required for the cohort program.

Students must incorporate all focus requirements into this plan. Focus designations (i.e., W, E, O, H) are CRN specific & semester specific.

Please see a COE OSAS advisor for the latest information.

Minimum 45 upper division (300+ course) credits are required.

* May be taken to meet the 120 credit minimum for graduation

** Some MATH (FQ) courses may be 4 credits. This will affect the total credit requirements shown on this plan. MATH 111 and 112 are highly recommended.

University of Hawai'i at Mānoa – Four-Year Academic Plan 2022-2023

College of Education

Bachelor of Education (BEd) in Special Education

Specialization: Secondary Special Education - Mild/Moderate Disabilities

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
FW 3	DB (or DP) 3	SPED 306 3	SPED 400 3
FG (A/B/C) 3	DY 1	SPED 310 3	SPED 422 3
DA/DL 3	Elective 3	SPED 311 3	SPED 463 3
MATH 100 or higher 3	Elective 3	SPED 400 3	SPED 487 (e) 3
MATH course** (FQ) 3	Elective 3	SPED 485 3	
Elective 3			
Credits 15	Credits 13	Credits 15	Credits 12
Spring	Spring	Spring	Spring
DP (or DB) 3	Submit Application in January	SPED 400 3	SPED 390 10
HWST 107 (DH) 3	SPED 304 (DS) 3	SPED 421 (e) 3	SPED 391 2
FG (A/B/C) 3	Elective 3	SPED 425 3	SPED 489 3
DS 3	Elective 3	SPED 455 3	
Elective 3	Elective 3	SPED 461 (e) 3	
	Elective* 2		
Credits 15	Credits 14	Credits 15	Credits 15
Summer	Summer	Summer	Summer
		ITE 320 3	
		SPED 480 3	
Credits 0	Credits 0	Credits 6	Credits 0
Total Credits 30	Total Credits 57	Total Credits 93	Total Credits 120

Notes:

Additional Admission Requirements: 40 hours of documented experience; interview; a minimum of 55 credits.

Summer course work is required for the cohort program

Students must incorporate all focus requirements into this plan. Focus designations (i.e., W, E, O, H) are CRN specific & semester specific

Please see a COE OSAS advisor for the latest information

Minimum 45 upper division (300+ course) credits are required.

* May be taken to meet the 120 credit minimum for graduation

** Some MATH (FQ) courses may be 4 credits. This will affect the total credit requirements shown on this plan. MATH 111 and 112 are highly recommended.

University of Hawai'i at Mānoa
College of Education Program Sheet 2022-2023
Bachelor of Education (BEd) in Special Education
Specialization: Secondary Special Education Mild/Moderate Disabilities
Admissions: Selective Process: Application
Min. Total Credits: 120 (94 (or 95) in core & major + 26 (or 25) in electives)

UHM General Education Core Requirements
Foundations
<input type="checkbox"/> FW ENG 100, 100A, 190, ESL 100, or AMST 111
<input type="checkbox"/> FQ* MATH 100 or higher MATH course
<input type="checkbox"/> FG (A / B / C)
<input type="checkbox"/> FG (A / B / C)
<i>*Note: This requirement changed in Fall 2018. If you entered the UH System prior to that, please see your college/school advisor.</i>
Diversification
<input type="checkbox"/> DA / DL
<input type="checkbox"/> DH HWST 107
<input type="checkbox"/> DB
<input type="checkbox"/> DP
<input type="checkbox"/> DY
<input type="checkbox"/> DS SPED 304
<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 College of Education.
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>) To graduate from COE, students must meet the College's higher GPA requirement(s). Good academic standing

College Requirements
Licensure Track Admission Requirements
<ul style="list-style-type: none"> Fall admission only. Submit an application no later than the following: <ul style="list-style-type: none"> March 1 for fall semester (Feb 1 priority deadline) Apply: https://makalei.coe.hawaii.edu 2.75 cumulative GPA in all post-secondary institutions 57 credits Completion of all UHM General Education Core courses and licensure track prerequisite. Applicants who have completed an articulated A.A. degree from a UH Community College are considered to have met the UHM General Education Core Requirements with possible exceptions (see an academic advisor). 40 hours of documented current group leadership involvement with elementary-aged or secondary-aged youth, or 40 hours of volunteer/work experience with youth with disabilities. Personal admissions interview. Completion of two (2) Writing Intensive (W) courses with a grade of C (not C-) or better prior to the start of the Licensure Track courses. <ul style="list-style-type: none"> Non-UH System transfer students must complete two (2) English Composition or Literature courses with a grade of C (not C-) or better prior to the start of the Licensure Track courses.
General Education Core
Required course: <input type="checkbox"/> HWST 107 ^{*DH}
Highly recommended courses:
<input type="checkbox"/> MATH 111 <input type="checkbox"/> MATH 112 ^{*FQ}
Licensure Track Prerequisite
<input type="checkbox"/> SPED 304 ^{*DS}
Required Graduation Grade Point Averages
<ul style="list-style-type: none"> 2.75 cumulative GPA or higher

This program sheet was prepared to provide information and does not constitute a contract. Meet regularly with your department's undergraduate advisor to ensure you are on track with your major requirements.

Major Requirements for BEd in Special Education

Specialization: Secondary Special Education – Mild/Moderate Disabilities

Admission to Licensure Track: Complete all General Education courses and Licensure Track Prerequisite.

Application: Deadline = Fall entrance only. February 1-priority; March 1-final.

Min. major credits: 66, includes SPED 304 pre-requisite

Min. C grade (not C-) in all ITE and SPED courses

Licensure Track Prerequisite (3 credits) SPED 304* DS*Students must take SPED 304 prior to the start of the licensure track courses.***Licensure Track Requirements****Special Education Core Courses (24 credits)**

Required Core Courses	<input type="checkbox"/> ITE 320	<input type="checkbox"/> SPED 306	<input type="checkbox"/> SPED 310	<input type="checkbox"/> SPED 311
	<input type="checkbox"/> SPED 425	<input type="checkbox"/> SPED 480	<input type="checkbox"/> SPED 485	<input type="checkbox"/> SPED 489

Secondary Special Education – Mild/Moderate Disabilities Track Courses (18 credits)

Required Courses	<input type="checkbox"/> SPED 421 (e)	<input type="checkbox"/> SPED 422	<input type="checkbox"/> SPED 455	<input type="checkbox"/> SPED 461 (e)
	<input type="checkbox"/> SPED 463	<input type="checkbox"/> SPED 487		

Secondary Special Education - Mild/Moderate Disabilities Field Courses (21 credits)

Required Field Courses	<input type="checkbox"/> SPED 400	<input type="checkbox"/> SPED 400	<input type="checkbox"/> SPED 400	<input type="checkbox"/> SPED 390
	<input type="checkbox"/> SPED 391			

*SPED 400 (taken three times) is two full days of field experience (7:30 am – 2:30 pm) each week in 6-12 classrooms.**SPED 390 & 391: concurrent registration required. Content knowledge verification must meet one of the HTSB-approved options in order to submit a Student Teaching Application.***Notes**

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Jolene Muneno; Everly 126; (808) 956-4268; jsmuneno@hawaii.edu

Pu'uhonua: Hale for Native Hawaiian Student Support, puuhonua@hawaii.edu

Puahia: First Year & Transfer Student Support, puahia@hawaii.edu

Tinalak: Filipino Student Support, tinalak@hawaii.edu



Presented to the Mānoa Faculty Senate by the Committee on Academic Policy and Planning (CAPP) for a vote of the full Senate on November 17, 2021, a resolution supporting the proposal for a Bachelor of Education in Special Education. Approved by the Mānoa Faculty Senate on November 17, 2021 with 43 votes (95.56%) in support; 2 votes (4.44%) opposed; and 0 abstentions.

**RESOLUTION SUPPORTING THE PROPOSAL FOR A
BACHELOR OF EDUCATION IN SPECIAL EDUCATION:**

(a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12:

WHEREAS, the College of Education currently offers Bachelor's of Education Special Education focused degree tracks at the Elementary Undergraduate level; and

WHEREAS, licensure for the areas of Mild/Moderate Disabilities – Secondary Education and Severe Disabilities/Autism – PreK-12 is currently offered only at the Post Baccalaureate or MEd levels in the UHM College of Education; and

WHEREAS, the BEd in Special Education is a priority for the UHM Department of Special Education because this will fill a gap in avenues for teacher licensure by creating an undergraduate option for the areas of Mild/Moderate Disabilities – Secondary Education and Severe Disabilities/Autism – PreK-12; and

WHEREAS, the U.S. and Hawai'i have experienced a shortage of licensed special education teachers for decades; and

WHEREAS, most program graduates will seek employment with the Hawai'i Department of Education (or be placed as part of a pay back tuition program), and may also seek employment elsewhere due to the nationwide shortage of licensed special education teachers ; and

WHEREAS, the UH System does not currently offer a teacher-licensure program at the Bachelor's degree level in these two specialty areas; and

WHEREAS, it is requested that a New Academic Program: BEd in Special Education with two tracks leading to teacher licensure: (a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12 be established; and

WHEREAS, the UHM College of Education Department of Special Education and Office of Student Academic Services will work with the community colleges to modify existing Memorandum of Agreements to articulate with the BEd in Special Education; and



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MĀNOA

MĀNOA FACULTY SENATE

WHEREAS, this proposed program will be assessed by the existing assessment committee of the UHM College of Education; and

WHEREAS, the UHM College of Education will leverage existing resources, thus requiring minimal additional resources to be needed for this program; therefore,

BE IT RESOLVED, that the Mānoa Faculty Senate recommends approval of the proposal to establish a new academic program: BEd in Special Education with two tracks leading to teacher licensure: (a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12 at the University of Hawai'i at Mānoa.



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October 20, 2020

MEMORANDUM

TO: David Lassner
President

VIA: Donald Straney
Vice President for Academic Planning and Policy *Donald D. Straney*

VIA: Michael Bruno *Michael Bruno*
Provost

VIA: Laura Lyons *Laura Lyons*
Interim Vice Chancellor for Academic Affairs

FROM: Nathan M. Murata *Nathan M. Murata*
Dean, College of Education

SUBJECT: Request Approval of Revised Authorization to Plan for the BEd
in Special Education

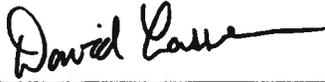
At the request of the President and the Provost, we have updated the ATP for the BEd in Special Education to remove the request for additional resources. The action memo and ATP were submitted on November 20, 2019, and were approved by the Officers and CCAO. Since that time, much has changed in relation to the budget position of the University, and the College has been asked to make revisions to this, and other program proposals currently in the pipeline.

Early in the Fall 2020 semester, the President and Provost asked about the status of the ATPs and proposals from the COE, and whether they would be going forward given the COVID-19 situation. We were advised to proceed with the program proposals for the Doctorate of Physical Therapy and the ATP for the MEd in School Counseling, with the caveat that the start dates be pushed out to 2024. In a subsequent email (dated October 9, 2020), we were asked to revise the ATP for the BEd in SPED to remove any reference to a request for additional resources (item eight in the ATP). This revision is reflected in the attached revised ATP. We determined that this proposal could proceed on a more rapid timeline than the DPT and MEd, as it leverages existing resources and can be more quickly implemented once approved by the Board of Regents, but we nonetheless revised the effective date to 2022, to provide ample time for implementation.

Lassner
October 20, 2020
Page 2

Having made the requested revisions to the ATP for the BEd in Special Education, we look forward to receiving the President's approval so we may proceed with submission of the degree proposal, which is in the final stages of College-level review. Please feel free to contact me if you have any questions.

APPROVED / ~~DISAPPROVED~~:



David Lassner
President

10/22/2020

Date



**UNIVERSITY
of HAWAII**
SYSTEM

Donald O. Straney, Ph.D.
Vice President for Academic Planning and Policy

CORRECTED

January 13, 2020

MEMORANDUM

TO: Michael Bruno
Provost, UH Mānoa

FROM: Donald O. Straney, Ph.D.
Vice President for Academic Planning and Policy *Donald O. Straney*

SUBJECT: Approval of Authorization to Plan for Bachelor of Education in Special Education

At the UH Officers meeting held on January 6, 2020, the Authorization to Plan for a new Bachelor of Education in Special Education was approved with no comments. We look forward to receiving a proposal to authorize a provisional program in Special Education.

Should you have any questions, please do not hesitate to contact me.

cc: Council of Chief Academic Officers
David Lassner, CEO, UH Mānoa
Dean Nathan Murata, UH Mānoa
Laura Lyons, UH Mānoa
April Goodwin, UH Mā

Bachman Hall 204
2444 Dole Street
Honolulu, Hawai'i 96822
Telephone: (808) 956-6897
Fax: (808) 956-5286

An Equal Opportunity/Affirmative Action Institution



December 13, 2019

MEMORANDUM

TO: Donald Straney
Vice President for Academic Planning and Policy

FROM: Michael Bruno *Michael E. Bruno for M.P.*
Provost

SUBJECT: AUTHORIZATION TO PLAN FOR THE BED IN SPECIAL EDUCATION

Attached for your review and approval is the Authorization to Plan (ATP) for BEd in Special Education proposed by the Department of Special Education in the College of Education. I believe you will find that this proposal is responsive to the needs of the state and addresses several strategic goals of the Manoa Campus and the UH System. Per the review procedures:

The ATP1 is submitted by the Campus Chancellor to the System Vice President for Academic Planning and Policy for review by the UH Officers. The Vice President for Academic Planning and Policy will notify the campus of the results of the review.

I recommend review by the UH Officers. Please feel free to contact me should you have any questions or concerns.

Attachment

c: Dean Murata
Program Officer Goodwin



**UNIVERSITY
of HAWAI'I**
MĀNOA

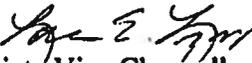
November 20, 2019

MEMORANDUM

TO: David Lassner
President

VIA: Michael Bruno
Provost

Handwritten signature of Michael Bruno in black ink.

VIA: Laura Lyons 
Interim Associate Vice Chancellor for Academic Affairs

FROM: Nathan M. Murata 
Dean

SUBJECT: Request Approval of ATP-1 for a BEd in Special Education

SPECIFIC ACTION REQUESTED:

It is requested that the President approve the Authorization to Plan (ATP-1) for a BEd in Special Education, with two tracks, in the Department of Special Education, College of Education, University of Hawai'i at Mānoa.

RECOMMENDED EFFECTIVE DATE:

Upon approval

ADDITIONAL COST:

There are no additional costs associated with this request.

PURPOSE:

The College of Education proposes to offer a bachelor's degree in special education for initial teacher licensure with two tracks (specialty areas) that are not currently available at the undergraduate level in the UH System. The tracks are (1) Mild/Moderate Disabilities – Secondary Education (6-12) and (2) Severe Disabilities/Autism (PreK – 12). This BEd in Special Education degree program addresses the severe and persistent shortage of special education teachers in the State by providing a new entry point for prospective teachers to obtain licensure.

BACKGROUND:

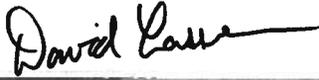
Special education is the largest teacher shortage area in the State. The severe and persistent lack of licensed special education teachers has existed in the Hawaii Department of Education (DOE) for

decades. Special education is also one of the federal teacher shortage areas. Further, the State of Hawai'i was the recipient of a federal consent decree (Felix) to address the provision of services to students with disabilities. Since that decree, the DOE has partnered with UHM College of Education, Department of Special Education, to support teacher candidates pursuing special education teacher licensure. At present, no program exists at the bachelor's level in Secondary Mild/Moderate Disabilities or in Severe Disabilities/Autism. We propose this program to fill this gap and, therefore, provide special education teacher licensure programs at all levels.

ACTION RECOMMENDED:

It is recommended that the President approve the Authorization to Plan (ATP-1) for a BEd in Special Education, with two tracks, in the Department of Special Education, College of Education, University of Hawai'i at Mānoa.

APPROVED / ~~DISAPPROVED~~



David Lassner
President

10/22/2020

Date

Attachments:

1. ATP 1 – BEd in Special Education

Authorization to Plan – BEd in Special Education

1. **Campus, school/college and department/division:** The University of Hawai'i at Mānoa, College of Education, Department of Special Education is proposing the new program.
2. **Degree proposed and program objectives:** We are proposing a BEd in Special Education, with two tracks: (a) Mild/Moderate Disabilities – Secondary Education, and (b) Severe Disabilities/Autism – PreK – 12. The objectives of the BEd in Special Education are to
 1. Provide an undergraduate special education teacher licensure program for two specialty areas that are not currently available at the undergraduate level in the UH System. (Note that a Dual BEd in Elementary Education & Special Education [mild/moderate disabilities] is currently available at UHM.)
 2. Establish a high-quality undergraduate special education program that meets the Personnel Standards of the Council for Exceptional Children (CEC) and those of the Council of Chief State School Officer's (CCSSO) Interstate Teacher Assessment and Support Consortium (InTASC).
 3. Assist the State of Hawaii in addressing the severe and persistent shortage of special education teachers by providing a new entry point for prospective teachers to obtain licensure.
 4. Deliver the BEd in Special Education statewide to allow students on Oahu as well as the neighbor islands to enroll in the program.
3. **Alignment with the Campus and UH system mission, strategic plan and the Integrated Academic and Facilities Plan**

The proposed BEd in Special Education aligns with several of the UH Strategic Directions (2015-2021):

 1. *HGI Action Strategy 1: Strengthen the pipeline from K-12 to the university to improve college readiness and increase college attendance.* As in the BEd in Elementary Education programs, the proposed BEd in Special Education Program will enter into articulation agreements with the UH Community Colleges. These agreements allow students to enter directly into the BEd Program (junior and senior years) following the completion of specific programs at the UH Community Colleges.
 2. *HGI Action Strategy 3: Anticipate and align curricula with community and workforce needs.* Hawai'i has struggled with a severe and persistent shortage of licensed special education teachers for decades (data presented below); special education is the largest teacher shortage area in the State. The shortages are most severe in low income and rural areas of the state. This shortage results in unlicensed teachers assigned to teach students who are among the most challenging to teach. The situation also places the state out of compliance with the Individuals with Disabilities Education Act (IDEA), a federal law requiring special education services for all students with disabilities. A statewide BEd in Special Education program will directly address this well-documented and urgent community and workforce need.
 3. *HGI Strategy 4: Increase delivery of online courses and degrees, while maintaining other distance delivery modes.* The proposed BEd in Special Education will be an online program targeting undergraduate students

throughout the state.

4. **HPS Action Strategy 1: Employ best practices in management, administration and operations.** This proposal is for an undergraduate program that does not exist at any other campus in the UH System. Furthermore, the undergraduate track in severe disabilities/autism does not exist at any other college/university in Hawaii.

4. **Justification of need/Demand for the program.** The state has experienced a shortage of licensed special education teachers for decades. In 1994, for example, a federal court approved the *Felix Consent Decree* requiring Hawaii to improve special education services and ensure that all students with disabilities were taught by a licensed special education teacher. A major factor in this class action lawsuit was the lack of qualified and licensed special education teachers. In the last several years, Hawaii has had to fill 1200-1300 vacancies annually, and approximately half of those vacancies were in Special Education. In the 2017-18 school year, the Hawaii Department of Education was unable to find licensed teacher for 27% (377) of its vacancies. In November 2019, the Hawaii DOE reported that there were more than 2200 special education teacher positions in the state, and about 500 were filled with unlicensed special education teachers. The need for licensed special education teachers in Hawaii is significant and compelling.

Currently, the status of special education licensure programs in the UH System is as follows:

- Many of the UH Community Colleges have an Associate's degree in education, but no licensure.
- Leeward Community College offers a Post-Baccalaureate Certificate Program in Special Education, Mild/Moderate Disabilities, Elementary and Secondary levels.
- UH Hilo offers graduate-level licensure programs in general education, not special education.
- UH Manoa currently offers a BEd in Elementary Education with a track (Exceptional Students and Elementary Education) that leads to dual licensure in elementary education and elementary special education (mild/moderate disabilities).
- UH Manoa offers a Post-Baccalaureate Certificate in Special Education, Mild/Moderate Disabilities (PreK-3, K-6, 7-12), and Severe Disabilities/Autism (PreK-3, K-6, 7-12).
- UH Manoa offers a Masters of Education in Teaching in Secondary Education with a track that leads to dual licensure in general education and special education.

The BEd in Special Education will fill a gap in avenues for teacher licensure by creating an undergraduate option in the areas of Mild/Moderate Disabilities – Secondary Education (6-12), and Severe Disabilities/Autism – PreK-12. Currently, licensure in these areas is only at the Post-Baccalaureate or MEd levels.

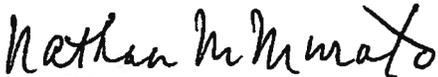
5. **Demand for services.** Given the serious teacher shortage in Hawaii and the Felix Consent Decree (described above), the Hawaii Department of Education has contracted with the UHM Department of Special Education to prepare special education teachers for the state. The current contract is for just over \$2M and funds student stipends and faculty positions.
6. **Non-duplication of programs.** See #4 above.

7. **List potential risks.** The College of Education has been implementing teacher preparation programs for many years. Risk management is routine, and includes practices such as requiring field experience students and student teachers to have liability insurance and requiring that all faculty who supervise teacher candidates be fingerprinted and screened.

8. **New Resources.** There will be no new resources needed. Four new faculty will be required to implement this proposed program (two faculty per track). The Department of Special Education will be able to fund two non-tenure track faculty positions from their internal account. There is a possibility that some additional personnel resources will be provided by the Hawaii Department of Education MOA with the COE. However, there is no guarantee of external funding. If sufficient external funds are not available, the College plans to make available the necessary faculty resources through reallocation.

Signature Page

Signature indicates that the person has reviewed the ATP and supports the proposed program. Signature page is to be completed prior to submission to the VPAPP.

	NATHAN M. MURATA	NOV 19 2019
<i>Dean/Department/Division Chair</i>	Print Name	Date

<i>Dean, Graduate Division (grad only)</i>	Print Name	Date
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<i>Provost</i>	Print Name	Date

	David Lassner	10/22/2020
<i>President</i>	Print Name	Date

Appendix A. InTASC & CEC Standards to be Addressed by the BEA in SPED (updated 7/7/2020)

*Key Content & Skills informed by CEC Initial Common Specialty Items, Individualized Independence Curriculum Specialty Set, and the Developmental Disabilities and Autism Spectrum Specialty Set

InTASC Standard	CEC Standards	Key Content & Skills	CORE	S/A	SEC
<p>1: Learner Development: The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and <u>challenging learning experiences</u>.</p> <p>2: Learning Differences: The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.</p>	<p>1: Learner Development and Individual Learning Differences</p>	<ul style="list-style-type: none"> ● Child development & culture ● Family systems, development, & culture ● Disability characteristics, co-existing conditions, & implications ● Medications & implications ● Culture, language, & interactions ● Diagnoses, etiology, & theoretical approaches ● Medical & neurological aspects ● Speech/language & augmentative communication ● Self-regulation implications 	<p>(Pre-req Pre-req 304), 310, 425, 320, 485, 489</p>	<p>332, 412, 453, 454, 460</p>	<p>455, 487</p>
<p>3: Learning Environments: The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.</p>	<p>2: Learning Environments</p>	<ul style="list-style-type: none"> ● Environmental effects on learning ● Behavior management & daily routines ● Social skills ● Crisis prevention & intervention ● Environments supportive of diversity ● Healthcare interventions & universal precautions ● Accessibility ● 1-1, small group & large group strategies ● LRE Placement options & inclusion ● Self-advocacy & increased independence ● Data-based modifications to learning environment ● Direct/support paraeducators, volunteers, etc. ● Community based instruction ● AT ● Student use of feedback ● Facilitating active participation ● Motor supports (positioning, lifting, transfer, seating) 	<p>Pre-req 304, 311, 480, 485</p>	<p>332, 400, 453, 454, 460, 462</p>	<p>455, 461, 463, 487</p>

		<ul style="list-style-type: none"> • Instruction for independent life skills & adaptive behavior • Age- & ability-appropriate instruction & related services • Plan systematic instruction based on learner characteristics & ongoing assessment 			
<p>4: Content Knowledge: The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.</p> <p>5: Application of Content: The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.</p>	3: Curricular Content Knowledge	<ul style="list-style-type: none"> • Scope & sequence of gen ed and special ed curricula • National, state, & local curriculum standards • Technology for planning & managing learning environment • Address/accommodate gen ed curriculum for students with disabilities • Integrate functional curriculum w/academic curriculum • Evidence-based career & VQR transition programs • Language instruction that facilitates social skills • Instruction for independent life skills & adaptive behavior • Age- & ability-appropriate instruction & related services • Social participation across environments • Plan systematic instruction based on learner characteristics & ongoing assessment 	Pre-req 304, 311, 480	332, 412, 453, 454, 460, 462	421, 422, 461, 463, 455
<p>6: Assessment: The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.</p>	4: Assessment	<ul style="list-style-type: none"> • Basics of assessment & specialized terminology • National, state, local accommodations/modifications • Formal & informal assessments • Use technology to conduct assessments • Individualized assessment strategies & progress monitoring • Apply assessment data to decision making, including CLD students • Report assessment results • Create & maintain records • Assessment of social skills & behavioral problems • Use exceptionality-specific assessments 	306, 310, 480, 485, 489	332, 460, 462	461, 463, 487

		<ul style="list-style-type: none"> ● AT assessment and planning based on assessment results ● Assessment of students with communication limitations ● Assessment of environmental conditions that promote maximal performance of individuals with disabilities ● Core areas of assessment for individuals with DD and autism ● Individual strengths, skills, and learning preferences ● Assessment of problem behavior & its communicative intent ● Conduct functional behavior assessments 			
<p>7: Planning for Instruction: The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.</p> <p>8: Instructional Strategies: The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.</p>	<p>5: Instructional Planning and Strategies</p>	<ul style="list-style-type: none"> ● Sources of curricula ● Student-initiated learning experiences ● Transition & career-voc curricula ● Research-supported & evidence-based instructional approaches ● Adaptations and special procedures ● Non-aversive behavior supports ● Age- and ability-appropriate instruction ● Oral and written language, communication curricula ● Related services integrated into curriculum ● Medical info/resources for students with communication limitations; augmentative communication ● Impact of sensory and physical issues in instruction ● Medical self-management ● Social skills curriculum ● Working with paraeducators ● Longitudinal, individualized instruction; sequence learning objectives ● Collaboration with student and their family in setting goals and monitoring progress ● Functional assessment for instructional planning 	<p>Pre-req 304, 311, 435, 480, 485, 489</p>	<p>332, 412, 453, 454, 460, 462</p>	<p>421, 422, 461, 463, 455, 487</p>

		<ul style="list-style-type: none"> ● Lesson planning & materials selection ● Responsive teaching ● Community integration ● Cognitive strategies & <u>self-management</u> ● Data-based instructional modification 			
<p>9: Professional Learning and Ethical Practice: The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.</p>	<p>6: Professional Learning and Ethical Practice</p>	<ul style="list-style-type: none"> ● Identification of individuals with disabilities, including CLD issues ● Historical foundations of special education ● Legal issues, LRE ● Models, theories, philosophies, research methods in special education ● Resources and professional organizations ● Advocacy ● Procedures and guidelines for school and community participation ● Laws, policies, principles for behavior management ● Family systems and role of families in special education ● Lifelong PD ● CEC Code of Ethics ● Use verbal and nonverbal language effectively ● Reflect on one's practice 	<p>Pre-req 304, 306, 311, 400, 425, 390, 391</p>	<p>460, 462</p>	<p>461, 463, 487</p>
<p>10: Leadership and Collaboration: The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.</p>	<p>7: Collaboration</p>	<ul style="list-style-type: none"> ● Parent ed for severe behavior problems and communication needs ● Collaboration and consultation roles of special education teachers for inclusion ● Roles of professional groups in supporting individuals with disabilities ● Collaborate in augmentative communication planning and intervention ● Use local resources ● Collaborate with related service providers ● Collaborate for transition ● Collaborate with families and service providers for students who are chronically or terminally ill ● Models of collaboration ● Family concerns 	<p>306, 425, 489, 400, 390, 391</p>		

		<ul style="list-style-type: none"> ● Culturally responsive factors for collaboration with families and others ● Confidentiality ● Collaborate with families for assessment ● Plan and conduct collaborative conferences with students and families ● Model and coach others to use instructional methods & accommodations ● Communicate effectively with paraeducators 			
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HTSB Required Content

- * Hawaiian language, history, and culture ITE 320, ITE 360
- * Reading difficulties SPED 310
- * Students with limited English proficiency ITE 320, SPED 487
- * Gifted & talented SPED Pre-req 304
- * Integrating technology into instruction SPED 480
- * MCEE (field seminars, complete NEA modules in 2nd semester)

Appendix B. BEd in Special Education: Schedule of Courses (2/4/2021)

Severe Disabilities/Autism Track
(BEd Core is in Blue; fieldwork is in Red)

Fall I	Spring I	Summer I	Fall II	Spring II
SPED 310 SPED 311 SPED 485 SPED 400 12 credits	SPED 425 SPED 412 SPED 462 SPED 454 SPED 400 15 credits	ITE 320 SPED 306 SPED 480 9 credits	SPED 332 SPED 453 SPED 460 SPED 400 12 credits	SPED 489 SPED 390 (10 cr) SPED 391 (2 cr) 15 credits

Secondary Mild/Moderate Disabilities Track
(CORE is in Blue; fieldwork is in Red)

Fall I	Spring I	Summer I	Fall II	Spring II
SPED 310 SPED 311 SPED 485 SPED 400 12 credits	SPED 425 SPED 461 (e) SPED 421 (e) SPED 455 SPED 400 15 credits	ITE 320 SPED 306 SPED 480 9 credits	SPED 422 SPED 487 (e) SPED 463 SPED 400 12 credits	SPED 489 SPED 390 (10 cr) SPED 391 (2 cr) 15 credits

Appendix C. BEd in SPED Program Costs and Revenue

(One cohort of each track running in Year 1; Two cohorts of each track running in Year 2)
 (Assuming 1/2 of student enrollment from Oahu & 1/2 from Neighbor Islands)

Program Costs

	Year 1	Year 2 +
Personnel		
Tenure Track I-3 Faculty (1.0 FTE in Yr 1; 2.0 FTE in subsequent yrs)	73,000	146,000
Limited-Term I-2 Faculty (3.0 FTE in Yr 1; 6.0 FTE in subsequent yrs)	189,000	378,000
Clinical Supervision I-2 Faculty (4.0 FTE Yr 2+)	-	252,000
Admin Support (APT. .25 FTE)	10,750	10,750
Total Personnel Cost	272,750	786,750
Travel		
Oahu Field Experience Supervision Mileage		
Yr 1: 24 students X 10 trips X 30 miles X .575/mi	4,140	
Yr 2+: 48 students X 10 trips X 30 miles X .575/mi		8,280
Neighbor Island Field Experience Supervision		
Yr 1: 24 students X 6 trips X \$275/trip	39,600	
Yr 2+: 48 students X 6 trips X \$275/trip		79,200
Total Travel	43,740	87,480
Total Program Costs	316,490	874,230

Program Revenue

Outreach College Tuition (66 credits over 2 years)		
Yr 1: 48 students X 36 credits X \$471/cr	813,888	
Yr 2+: 96 students		1,424,304
48 students X 38 credits X \$471/cr	813,888	
48 students X 27 credits X \$471/cr	610,416	

Appendix D. BEd in SPED, Mild/Moderate Disabilities-Secondary Education Assessment Plan

		Praxis I	Content 2	Planning 3	Student Teach 4	Impact on Learning 5	Other 6	Other 7
CEC Standards	Course Product	Successful Completion of 30 credits of SPED Coursework	SPED 463 Effective Practices Synthesis Paper 3 rd semester	SPED 400 Lesson Planning 2 nd semester	SPED 390 Clinical Practice Rubric 4 th semester	SPED 489 Intervention Project 4 th semester	SPED 480 Tech. Project - Yr 1 Summer semester	SPED 400 Dispositions Rating 2 nd semester
	InTASC Standards							
1. Learner Development & Individual Learning Differences	1. Learner Development	X	X	X		X		
	2. Learner Differences	X	X	X		X		
2. Learning Environments	3. Learning Environments	X		X	X	X		
3. Curricular Knowledge	4. Content Knowledge	X		X				
	5. Application of Content	X		X				
4. Assessment	6. Assessment	X		X	X	X		
5. Instructional Planning & Strategies	7. Planning for Instruction	X	X	X	X		X	
	8. Instructional Strategies	X	X	X	X	X	X	
6. Professional Learning & Ethical Practice	9. Prof Learning & Ethical Practice	X			X	X		X
7. Collaboration	10. Leadership & Collaboration	x			X			X

Appendix. BEd in SPED, Severe Disabilities/Autism Assessment Plan

Course Product		Praxis 1	Content 2	Planning 3	Student Teach 4	Impact on Learning 5	Other 6	Other 7
CEC Standards	InTASC Standards	Successful Completion of 30 credits of SPED Coursework	SPED 453 Case Study 2 nd semester	SPED 400 Lesson Planning 2 nd semester	SPED 390 Clinical Practice Rubric 4 th semester	SPED 489 Intervention Project 1 st semester	SPED 462 Instructional Programs 3 rd semester	SPED 400 Dispositions Rating 2 nd semester
1. Learner Development & Individual Learning Differences	1. Learner Development	X	X	X		X		
	2. Learner Differences	X	X	X		X		
2. Learning Environments	3. Learning Environments	X	X	X	X	X	X	
3. Curricular Knowledge	4. Content Knowledge	X		X			X	
	5. Application of Content	X		X			X	
4. Assessment	6. Assessment	X		X	X	X		
5. Instructional Planning & Strategies	7. Planning for Instruction	X	X	X	X		X	
	8. Instructional Strategies	X		X	X	X	X	
6. Professional Learning & Ethical Practice	9. Prof Learning & Ethical Practice	X			X	X		X
7. Collaboration	10. Leadership & Collaboration	x	X		X			X



Survey for Student Teachers, 2019-20

**Office of the Dean
College of Education
University of Hawai'i at Mānoa**

Please complete this end-of-program questionnaire to tell us how your teacher education program contributed to your development as a new teacher. Your responses are completely confidential, and your name will not be associated with your responses. We will use the data to make improvements in the components of the program you identify. Thank you very much for your assistance!

Please provide the following background information:

1. Program in which you are enrolled (select one):

- Elementary Education, Bachelor of Education
- Kinesiology and Rehabilitation Science, Bachelor of Science
- Master of Education in Teaching
- Secondary Education, Bachelor of Education
- Secondary Education, Post-baccalaureate Certificate
- Special Education, Post-baccalaureate Certificate

2. Academic Major (select one):

- Early Childhood and Special Education (Dual Preparation)
- Elementary Education
- Elementary Education and Early Childhood Education (Dual Preparation)
- Elementary Education and Multilingual Learners/TESOL (Dual Preparation)
- Elementary Education and Special Education (Dual Preparation)
- Hawaiian Immersion
- Hawaiian Language
- Health and Physical Education
- Secondary and Special Education (Dual Preparation)
- Secondary Dance
- Secondary Drama/Theater
- Secondary English for Speakers of Other Languages (TESOL)
- Secondary English Language Arts
- Secondary Mathematics
- Secondary Music Education
- Secondary Science(s)
- Secondary Social Studies
- Secondary Visual Arts
- Secondary World Languages
- Special Education: Mild/Moderate Disabilities
- Special Education: Severe Disabilities/Autism

3. If you have a second major, please select your second academic major:

- Hawaiian Immersion
- Hawaiian Language
- Health and Physical Education
- Secondary Dance
- Secondary Drama/Theater
- Secondary English for Speakers of Other Languages (TESOL)
- Secondary English Language Arts
- Secondary Mathematics
- Secondary Music Education
- Secondary Science(s)
- Secondary Social Studies
- Secondary Visual Arts
- Secondary World Languages
- Special Education: Mild/Moderate Disabilities
- Special Education: Severe Disabilities/Autism

4. Student Teaching/Internship/OJT Placements (select all that apply):

- Preschool level
- Elementary level (K-6)
- Middle level (5-9)
- Secondary level (6-12)
- Multi-level (K-12)

Other (please specify)

**5. Special Education Student Teaching/Internship/OJT Placement, if applicable
(select all that apply):**

- Not applicable
- Special Education: Inclusion
- Special Education: Resource
- Special Education: Self-contained

Other (please specify)

6. Primary delivery method of the program that you completed (method):

- On campus
- Distance education (e.g., online, statewide/hybrid)
- Off campus (e.g., American Samoa)

7. Were you a full-time teacher (i.e. Emergency Hire/OJT) while enrolled in your teacher preparation program?

- Yes
- No



Survey for Student Teachers, 2019-20

The Learner and Learning

Please respond to the following questions about your teacher education program.

DIRECTIONS: Indicate the extent of your preparedness in the following areas by using the scale below:

- Very prepared
- Mostly prepared
- Somewhat prepared
- Slightly prepared
- Not at all prepared

8. At the end of your COE teacher education program, to what extent are you prepared to...

	Very prepared	Mostly prepared	Somewhat prepared	Slightly prepared	Not at all prepared
Create developmentally/age appropriate learning experiences?	<input type="radio"/>				
Adapt to learner diversity and individual differences?	<input type="radio"/>				
Ensure inclusive learning environments that enable each learner to meet high standards?	<input type="radio"/>				
Create learning environments that support individual learning?	<input type="radio"/>				
Create learning environments that support collaborative learning?	<input type="radio"/>				



Survey for Student Teachers, 2019-20

9. At the end of your COE teacher education program, to what extent are you prepared to...

	Mostly Very prepared	Somewhat prepared	Slightly prepared	Not at all prepared
Demonstrate knowledge of the content in your field?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teach the concepts, knowledge, and skills of your field in ways that enable students to learn?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connect concepts to engage students in learning?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use differing perspectives to engage students in learning?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incorporate student standards, such as the Common Core Standards, into your teaching practice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrate Hawaiian language, history, and culture into your teaching practice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Survey for Student Teachers, 2019-20

10. At the end of your COE teacher education program, to what extent are you prepared to...

	Very prepared	Mostly prepared	Somewhat prepared	Slightly prepared	Not at all prepared
Plan instruction that supports every student in meeting learning goals?	<input type="radio"/>				
Use a variety of instructional strategies to engage all learners?	<input type="radio"/>				
Integrate technology effectively into curricula and instruction?	<input type="radio"/>				
Teach reading, including working with students who have reading difficulties?	<input type="radio"/>				
Incorporate reading strategies across your curriculum?	<input type="radio"/>				
Incorporate writing strategies across your curriculum?	<input type="radio"/>				



Survey for Student Teachers, 2019-20

11. At the end of your COE teacher education program, to what extent are you prepared to...

	Mostly Very prepared	Somewhat prepared	Slightly prepared	Not at all prepared
Use assessment strategies appropriate to your students' needs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use a variety of assessments (e.g. observation, portfolios, tests, performance tasks, anecdotal records) to determine students' strengths and instructional needs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design assessments that match student learning objectives?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluate the effects of your teaching and modify plans accordingly?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Survey for Student Teachers, 2019-20

12. At the end of your COE teacher education program, to what extent are you prepared to teach students who...

	Very prepared	Mostly prepared	Somewhat prepared	Slightly prepared	Not at all prepared
Have disabilities?	<input type="radio"/>				
Do not speak English as their first language?	<input type="radio"/>				
Are gifted and talented?	<input type="radio"/>				
Are from different cultures?	<input type="radio"/>				



Survey for Student Teachers, 2019-20

13. At the end of your COE teacher education program, to what extent are you prepared to...

	Mostly Very prepared	Somewhat prepared	Slightly prepared	Not at all prepared
Demonstrate professionalism as a new teacher?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take responsibility for student learning and success?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work with parents and families to better support student learning?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in professional reflection to become a stronger teacher?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand your specific strengths as a new teacher?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Target areas of need for your own professional growth?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Survey for Student Teachers, 2019-20

14. Overall, how prepared do you feel as a result of your teacher education program?

- Very prepared
- Mostly prepared
- Somewhat prepared
- Slightly prepared
- Not at all prepared

15. Overall, how satisfied are you with the teacher education program you completed at the College of Education?

- Very satisfied
- Satisfied
- Neither satisfied nor dissatisfied
- Dissatisfied
- Very dissatisfied

16. How likely would you be to recommend this program to someone who wants to study in this field?

- Very likely
- Likely
- Neither likely nor unlikely
- Unlikely
- Very unlikely



Survey for Student Teachers, 2019-20

DIRECTIONS: Please indicate the extent of your agreement or disagreement with the following statements by using the following scale:

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

17. My teacher education program helped me . . .

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Become a more knowledgeable teacher (developed my knowledge) in my field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Become a more effective teacher (developed my skills).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Become a more caring teacher (developed my professional dispositions).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Overall, the following helped me develop the knowledge, skills, and dispositions I need as a new teacher. . .

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Field placements (observation/participation).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student teaching/internship.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Field supervisor(s).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentor teacher(s).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course instructors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Survey for Student Teachers, 2019-20

Your written comments are especially helpful. Please respond to these statements in an open and direct way to help us improve our programs.

When you are finished, click "Done" at the bottom of the page.

19. The most helpful aspects of my teacher education program were . . .

20. The least helpful aspects of my teacher education program were . . .

21. I recommend these specific changes for improvement . . .

22. My overall evaluation of my teacher education program is . . .

23. Please provide an alternate email address (other than @hawaii.edu address) for the COE to get feedback from you about our programs in the future:



UHM COE Alumni Survey - Initial Licensure Programs, 2020

**Office of the Dean
College of Education
University of Hawai'i at Mānoa**

Aloha and thank you for helping us to learn about your experience with your most recently completed teacher preparation program at the College of Education, University of Hawai'i at Mānoa. We value your feedback and will use it to improve our programs to meet the needs of today's educators.

The College asks you to complete this brief questionnaire about your satisfaction and experience with our program. Your answers are completely confidential, and your name will not be associated with your responses. The survey will take approximately 5-10 minutes to complete. Thank you very much for your assistance.

Please provide the following background information:

1. Which academic year did you graduate? (Most recent COE licensure program)

- 2015-16 (*Fall 2015, Spring 2016, & Summer 2016*)
- 2016-17 (*Fall 2016, Spring 2017, & Summer 2017*)
- 2017-18 (*Fall 2017, Spring 2018, & Summer 2018*)
- 2018-19 (*Fall 2018, Spring 2019, & Summer 2019*)
- 2019-20 (*Fall 2019, Spring 2020, & Summer 2020*)

2. Please select your most recently completed COE licensure program:

- BEd (Bachelor of Education) in Elementary Education
- BEd (Bachelor of Education) in Secondary Education
- BS (Bachelor of Science) In Kinesiology & Rehabilitation Science
- PBCTE (Post-baccalaureate Certificate) in Secondary Education
- PBSPED (Post-baccalaureate Certificate) in Special Education
- MEdT (Master of Education in Teaching)

3. Please select your academic major(s)/specialization(s):

- Elementary Education
- Elementary Education and Early Childhood Education (Dual Preparation)
- Elementary Education and Early Childhood Special Education (Dual Preparation)
- Elementary Education and Multilingual Learning/TESOL (Dual Preparation)
- Elementary Education and Special Education (Dual Preparation)
- Early Childhood Education and Early Childhood Special Education (Dual Preparation)
- Hawaiian Language Immersion Education
- Hawaiian Language
- Music Education
- Physical Education
- Secondary Education: Art
- Secondary Education: Dance
- Secondary Education: Drama/Theater Arts
- Secondary Education: English Language Arts
- Secondary Education: English as a Second Language
- Secondary Education: Mathematics
- Secondary Education: Science
- Secondary Education: Social Studies
- Secondary Education: World Languages
- Secondary Education and Special Education (Dual Preparation)
- Special Education: Mild/Moderate Disabilities
- Special Education: Severe Disabilities/Autism



UHM COE Alumni Survey - Initial Licensure Programs, 2020

4. Are you currently working within the field of education?

- Yes
- No, but I plan to work within education in the future
- No, I have left, and/or do not plan to work within, the field of education

5. What is the primary role in which you are currently working?

- Administrator
- Counselor
- Educational Assistant
- Librarian
- Student Services Coordinator
- Teacher
- Not currently working*

Other (please specify):



UHM COE Alumni Survey - Initial Licensure Programs, 2020

Completer Preparedness, Competence, and Growth

DIRECTIONS: Please indicate the extent of your agreement or disagreement with the following statements by using the following scale:

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

N/A (Not applicable)

6. My (most recent) COE program helped me . . .

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
Become a more knowledgeable teacher (develop my knowledge).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Become a more effective teacher (develop my skills).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Become a more caring teacher (develop my professional dispositions).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand local school and cultural communities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand learners and the application of learning theory.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand assessment of and for student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use data to inform practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create productive learning environments.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support students' growth in international and global perspectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapt to learner diversity and individual differences (develop culturally responsive practices).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicate and foster relationships with families/guardians/caregivers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaborate with colleagues to support professional learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish goals for my own professional growth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be able to apply my knowledge and skills in diverse school and community contexts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



UHM COE Alumni Survey - Initial Licensure Programs, 2020

Recommendations & Feedback

Your written comments are especially helpful. Please respond to these statements in an open and direct way to help us improve our programs.

7. What specific recommendations can you give us to improve our program?

8. Please provide any additional feedback/comments that you have for the COE:

Please click "Done" at the bottom of the page to complete the survey.

Appendix H. Consumer Focus Group Questions

Advisory Group Feedback: Group Discussion or Direct Contact – Template

Name of Advisory Group: _____

Program/Content Area: _____

Describe the representation of individuals in your advisory group (Include P-12/P-20 partners):

Describe the process you used to gather advisory group feedback using the prompts:
(Ex: Did you discuss the prompts in an advisory group meeting? Was it in person or online? How many people were present? Who led the discussion?; Did you send out an email with the feedback prompts to advisory group members? Who sent the email? Did you send out reminder emails? How many people responded with answers to the prompts? Etc.)

AAQEP Standard 3: Quality of Program Practices

Preparation programs ensure that candidates, upon completion, are ready to engage in professional practice, to adapt to a variety of professional settings, and to grow throughout their careers.

Feedback Prompts:

- 1. What do you think are the strengths of the COE's programs?**
- 2. What are the needs and/or areas for improvement in our programs?**
- 3. What recommendations do you have to help us ensure that our candidates are well prepared for professional practice and to grow throughout their careers?**



UNIVERSITY of HAWAII
LEEWARD
 COMMUNITY COLLEGE

UNIVERSITY OF HAWAII
 BOARD OF REGENTS Office of the Chancellor

'22 JAN 27 A9:09

DTS 22137 A2

January 19, 2022

MEMORANDUM

To: Randolph G. Moore
 Chair, Board of Regents

VIA: David Lassner 
 President

VIA: David Lassner 
 Vice President for Academic Strategy

VIA: Erika Lacro 
 Vice President for Community Colleges

From: Carlos Peñaloza 
 Chancellor

SUBJECT: REQUEST APPROVAL FOR CHANGE FROM PROVISIONAL TO
 ESTABLISHED STATUS, ADVANCED PROFESSIONAL CERTIFICATE IN
 SPECIAL EDUCATION PK-12

SPECIFIC ACTION REQUESTED:

Request approval to change from provisional to established status, Advanced Professional Certificate in Special Education PK-12

RECOMMENDED EFFECTIVE DATE:

Fall 2022

ADDITIONAL COST:

None

PURPOSE:

The purpose of the Advanced Professional Certificate in Special Education (SPED) is to address the critical need for licensed Special Educators in the state by increasing the pathways leading to special education training and licensure through the only multi-track, self-paced, fully online program available statewide.

BACKGROUND INFORMATION:

This request is being submitted in accordance with Board of Regents Policy 5.201, Section III.B.3., which states that the request for "established" program shall be submitted to the board for approval.

The Advanced Professional Certificate (APC) in SPED was designed as a response to the Hawai'i Teacher Standards Board's request in 2016 for Educator Preparation Programs statewide to increase pathways leading to special education licensure. In Fall 2017, the UH Board of Regents approved Leeward CC's APC as the State's first and only multi-track, self-paced, and fully online option with 100% tuition stipend coverage through the Hawai'i Department of Education. The program focuses on individuals who are currently employed in a school setting as substitute teachers, emergency hire teachers, or educational assistants.

The APC in SPED was designed with two tracks. Track I provides an alternative route to teacher licensure for those who have already earned a bachelor-level degree in any field with curriculum consisting of five 300-level, 3 credit education courses, one 3 credit Student Teaching Portfolio course, and a 1 credit field practicum course. Track II is a 3+1 program, where students complete 3 years at the community college and 1 year at a 4-year college. This track requires 15 credit hours beyond associate's degree coursework which includes general education, education coursework, specialized SPED courses, and five 300-level education courses and allows for students to transfer for an additional year at a partner baccalaureate-granting institution which awards the bachelor's degree.

The projected enrollment of 190 over 5 years for this program was surpassed with 342 students enrolled with only partial reporting for the 2021-2022 academic year. The expected number of graduates over five years was 140 students, and the actual number of graduates to date with partial reporting for 2021-2022 is 133 students. Total operating expenses ranged from \$77,863 to \$263,256 over five years. Leeward CC has received a permanent allocation of \$60,000 towards an operational budget through State legislative funding. In addition, a permanent Academic Advisor, tenure-track Field Coordinator, and tenure-track instructional faculty are assigned to support the APC. Enrollment and retention has remained steady since 2017 with approximately 14-20 new student admissions each semester.

The APC in SPED is Leeward CC's only program offered at the 300-level tuition rate (\$306/credit). The success of the program has resulted in consistent funding of approximately \$425,000 annually from the Hawai'i Department of Education for full tuition stipends for candidates who commit to teach special education in any Hawai'i Department of Education school upon graduation. Additionally, Leeward CC's Teacher Education Program's is the only community college in the country to receive national accreditation by the Association for Advancing Quality in Educator Preparation for the CTE and SPED licensure programs.

The Special Education field and Leeward district schools consistently rank in the highest need areas for new teacher hires year after year. Even if the state closed the gap in the need to hire 1,000+ new teachers annually, there will still be an average loss of about 400 teachers to retirement as part of the natural employment cycle. Leeward CC's APC is the state's most affordable teacher licensure pathway at just \$5,814 for the 19 credit certificate. Comparable teacher licensure pathways are \$21,450 at UH Mānoa and \$19,800 at Chaminade University of Hawai'i.

Randolph G. Moore
January 19, 2022
Page 3

A partnership with the Kūlia and Kalama Education Academy has enhanced Wai'anae Coast program recruitment, wrap around services for non-traditional students, and supplemental scholarship support for non-tuition expenses. In addition, a 2021-2022 Governor's Emergency Education Relief Fund Grant award to Leeward CC will enable faculty to complete a UH Online Innovation Center online training to deliver courses in 5-week accelerated formats thereby reducing time to completion for the degree.

The APC in SPED delivers an essential pathway to special education teacher licensure that caters to a specific population of candidates who require a highly flexible and affordable program. The program is fully endorsed by the Hawai'i Department of Education and the Hawai'i State Teachers Association, and has already obtained full program approval by the State licensing body, the Hawai'i Teacher Standards Board.

ACTION RECOMMENDED:

Recommend approval to change from provisional to established status, Advanced Professional Certificate in Special Education PK-12

Attachments:

1. Provisional to Established Program Proposal, Advanced Professional Certificate in Special Education (P-12)
2. Hawai'i State Teachers Association Letter of Support
3. Hawai'i Department of Education Letter of Support

cc: Kendra Oishi, Executive Administrator and Secretary of the Board of Regents
Debora Halbert, UH Associate Vice President of Academic Programs and Policy
Tammi Oyadomari-Chun, UHCC Interim Associate Vice President for Academic Affairs
Keala Chock, Vice Chancellor for Academic Affairs, Leeward Community College
James Goodman, Dean of Arts and Sciences, Leeward Community College
Eiko Kosasa, Division Chair, Social Sciences
Michael Cawdery, Teacher Training, Program Coordinator
Christina Keaulana, Assistant Professor, Teacher Training

Provisional to Established Program Proposal

Advanced Professional Certificate in Special Education (PK-12)

Proposed date of implementation: Fall 2022

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Executive Summary

Introduction

Leeward Community College's Advanced Professional Certificate in Special Education (APC in SPED) is a professional certificate designed to prepare individuals with a bachelor-level degree in any field for employment as a licensed Special Education teacher, in grades Pre-Kindergarten to 12 (P-12). The development of an APC in SPED was created to meet the State of Hawai'i's long-standing educational workforce shortage of licensed, highly qualified special education (SPED) teachers. The program provides a previously unavailable multi-track, instructional delivery model in the form of a flexible, fully-online option focused on individuals who are currently employed in a school setting as a substitute teacher, emergency hire teacher, or educational assistant (EA). The APC in SPED is part of the Leeward CC's Teacher Education Program (TEP), which also houses the Associate of Science of Teaching (AST) and the Alternative Certification for Career and Technical Education (CTE) licensure track.

The APC in SPED has two tracks:

- *Track I* (alternative licensure) - 19 credit hours; provides an alternative route to teacher licensure for those who have already earned a bachelor-level degree in any field; curriculum consists of five 300-level, three-credit education courses, one three-credit Student Teaching Portfolio course, and a one-credit field practicum course.
- *Track II* (3 + 1) - 15 credit hours beyond Associate's degree coursework; "3 years" of general education, education coursework, specialized SPED courses, and five 300-level education courses; allows for students to transfer for an additional "1 year" at a partner baccalaureate-granting institution where students complete their bachelor's in Special Education.

Approvals and National Accreditation

On March 23, 2017, the University of Hawai'i Board of Regents approved Leeward Community College's Advanced Professional Certificate in Special Education ([APC in SPED](#)) PK-12 as a provisional program.

On September 8, 2017, the Hawai'i Teacher Standards Board (HTSB) approved the APC in SPED - Track I as a provisional State Approved Teacher Licensure Program (SATEP). In doing so, Leeward was authorized to recommend candidates as "highly qualified" Special Education Teachers in the following fields:

- Special Education for grades K-6

- Special Education for grades 6-12

On September 17, 2021 the HTSB granted Leeward Community College full state approval as a SATEP for the SPED K-6 and SPED 6-12. Furthermore, Leeward's "Letter of Intent to Plan" a SPED PK-3 Initial Licensure Program ([NBI 21-10](#)) was approved.

On May 21, 2021, Leeward's Teacher Education Program licensure pathways in SPED and Career and Technical Education (CTE) were "fully approved" for seven years from the national accreditation body Association for Advancing Quality in Educator Preparation (AAQEP).

Program Outcomes and Alignment with University of Hawai'i Community College System and College Strategic Plans

The APC in SPED was designed in alignment with the Leeward Community College's Mission, Core Values, and Institutional Learning Outcomes as well as the [University of Hawai'i Community Colleges \(UHCC\) System's Strategic Directions](#).

APC in SPED PK-12 Program Outcomes	Leeward CC's Mission, Core Values, and Strategic Plan	UHCC's Strategic Directions
<p><i>Improve access to teaching for nontraditional and underrepresented students from local communities.</i></p>	<p>Mission statement - To advance the educational goals of all students with a special commitment to Native Hawaiians.</p> <p>Strategic Objective - Continue to serve populations in geographic regions with large Native Hawaiian populations.</p>	<p>Hawai'i Graduation Initiative - Increase the number of graduates and transfers and on the momentum to get students through to graduation and transfer more quickly.</p> <p>Enrollment - The identification and goals for targeted currently underserved populations.</p>

APC in SPED PK-12 Program Outcomes	Leeward CC's Mission, Core Values, and Strategic Plan	UHCC's Strategic Directions
<p><i>Improve access to teaching by offering streamlined pathways leading to SPED teacher licensure through multiple modes of delivery.</i></p>	<p>Core Value: Open Access We seek to meet students' needs, as well as those of the community, by offering a diversity of courses, degree and certificate programs, and training opportunities, through traditional and distance education modes of delivery.</p>	<p>Modern Teaching and Learning Environments - Ensure that students and faculty have the learning and teaching environments appropriate for the 21st century and the sustainability practices to maintain those environments.</p> <p>High-Performance Mission-Driven System - Practices and policies that capitalize on the University of Hawai'i being a single system of higher education in the state that can provide students with smooth transitions from K-12 through the community colleges to baccalaureate institutions in the most productive, cost-effective, and results-oriented manner possible.</p> <p>Hawai'i Innovation Initiative - Create structured pathways to a credential and employment opportunities with earnings potential. Credential can be terminal or leads to further education and further advancement through ladder programs and career advancement thereby meeting identified workforce development needs in existing employment sectors in Hawai'i's high-demand fields.</p>

APC in SPED PK-12 Program Outcomes	Leeward CC's Mission, Core Values, and Strategic Plan	UHCC's Strategic Directions
<p><i>Prepare and support students with the knowledge, skills, and dispositions as a prerequisite for teaching special education.</i></p>	<p>Values, Citizenship, and Community - Graduates are able to interact responsibly and ethically through their respect for others using collaboration and leadership.</p> <p>Critical Thinking and Problem-Solving - Graduates are able to examine, integrate, and evaluate the quality and appropriateness of ideas and information sources to solve problems and make decisions in real-world situations.</p>	
<p><i>Promote inclusive and culturally responsive teaching practices as a means to address the critical special education teacher shortage in Hawai'i.</i></p>	<p>Diversity and respect - We value individual differences and the contributions they bring to the learning process. We believe that our students are enriched through a diverse intellectual and social environment, where learning occurs through exposure to world cultures, and through interaction with people of diverse experiences, beliefs, and perspectives.</p>	<p>Enrollment - Develop growth oriented supportive, latticed, terminal and transfer pathways for recent high school graduates and working adults. The program strives to be inclusive and supportive of Native Hawaiians and all Pacific Islander students.</p>
<p><i>Create responsive community partnerships and partner with local schools to provide a service-learning experience.</i></p>		<p>Implementing the Plan - The policy, practice, and communication models needed to ensure the overall success of this strategic plan.</p>

Hawai'i Graduation Initiative

In an effort to support the Hawai'i Graduation Initiative goal to increase the number of graduates and transfers as well as improve time to completion and transfer, the SPED program is designed to maximize access and flexibility. Having two tracks takes into account the diverse student populations we serve and ensures that individuals' prior educational experience contributes to reducing the time it takes for program completion, graduation, and entering the workforce as highly qualified teachers. Track I (alternative licensure) supports individuals with existing baccalaureate degrees whose goal is to teach in Special Education classrooms. Track II (3+1) accelerates the opportunity for completion of a baccalaureate in SPED through a partnering institution. These tracks attract individuals that would not otherwise likely enter the SPED workforce if they had to restart the process. Program design and delivery supports students' unique circumstances by offering online, asynchronous, accelerated and continuous offering of the curriculum, thereby reducing the likelihood of stop-outs or delays in completion.

Track I Outcomes - Since the first cohort enrolled in Fall 2018, 232 students with bachelor's degrees have enrolled in the alternative pathway to teacher licensure and 108 have completed the program in 12-18 months. All graduates have become fully licensed Special Education teachers as of Fall 2021. Out of the 108 graduates, 104 are currently employed as HIDOE SPED Teachers. There are currently 97 active students in the Track I APC pathway.

Track II Outcomes - Since its inception in Fall 2018, 101 students without bachelor's degrees have enrolled in the 3+1 BS in SPED, 14 of whom are from the Nānākuli Educational Assistant-to-Teacher Pilot Program. As of Fall 2021, seven students have completed the entire 3+1 BS in SPED and all 7 are currently employed as HIDOE SPED Teachers. The 3+1 model is the state's only pathway to SPED teacher licensure where candidates have the option to complete a state-approved teacher education program at their own pace with the option to enroll in online, hybrid, or face-to-face courses. Students complete the 62 credit AST, the five core courses of the APC in SPED (15 credits), and the final approximately 30 credits are completed at a 4-year degree-granting institution which will provide specialized content instruction, conduct the field practicum component, and recommend them for licensure.

As a result of the approval, Track II of the APC's enrollment dramatically increased with 101 students enrolled at various stages of their 3+1 bachelor's degree leading to initial licensure as a special education teacher. The two APC in SPED pathways have produced 115 highly qualified special education teachers, most who have been placed in Hawai'i's public schools over the last four years.

Enrollment of Targeted Underserved Populations

Working Adults - The APC program serves a diverse range of working adults throughout the State of Hawai'i: 35% Emergency Hire Teachers, 25% Paraeducators, and 20% Substitute Teachers.

Diversity & Underrepresented Groups - Program candidates include individuals from populations typically underrepresented in the Special Education teaching profession, including 26% Male and 25% Native Hawaiian. Overrepresentation of Native Hawaiian students in special education can result from biased assessment, lack of culturally-relevant instruction or behavior management, among others, especially with families of students with disabilities.

Broad representation in special education teacher preparation programs can help address overrepresentation of populations, like Native Hawaiian SPED students, provide relevant support, and develop best practices to address SPED student needs. Leeward CC's coursework leading to special education teacher licensure embeds assignments on cultural competence and responsiveness to promote a more inclusive school culture; in addition to providing flexibility to support underserved population enrollment, including Native Hawaiian.

Geographic Intentionality - The top three residential areas of the applicants, Wai'anae (17%) is the highest, followed by Mililani (13%), and Wahiawa and Kapolei tie at 11%. Retaining highly qualified educators is a statewide problem that is particularly acute in these Hawaiian communities, putting Native Hawaiian children at risk for educational failure or underachievement. There is a disproportionate number of Native Hawaiians in the P-12 SPED student population. Native Hawaiian students represent 27.1% of the total student population, while they make up a 43.9% of the SPED student population.

Modern Teaching and Learning Environments

High Quality Online Instruction - In Summer 2018, Teacher Education Program faculty, who support the APC in SPED tracks, completed Quality Matters (QM) online instruction training. QM is a nationally-recognized quality assurance program requiring instructors to complete a rigorous review process to improve course design and student navigation, reduce well-known barriers to student achievement, and improve student learning outcomes for online learning.

Diverse Modes of Delivery - The student population and communities Leeward CC serves and recruits from warrant diverse models of education delivery. Program flexibility, accessibility, and cost, are among the barriers identified to cause the teacher shortages in Hawai'i. The 3+1 Bachelor's in SPED and the Nānākuli Educational Assistant-to Teacher Pilot Program were developed to address these barriers. Both

provide accelerated and flexible courses to get students on the pathway to teacher licensure. In Fall 2018, 37 ambitious Educational Assistants (EA) residing in Wai'anāe enrolled in the Nānākuli Educational Assistant-to-Teacher Pilot Program (NPP); 14 are currently on track to become fully licensed SPED teachers by May 2022.

Locally Positioned Faculty and Lecturers - Many APC program faculty and lecturers are current HIDOE teachers and administrators who are familiar with the unique culture of the community they are serving in.

Hawai'i Centric Curriculum - Leeward CC's Teacher Education Program is the only teacher training program in the state that requires students to complete Kamehameha Schools' A'o Kumu Curriculum. The A'o Kumu courses provide educators with the tools and skills to seamlessly integrate culture-based education (CBE) with 21st-century skills and relevant standards, such as the Common Core State Standards (CCSS). The curriculum addresses the Hawai'i Teacher Standards Board (HTSB) requirement for inclusion—a key aspect of special education instruction—and provides training in Hawaiian language, culture, and history. Leeward CC's partnership with Kamehameha Schools to offer this distance education learning platform to our students is invaluable.

Grow Our Own Teachers Initiative

Nationwide, “Grow Our Own Teachers” initiatives have proven effective at recruiting, mentoring, placing, and retaining community-rooted diverse educators. Such programs also dismantle institutional racism, work towards educational equity, and improve academic outcomes for all students (adapted from the national [GYOC](#)). Leeward CC's APC in SPED has significantly increased the availability of qualified educators in hard-to-staff areas and reflects the racial and ethnic diversity of the student population.

Since the APC in SPED targets locally sourced paraeducators, emergency hires, and substitute teachers, the program has helped reduce the state's significant financial investment in new teacher mentoring, introductory cultural orientations, and increased funds allocated to out-of-state travel for administrators to recruit SPED teachers to work in hard-to-staff schools. The APC in SPED has aided in alleviating the chronic shortage of special education teachers statewide by recruiting candidates rooted in communities serving large culturally and linguistically diverse populations who have demonstrated experience and commitment to working with students with special needs. The accessibility and affordability of the program attract a non-transient teacher workforce with job-related experience, thereby reducing the heavy dependency on continuous external recruitment of unqualified, inexperienced, and short-lived teachers.

HIDOE Teacher Academies - Since the approval of the APC in SPED, Leeward CC has collaborated with six high school teacher academies associated with the CTE Education

pathway, delivered information sessions at seven UH campuses, and presented at 14 schools and two district offices statewide.

Diversification of Teacher Workforce

The ethnicity of the public school teachers in Hawai'i differs from the demographic makeup of the Hawai'i public school student population in several key areas. Public school teachers who identify as Native Hawaiian comprise 10.1% of the public school teachers while the student population is 32%. Additionally, 24.5% of the public school teachers are White compared to only 13.7% of the public school student population. Lastly, 9.7% of the public school students are Hispanic with only 2.5% of the public school teachers identifying as Hispanic.

Other demographic data points include that females comprise 74.6% of the total teacher population, and 13% of the public school student population are English Language Learners. 56% of the total Hawai'i public school population qualify for free or reduced meals. Incidentally, Native Hawaiian males make up the majority of students represented in special education, juvenile corrections centers, and our state prison system.

The percentage of teachers who have earned out-of-state degrees fluctuates between 45%-55% which results in a substantial percentage of teachers with minimal to no exposure or knowledge of working with Hawai'i's culturally and linguistically diverse students, their families, and their communities.

The APC in SPED offers the state's only 100% online asynchronous pathway to SPED teacher licensure. The flexible and accessible delivery model has attracted diverse candidates statewide from the rural communities of Moloka'i and West Hawai'i to the urban diaspora of Honolulu on O'ahu thereby addressing the cultural mismatch between Hawai'i's teachers and students. Research shows that teacher quality and cultural competence make a big difference in student education outcomes, and this is especially true in indigenous populations and communities of color. The APC in SPED has partnered with HIDOE Complex Area Superintendents and Administrators as well as INPEACE to focus on recruiting, supporting, and retaining Native Hawaiian educators to build diversity in the teaching profession and address disparities associated with the cultural mismatch between teachers and students.

Program Objectives and Organization

To meet the state's needs for more qualified special education teachers, the APC in SPED PK-12 program was developed to provide a flexible, affordable, and accessible pathway to teacher licensure for Hawai'i residents to pursue a teaching career in their own communities. Surveys of more than 400 Associate in Science in Teaching (AST)

students and non-licensed staff at HIDOE schools statewide in 2016 revealed that the largest barriers to pursuing teacher licensure were lack of affordability and limited programming, as most SATEPs required full-time enrollment, face-to-face courses, and restrictive unpaid teaching internships. All of these barriers have made licensure achievement more difficult as nearly 60% of AST students are employed either full-time or have a combination of work and family obligations such as caring for aging parents, grandparents, and/or children.

The APC in SPED sought to address the chronic teacher shortage in hard-to-fill placements in Hawai'i public schools. Key data metrics include:

- Over the last five years, Hawai'i Department of Education (HIDOE) hired an average of 1,251 of teachers annually with 23.2% of new hires being assigned to Leeward District schools. In 2020-21, HIDOE assigned 22.6% of new hires for special education positions to Leeward District; Leeward students make up 22.0% of student enrollment statewide.
- In 2020-21, the Hawai'i Department of Education (HIDOE) hired 1,057 new teachers. Among the new hires in 2020-21, 25.5% were hired as special education teachers.
- Among newly employed hires, 83.3% of SPED teaching positions are filled by highly qualified teachers, while 94.56% of non-SPED teaching positions are filled by highly qualified teachers.
- Furthermore, those who did not complete a SATEP program, including Teach for America teachers, made up 22.0% of new hires.

References [Hawai'i Public Schools Employment Report, 2020-21](#); [Hawai'i Public Schools Official \(Student\) Enrollment Count, 2020-21](#).

For the past two decades, the majority of emergency hire teaching positions and new vacancies continue to be for special education teachers in hard-to-staff rural and/or high poverty schools. As a result, in January 2016, the HIDOE and HSTA released a solicitation for an alternate route certification of teachers with priority for candidates employed in high poverty, low-performing schools.

According to the Hawai'i State Department of Education, [Special Education Task Force Executive Summary](#) (2018), for at least the past seven years, vacancies of special education teaching positions have been largely filled by teachers who were new, unqualified, or inexperienced. In fact, 51% of beginning SPED teachers are not "Hawai'i qualified."

The APC in SPED was designed to allow working professionals and/or those with family commitments to enroll in a 100% online self-paced program that would meet their unique scheduling needs at the state's most affordable tuition rate. Student enrollment

in Leeward CC's Teacher Education Program would increase significantly by allowing AST graduates to seamlessly transition into one additional year of SPED coursework and a final year of clinical practice at one of our partner institutions, and allowing candidates with bachelor's degrees to complete an accelerated licensure program with the flexibility of customized academic plans.

It was also intended that the accessibility and affordability of Leeward CC's APC in SPED would attract a locally sourced teacher workforce with job-related experience, reducing the heavy dependency on continuous recruitment of unqualified, inexperienced, and transient teachers. Initial recruitment for the APC was targeted towards current emergency hires and paraeducators with a demonstrated long-term commitment to working with culturally and linguistically diverse student populations with special needs in historically underserved and underperforming public schools.

Seven courses (or 19 credits) were created to comprise the APC in SPED for candidates who hold a minimum of a bachelor's level degree.

- ED 330: SPED Law and Individual Education Program Development (3 credits)
- ED 331: SPED Assessment (3 cr.)
- ED 332: English Language Arts Instruction and Interventions (3 cr.)
- ED 334: Participating in a Professional Community (3 cr.)
- ED 335: Educational Technology for Students with Exceptionalities (3 cr.)
- ED 336: Student Teaching Portfolio (3 cr.)
- ED 393S: Field Practicum II (1 cr.)

The following are curriculum pathways for the APC in SPED tracks. Track I is the Teacher Licensure track and includes 19 credits for candidates with a bachelor's level degree: 15 credits of core coursework, 4 credits of student teaching and a portfolio course.

Track I - Teacher Licensure Academic Plan - Alternative route to licensure for those with a bachelor-level degree	
Year 1	<p>Fall Semester (9 cr.)</p> <p>ED 330: SPED Law and IEP Development (3 cr.) ED 331: SPED Assessment (3 cr.) ED 332: ELA Interventions (3 cr.)</p> <p>Spring Semester (6 cr.)</p> <p>ED 334: ED Tech for Inclusive Classroom (3 cr.) ED 335: Participating in a Professional Community (3 cr.)</p>

Year 2	<p>Fall Semester (4 cr.)</p> <p>ED 336: Student Teaching Portfolio (3 cr.) ED 393S: Field Practicum (1 cr.) Full-time student teaching-15 weeks</p>
Total	19 credits

Track II is the 3+1 track and includes the five core courses (15 credits) as students then transfer to a 4-year degree-granting institution to earn their Bachelor's in Education. An official Memorandum of Agreement for a 3+1 pathway for Track II was established in August 2017 with Chaminade University of Honolulu, and Leeward CC continues to pursue discussions with both UH Mānoa and UH West O'ahu regarding a comparable 3+1 pathway.

Track II - 3+1 Academic Plan - Bachelor degree leading to licensure, granted by a partner institution	
Year 1	Leeward CC Associate in Science in Teaching (31 cr.)
Year 2	Leeward CC Associate in Science in Teaching (31 cr.)
Year 3	<p>Fall Semester</p> <ul style="list-style-type: none"> • Elective and general ed coursework required by a partner institution • Recommended ED electives from Leeward CC: ED 100, 279, 282, 283, 284, 289, 277 <p>Spring Semester (15 cr.)</p> <p>Leeward CC APC courses, upper-division credits:</p> <p>ED 330: SPED Law and IEP Development (3 cr.) ED 331: SPED Assessment (3 cr.) ED 332: ELA Interventions (3 cr.) ED 334: ED Tech for Students with Exceptionalities (3 cr.) ED 335: Participating in a Professional Community (3 cr.)</p>

Track II - 3+1 Academic Plan - Bachelor degree leading to licensure, granted by a partner institution	
Year 4	Bachelor-degree granting university (30 cr.; upper div) Student teaching (9 cr.) Seminar/portfolio (3 cr.) Coursework (PK-3, K-6, 6-12) (18 cr.)
Total	122 credits

Program Learning Outcomes

The APC in SPED Program Learning Outcomes are aligned with Council for Exceptional Children (CEC) Initial Level Special Educator Preparation Standards.

- Students will be able to understand and practice the special education policies, procedures, and legal requirements regarding students with disabilities.
- Students will be able to understand the range and multiple manifestations of disabilities and their effects on social and emotional development, communication skills and oral language development, motor skills, functional and independent living skills, employment-related skills, and self-advocacy skills.
- Students will be able to design and implement individualized educational programs and will have a repertoire of instructional strategies, accommodations, assessment techniques, and procedures that are appropriate for students with disabilities.
- Students will be able to collaborate with families and other professionals to further student learning.
- Students will be able to access resources and assistive technologies to support student learning and to provide transition support to help students maintain continuous progress toward their educational goals.

The Council for Exceptional Children (CEC)'s performance-based Initial Preparation Standards

Program Effectiveness

When the College proposed to establish the provisional program in 2016, enrollment management strategies for the APC in Special Education targeted 190 students over a five-year period and 140 graduates who will be 100% employed in this field of

study. The College has surpassed the proposed student enrollment goals and enrolled 342 students to date. Student completion continues to reflect positive gains and while the College fell short of the projected goal by seven graduates, a total of 108 certificates were awarded. The tables below provide program completion, student enrollment, and transfer data.

Enrollment/Majors APC - Special Education						
Academic Year	2018	2019	2020	2021	Current Year	Total
<i>Projected</i>	25	25	40	50	50	190
<i>Actual</i>	32	67	74	92	77	342

Program Completion, APC - Special Education						
Year	2018	2019	2020	2021	Current Year	Total Enrollment
<i>Projected Program Completion</i>		25	25	40	50	140
<i>Actual Program Completion</i>	-	27	23	46	12 *FA21 only*	108

Program Transfer (UHM, UHWO, Chaminade, and other 4-year Schools)						
Year	2018	2019	2020	2021	Current Year	Total Transfer
<i>Number of Students</i>	2	3	5	16	10	36

The APC in SPED directly addresses the substantial trends emerging within the education field. For over three decades, special education has been identified as the highest need teacher preparation area in Hawai'i and nationwide.

The Program:

- Has produced 40 highly qualified licensed SPED teachers to serve in HIDOE schools;
- Offers the state's most accelerated SPED program;
- Has a high percentage of enrollees who are currently underrepresented in the education sector such as 26% Male, 25% Native Hawaiian, and 17% Wai'anae residents;
- Includes Kamehameha Schools' A'o Kumu Curriculum, which provides educators with the tools and skills to integrate culture-based education (CBE) with 21st century skills and relevant standards;
- Includes IRIS (Innovative Resources for Instructional Success) Center modules developed in collaboration with nationally recognized researchers and education experts. The IRIS resources address instructional and classroom issues of critical importance to today's educators such as classroom behavior management, secondary transition, early childhood, Universal Design for Learning, and many other skills sets;
- Serves as an articulation model that allows students to begin their degree in teaching with the flexibility of enrolling online, face-to-face, or hybrid courses at their own pace.

There have been 170 students with bachelor's degrees who had have enrolled in the alternative pathway to teacher licensure (Track I) and of those, 108 graduates have become fully licensed Special Education teachers with 100% of candidates earning the certificate in 12 months to 18 months. There have been 99 students without bachelor's degrees (Track II) enrolled in the 3+1 BS in SPED – 14 of whom are from our Nānākuli Educational Assistant to Teacher Pilot Program.

Exit Survey results indicated that 99% of students reported that the course assignments prepared them well or extremely well for the classroom and 97% of students reported that the field practicum prepared them well or extremely well.

The unique flexibility of the APC in SPED has attracted locally sourced applicants to ensure a sustainable workforce for our Hawai'i public schools. In fact, as noted above, the APC in SPED demographics boast high diversity compared to other Educator Preparation Programs in the state.

Most recently, the program underwent the development of a self-study for accreditation through AAQEP, demonstrating appropriateness in training and systematic assessment to ensure effectiveness of the program.

Evidence of Student Learning and Program Success

Student Learning is measured in multiple ways, some of the more objective means of evaluating student learning is through the knowledge, skills, and dispositions required by HTSB's 10 teaching standards which directly align to the Program Learning Outcomes. A measure of success is set at 70% Proficiency in HTSB PLOs; 70% Course Completion Rate; 50% Persistence Fall-to-Fall; and 10 SPED teacher graduates. The 2020-2021 Special Education Program had 100% Proficiency in HTSB PLOs; 41 SPED teacher graduates and 100% of the students passed the Praxis II SPED exam (CEC PLOs).

The Teacher Education Program's mission is to produce caring, collaborative, and effective educators. This mission is represented by six program goals, which are designed to align with and support Leeward Community College's mission and values and the University of Hawai'i Community College's current Strategic Plan. Evidence examined in this report based on data from the UHCC system and internal program sources indicates that the Teacher Education Program (TEP) is meeting its six pre-program mission goals (thus, supporting Leeward CC's mission and UHCC's strategic plan) and is realizing its vision of producing caring, collaborative, and effective teachers.

Supporting Students

The APC in SPED program benefits from all student and academic service resources provided college-wide, in addition to dedicated resources for the education programs, which include dedicated advising in addition to other support services provided by partners like INPEACE (Institute for Native Pacific Education and Culture). Internal program survey responses from APC in SPED students indicated that 100% of them have needed and benefited from the services of the academic advisor. The SPED licensure degrees require much more intensive counseling since teacher certification programs involve numerous detailed steps in order to be successful both academically and personally.

Evidence of Program Quality

The following areas represent evidence of program quality throughout the provisional planning process: Program Accreditation, External Grants Awarded, APC Program Advisory Council Membership, Student Testimonials, and Occupational Analysis.

Program Accreditation

The APC in SPED is nationally accredited by the Association for Advancing Quality in Educator Preparation. Leeward CC is the only community college in the nation to receive national accreditation for an Educator Preparation Program.

External Grant Awards

Over \$2.2M external grants have been awarded to support the SPED program, in the way of positions, tuition support and additional resources from Health Resources and Services Administration (HRSA); UH-HIDOE; Institute for Native Pacific Education and Culture; Carl D. Perkins; Grant-in-Aid, Hawai'i State Legislature; and James and Abigail Campbell Family Foundation Grant.

APC Program Advisory Council Membership

The APC Program Advisory Council composition includes experts and leaders representing Hawai'i Department of Education, Kamehameha Schools, Higher Ed Leaders, field experts, and SPED representatives. Their role is to systematically review the program and make recommendations for improvement and to ensure that the program is meeting its mission and objectives.

APC in SPED Student Testimonials

Student testimonials remain a critical component to not only celebrate success, but also inform programmatic change. Some gratifying testimonials are suggestive of the life changing qualities of the SPED Program.

Having a knowledgeable cooperating teacher and professor. I felt supported. I felt like my professor and the cooperating teacher had confidence in me. ~Briana Bennett

Loved that it was a short program and the professors are awesome! Very nurturing and always rooting for us to succeed. They gave immediate feedback and constructive criticism that is helpful in creating a teaching style that best fit me. Oh! and the stipend helped A LOT (insert two thumbs up emoji here)
~Desiree Morris

The school stipend is a huge factor! Thank you for that. Reducing the contract time from 3 years to 1 year in the special education field, gives educators the ability to advance to other positions. To be able to complete student teaching while working. Instructors are flexible and easy to talk to. Emails are answered promptly. Everyone shows effort and care. Completing the program in a lesser timeframe than other schools. Allowing college students to complete classes online and relate learning to hands-on work in real life. ~Natasha Skaltsas

Knowledgeable and supportive faculty, student forums for discussing and modeling work, accomplishing instruction entirely online without having to leave my job or my home school. ~Tiffany Brown

Occupational Analysis

Reflecting on the workforce trends presented above, the Leeward CC SPED completers are beginning to satisfy the previously presented need for highly qualified special education teachers. As is noted in the table below, completers are being hired across the state, including rural and hard-to-staff geographic regions. Of the completers, 97% are employed in HIDOE schools, with 100% in SPED placements and 52% in hard-to-staff regions, which the program set as program goal. In coordination with HIDOE’s Office of Talent Management, Leeward CC tracks and reports school placements as well as the contract obligation of 1-3 years of employment. Currently 100% of APC in SPED candidates are stipend recipients (See UH-HIDOE SPED Stipend MOA).

Job Placement of APC in SPED Completers*

District	2018-2019	2019-2020	2020-2021	2021-2022 (partial)
<i>Leeward</i>	11	3	15	4
<i>Central</i>	10	11	17	2
<i>Honolulu</i>	3	2	5	2
<i>Hawai'i</i>		4	4	2
<i>Maui</i>	1	1		2
<i>Windward</i>	2	2	5	1
TOTAL	27	23	36	13

*Source Data: HIDOE Office of Talent Management & Leeward Community College

Program Resources and Efficiency

During this provisional period, the APC in SPED education courses were taught by one full-time faculty member and lecturers who taught SPED content-specific courses in which they had expertise. With funding from the state legislature for additional positions, travel, and professional development activities, the program has sufficient resources to support the growing student demand for this program on O’ahu and state-wide.

The APC in SPED has the capacity to accept cohorts of approximately 20 candidates per semester with admission in Fall, Spring, and Summer. All five core courses are offered 100% online and offered each semester, which enables students highly flexible

enrollment options. The program has also used existing media equipment (Swivel, camcorders, tripods) acquired during the Trade Adjustment Assistance Community College to Career Training (TAACCCT) grant to video at least 1-2 of the 4 required lesson observations for our neighbor island candidates to drastically reduce travel expenses. In addition, the Teacher Education Program (TEP) Coordinator, TEP Counselor, TEP Office Clerk, and Social Science Division Secretary all assist in administrative duties to support the additional courses and programmatic needs (i.e. processing travel, processing Cooperating Teacher stipends, supporting student intake and graduation).

At the May 2017 Board of Regents Committee on Budget and Finance Meeting, former UHCC Vice President John Morton requested to have tuition rates for upper-division courses offered at all community colleges to align with four-year degree-granting UH institution rates. The Board approved a higher tuition rate as standard for the APC in SPED upper-division coursework. Effective Fall 2017, the APC in SPED's 300-level coursework was offered at the upper-division tuition rate (as of Spring 2022, the rate is \$306/credit) making it a highly sustainable program for the College while still providing our students the state's most affordable pathway to teacher licensure.

The costs and revenue for the provisional period and projections for the next three academic years are below:

Cost/Revenue Template

	Provisional Years (w/Actual)				Projected
YEAR	AY 17-18	AY 18-19	AY 19-20	AY 20-21	AY 21-22
General Fund Allocation	\$77,863	\$136,792	\$176,570	\$258,353	\$243,603
Faculty FTE	1.00	1.00	1.00	1.00	2.00
Lecturers		5	4	9	10
TFSF Allocation*	\$140,059	\$140,059	\$140,059	\$140,059	\$140,059
Number of Credits	168	272	309	405	244
Student Semester Hours	504	760	879	1,093	699

Total Revenue from Tuition	\$152,712	\$232,560	\$268,974	\$334,458	\$203,796
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*Program operating budget supports LCC Teacher Education Program (A.S. Teaching, CTE, SPED)

Future Goals

Listed below are specific action items that are currently underway and slated for completion during the upcoming academic year.

1. Increase statewide reach of the APC in SPED through outreach to rural and hard-to-staff geographic regions on neighbor islands with special focus on the areas identified by the HIDOE as critical shortage areas.
2. Expand the Educational Assistant-to-Teacher Pipeline in Nānākuli-Wai'anae Complex Area through 3+1 delivery model.
3. Expand articulation agreements with UH Mānoa and UH West O'ahu to provide students with enhanced pathways within the University System.
4. Develop articulation agreement with UH-Hilo to deliver a Pathway to Dual Licensure in SPED-Kaia 'ōlelo-Kaiapuni Hawai'i using Leeward CC's AST and APC in SPED coursework as the first three years of the degree.

Approval of Leeward Community College's Advanced Professional Certificate in Special Education K-12, from provisional to established status, will ensure that the College remains a positive force in providing the state's only fully online and self-paced pathway to teacher licensure.



HAWAII STATE TEACHERS ASSOCIATION

Teaching Today for Hawaii's Tomorrow

1200 Ala Kapuna Street • Honolulu, Hawaii 96819
Tel: (808) 833-2711 • Fax: (808) 839-7106 • Web: www.hsta.org

January 29, 2020

Corey Rosenlee
President

Osa Tui, Jr.
Vice President

Logan Okita
Secretary-Treasurer

Wilbert Holck
Executive Director

To Whom It May Concern:

I am writing this letter of support for Leeward Community College's (CC) Advanced Professional Certificate in Special Education K-12. In Hawai'i, a staggering 51% of beginning special education teachers are not highly qualified (Hawai'i Teacher Induction Center, May 2018) and there has been a critical shortage of special education teachers for at least the last three decades. The Hawai'i State Teachers Association (HSTA) advocates for alternative licensure programs that are designed to attract locally sourced candidates who have already exhibited a commitment to the field of special education such as paraprofessionals, substitutes and Emergency Hire teachers. Nearly 100% of Leeward CC's APC in SPED candidates are already currently employed in HIDOE schools with substantial work experience in special education.

As outlined in the May 2018 Special Education Task Force Summative Report, there is a significant gap in being able to fill our special education classrooms with effective and Hawai'i Qualified (HQ) teachers. The shortage impacts the capacity of schools to close the opportunity and achievement gap and promote student growth for our students with disabilities. In response to the chronic shortage of special educators and persistent retention challenges, the Hawai'i Special Education Task Force recommended to expand partnerships to support licensing and certification for special education teachers through the following action items that are both addressed by the APC in SPED pathway at Leeward CC:

- Attracting high school graduates to become special education teachers in partnership with higher education, legislature, and HIDOE. Recruitment could be promoted through academies and career pathways, marketing and outreach, loan forgiveness, and free college tuition in return for service.
- Offering courses through partnerships with institutes of higher education to increase the pool of qualified teachers to assist: - Secondary special education teachers who require content certification; - Current employees working towards HQ status; - Educational assistants aspiring to pursue a teaching career; and - Teacher candidates in accessing the University of Hawai'i's current free certification program

Track I of the APC in SPED has provided a highly flexible and affordable delivery model that enables candidates to complete a 3+1 bachelor's degree in education leading to teacher licensure while remaining employed full-time. In addition, Track II of the APC in SPED for those

Support for Leeward CC's Advanced Professional Certificate in Special Education
January 29, 2020
Page 2

with a bachelor-level degree has provided candidates statewide with the only self-paced licensure program that allows students to develop their own academic plans based on their unique work and family needs. The APC in SPED candidates has produced 40 special education teachers in some of the state's highest teacher shortage areas including Wai'anae, Hilo, Kea'au, and Haiku.

Sincerely,

A handwritten signature in black ink, appearing to read 'Corey Rosenlee', written in a cursive style.

Corey Rosenlee
President



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

March 4, 2020

Mr. James Goodman
Office of the Dean of Arts & Sciences
Leeward Community College
96-045 Ala Ike Street
Pearl City, HI 96782

Dear Mr. Goodman:

This is a letter in support of Leeward Community College's (Leeward CC) Advanced Professional Certificate (APC) in Special Education (SPED) K-12. The Hawaii Department of Education (HIDOE) advocates for alternative pathways to teacher licensure that are designed to attract locally sourced candidates who have already exhibited a commitment to the field of SPED such as paraprofessionals, substitutes, and emergency hire teachers. Nearly all of Leeward CC's APC in SPED candidates are already currently employed in HIDOE schools with substantial work experience in SPED.

As outlined in the May 2018 SPED Task Force Summative Report to the Hawaii Board of Education, there is a significant challenge in being able to fill our SPED classrooms with effective and Hawaii Qualified teachers. SPED has been designated as a Federal Teacher Shortage Area in Hawaii since the 1990-1991 school year and the need for qualified SPED teachers continues to rise. The shortage impacts the capacity of schools to close the opportunity and achievement gap and promote growth for our students with disabilities. In response to the chronic shortage of SPED teachers and persistent retention challenges, the Hawaii SPED Task Force recommended to expand partnerships to support licensing and certification for SPED teachers.

The HIDOE looks forward to continued collaboration with your institution and providing insight into the qualifications and skill set that would be required for individuals who go through and complete this program. Thank you for your commitment in helping the HIDOE achieve its goal of student success.

Sincerely,

A handwritten signature in blue ink, appearing to read "Christina M. Kishimoto".

Dr. Christina M. Kishimoto
Superintendent

CMK:khk

c: Office of Talent Management, Management Support Services Section



UNIVERSITY
of HAWAII
SYSTEM

UNIVERSITY OF HAWAII
BOARD OF REGENTS

22 JAN 28 P1:23

January 28, 2022

MEMORANDUM

TO: Randolph G. Moore
Chair, Board of Regents

Ernest Wilson
Chair, Committee on Academic and Student Affairs
Board of Regents

VIA: David Lassner *David Lassner*
President

FROM: Pearl Iboshi *Pearl Iboshi*
Director, Institutional Research, Analysis and Planning Office

Hae Okimoto *Hae Okimoto*
Associate Vice President for Student Affairs

SUBJECT: REQUEST FOR REVISIONS TO BOARD OF REGENTS POLICY (RP) 6.208
BOARD EXEMPTIONS TO NON-RESIDENT TUITION

SPECIFIC ACTION REQUESTED:

It is requested that the Board of Regents approve the revision of RP 6.208 Board exemptions to non-resident tuition to reflect the administration's proposed policy changes.

RECOMMENDED EFFECTIVE DATE:

Upon Board of Regents approval.

ADDITIONAL COST:

There are no additional costs associated with this request.

PURPOSE:

To update the Board of Regents policy on Board exemptions to non-resident tuition as related to veterans, Pacific Island students, national and international students, and graduate assistants.

BACKGROUND:

Executive Policy EP 2.201, Section III.C., states that Regents policies shall be reviewed every three years and amended policies may be drafted, vetted and adopted at any time as may be needed. RP 6.208 was last amended on September 26, 2019. The proposed policy revisions attached have been prepared in consultation with the UH Officers, Chancellors/Provost, Council of Chief Academic Officers, Council of Senior Student Affairs Officers, Faculty Senates, UH Student Caucus and the University of Hawai'i Professional Assembly and has been reviewed by the Office of the General Counsel.

RP 6.208 defines when students may be granted waivers of the non-resident tuition differential (NRTD). This policy is being updated to make clear that only the Board of Regents can establish categories of exemptions from non-resident tuition differential. In addition, updates are being proposed to reflect recent legislation and federal policies related to educational benefits for veterans and their families.

Proposed revisions also include adding an exemption for visiting students participating in national or international exchange programs with the University, to be charged 150 percent of the resident tuition rate as specified in the applicable tuition agreement.

Graduate assistants have also been included as a group that is eligible. We are moving to requiring tuition to be paid for GAs rather than waiving it as we do now. For internally funded GAs (TAs), it is intended that scholarships will be provided with institutional funds that return to the institution. For extramurally funded GAs (mostly RAs), the funding agency will be charged for tuition at the resident rate.

Finally, revisions include expansion of eligibility for citizens of Pacific Island jurisdictions which have a public higher education institution that does not offer specified programs of interest available at a UH campus. In this case, if a student citizen of a Pacific Island jurisdiction which does have a public higher education institution, like Guam, but that institution does not have desired programming, pursuant to a tuition agreement between UH and that institution, the student will pay 150 percent of the resident rate tuition.

ACTION RECOMMENDED:

It is recommended that the Board of Regents approve the revision of RP 6.208 Board exemptions to non-resident tuition to reflect the administration's proposed policy changes.

Attachments:
RP 6.208 original
RP 6.208 redline
RP 6.208 clean

c: Kendra Oishi, Executive Administrator and Secretary of the Board of Regents



Regents Policy Chapter 6, Tuition, Financial Assistance, and Fees
Regents Policy RP 6.208, Board Exemptions to Non-Resident Tuition
Effective Date: March 1, 2019
Prior Dates Amended: June 16, 2006; Nov. 16, 2006; Oct. 31, 2014 (recodified);
September 26, 2019
Review Date: August 2022

I. Purpose:

To set forth policy regarding exemptions to non-resident tuition.

II. Definitions:

No policy specific or unique definitions apply.

III. Policy:

- A. The students affected by the following guidelines are classified as non-residents for admission and tuition purposes. In accordance with board policy, non-resident students are admitted on a space available basis with the understanding that priority for admission is given to qualified residents.
- B. The following categories of students will receive a waiver of the non-resident tuition differential:
1. East-West Center student grantees pursuing baccalaureate or advanced degrees;
 2. United States military personnel stationed in Hawai'i on active duty, and their authorized dependents during the period that the personnel are stationed in Hawai'i;
 3. Members of the Hawai'i National Guard and the Hawai'i Reserves;
 4. Native Hawaiians whose domicile is outside of Hawai'i;
 5. Employees of the university, their spouses, and their dependents;
 6. Veterans eligible to use Post 9/11 GI Bill or Montgomery GI Bill Active Duty Program education benefits, who live in Hawai'i, and enroll at the university

- within three years of discharge or release from a period of active duty service of 90 days or more.
7. Individuals eligible to use *transferred* Post 9/11 GI Bill education benefits, who live in Hawai'i, and enroll at the university within three years of the transferor's discharge or release from a period of active duty service of 90 days or more.
 8. Individuals eligible to use education benefits under the *Marine Gunnery Sergeant John David Fry Scholarship*, who live in Hawai'i.
 9. Individuals eligible to use transferred Post 9/11 GI Bill education benefits, who live in Hawai'i, and whose transferor is a member of the uniformed service who is serving on active duty.
 10. Veterans living in the State of Hawai'i with service-connected disabilities who are eligible for benefits provided for in Title 38, U.S. Code, Chapter 31, otherwise known as the Vocational Rehabilitation and Employment program.
- C. With the written approval of the chancellor, campuses may, for those nonresident students whose special talents and/or unique skills will make a significant contribution to campus life, exempt the nonresident portion of tuition. If instituted, the total number of exemptions granted in any given year should be established in accordance with the campus's strategic enrollment management goals, not exceed two percent of campus enrollment in any given year and be reviewed/promulgated on a biennial basis.
- D. Citizens from an eligible Pacific Island district, commonwealth, territory, or insular jurisdiction, state or nation which provides no public higher education institution granting baccalaureate degrees are charged 150 percent of the resident tuition rate. The Office of the President updates and distributes the list of eligible Pacific Island jurisdictions.

IV. Delegation of Authority:

There is no policy specific delegation of authority.

V. Contact Information:

Office of the Associate Vice President for Student Affairs, 956-3504,
avpsa@hawaii.edu.

VI. References:

- <http://www.hawaii.edu/offices/bor/>



Regents Policy Chapter 6, Tuition, Financial Assistance, and Fees
Regents Policy RP 6.208, Board Exemptions to Non-Resident Tuition

Effective Date: ~~March 1, 2019~~ ~~XXX XX, 2022~~

Prior Dates Amended: June 16, 2006; Nov. 16, 2006; Oct. 31, 2014 (recodified); May 21, 2015; June 1, 2017; September 26, 2019

Review Date: August ~~2025~~ 2022

I. Purpose:

To set forth policy regarding exemptions to non-resident tuition.

II. Definitions:

No policy specific or unique definitions apply.

III. Policy:

A. The students affected by the following guidelines are classified as non-residents for admission and tuition purposes. In accordance with board policy, non-resident students are admitted on a space available basis with the understanding that priority for admission is given to qualified residents. Only the board may determine categories of non-resident students that will receive exemptions from the non-resident tuition differential.

B. The following categories of non-resident students are eligible to~~will~~ receive an exemption-waiver ~~from~~ the non-resident tuition differential:

1. East-West Center student grantees pursuing baccalaureate or advanced degrees;
2. United States military personnel stationed in Hawai'i on active duty, and their authorized dependents during the period that the personnel are stationed in Hawai'i;
3. Members of the Hawai'i National Guard and the Hawai'i Reserves;
4. Native Hawaiians whose domicile is outside of Hawai'i;
5. Employees of the university, their spouses, and their dependents. The faculty or staff member must be employed on a half-time basis or more; those

- excluded from collective bargaining must have an appointment exceeding three (3) months.;
6. Veterans eligible to use Post 9/11 GI Bill or Montgomery GI Bill Active Duty Program educational benefits per the Isakson and Roe Veterans Health Care and Benefits Improvement Act of 2020 (P.L. 116-315), who live in Hawai'i, and those who subsequently move but maintain continuous enrollment and enroll at the university within three years of discharge or release from a period of active duty service of 90 days or more.
 7. Individuals eligible to use ~~transferred~~ transferred Post 9/11 GI Bill educational benefits per the Isakson and Roe Veterans Health Care and Benefits Improvement Act of 2020 (P.L. 116-315), who live in Hawai'i; and those who subsequently move but maintain continuous enrollment~~enroll at the university within three years of the transferor's discharge or release from a period of active duty service of 90 days or more.~~
 8. Individuals eligible to use educational benefits under the ~~Marine Gunnery Sergeant John David Fry Scholarship~~ Marine Gunnery Sergeant John David Fry Scholarship, who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 - ~~8.9.~~ Individuals eligible to use educational assistance under the Survivors' or Dependents' Educational Assistance (Chapter 35) program, who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 - ~~9.~~ Individuals eligible to use transferred Post 9/11 GI Bill education benefits, who live in Hawai'i, and whose transferor is a member of the uniformed service who is serving on active duty.
 10. Veterans ~~living in the State of Hawai'i~~ with service-connected disabilities who are eligible for benefits provided for in Title 38, U.S. Code, Chapter 31, otherwise known as the Veteran Readiness and Employment or VR&E (formerly called Vocational Rehabilitation and Employment) program, who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 11. Graduate (GA), teaching (TA), and research assistants (RA), as a function of their appointment to an assistantship.
 - ~~10-12.~~ Ph.D. students registering for only one credit hour of a dissertation course.

- C. With the written approval of the chancellor/provost, campuses may, for those non-resident students whose special talents and/or unique skills will make a significant contribution to campus life, exempt the non-resident portion of tuition. If instituted, the total number of exemptions granted in any given year should be established in accordance with the campus's strategic enrollment management goals, not to exceed two percent of campus enrollment in any given year and shall be reviewed/promulgated on a biennial basis.
- D. Citizens from an eligible Pacific Island district, commonwealth, territory, or insular jurisdiction, state or nation (collectively, "Pacific Island jurisdictions") which provides no public higher education institution granting baccalaureate degrees, are charged 150 percent of the resident tuition rate. For citizens from Pacific Island jurisdictions that have a public higher education institution but it does not offer a program that is desired by the student and is offered at the University of Hawai'i, the 150 percent of the resident rate may be applied for participation in the specified program at a specified campus upon written agreement by that institution and the university. The ~~Office of the President~~ president or designee updates and distributes the list of eligible Pacific Island jurisdictions.
- E. Visiting students on national and international exchange programs where tuition agreements have been signed by the president may be charged 150 percent of the resident tuition rate as specified by the tuition agreement.
- F. Only exemptions from non-resident tuition differential delineated in this policy are permitted.

IV. Delegation of Authority:

There is no policy specific delegation of authority.

V. Contact Information:

Office of the Associate Vice President for Student Affairs, (808) 956-35048753,
avpsa@hawaii.edu.

VI. References:

- <http://www.hawaii.edu/offices/bor/>
- EP 6.207
- RP 6.209

Approved as to Form:

~~KS~~

Kendra Oishi
Executive Administrator and
Secretary of the Board of Regents

09/26/19

Date



Regents Policy Chapter 6, Tuition, Financial Assistance, and Fees
Regents Policy RP 6.208, Board Exemptions to Non-Resident Tuition
Effective Date: XXX XX, 2022

Prior Dates Amended: June 16, 2006; Nov. 16, 2006; Oct. 31, 2014 (recodified); May 21, 2015; June 1, 2017; September 26, 2019

Review Date: August 2025

I. Purpose:

To set forth policy regarding exemptions to non-resident tuition.

II. Definitions:

No policy specific or unique definitions apply.

III. Policy:

- A. The students affected by the following guidelines are classified as non-residents for admission and tuition purposes. In accordance with board policy, non-resident students are admitted on a space available basis with the understanding that priority for admission is given to qualified residents. Only the board may determine categories of non-resident students that will receive exemptions from the non-resident tuition differential.
- B. The following categories of non-resident students are eligible to receive an exemption from the non-resident tuition differential:
1. East-West Center student grantees pursuing baccalaureate or advanced degrees.
 2. United States military personnel stationed in Hawai'i on active duty, and their authorized dependents during the period that the personnel are stationed in Hawai'i.
 3. Members of the Hawai'i National Guard and the Hawai'i Reserves.
 4. Native Hawaiians whose domicile is outside of Hawai'i.
 5. Employees of the university, their spouses, and their dependents. The faculty or staff member must be employed on a half-time basis or more; those

- excluded from collective bargaining must have an appointment exceeding three (3) months.
6. Veterans eligible to use Post 9/11 GI Bill or Montgomery GI Bill Active Duty Program educational benefits per the Isakson and Roe Veterans Health Care and Benefits Improvement Act of 2020 (P.L.116-315), who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 7. Individuals eligible to use transferred Post 9/11 GI Bill educational benefits per the Isakson and Roe Veterans Health Care and Benefits Improvement Act of 2020 (P.L.116-315), who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 8. Individuals eligible to use educational benefits under the Marine Gunnery Sergeant John David Fry Scholarship, who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 9. Individuals eligible to use educational assistance under the Survivors' or Dependents' Educational Assistance (Chapter 35) program, who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 10. Veterans with service-connected disabilities who are eligible for benefits provided for in Title 38, U.S. Code, Chapter 31, otherwise known as the Veteran Readiness and Employment or VR&E (formerly called Vocational Rehabilitation and Employment) program, who live in Hawai'i and those who subsequently move but maintain continuous enrollment.
 11. Graduate (GA), teaching (TA), and research assistants (RA), as a function of their appointment to an assistantship.
 12. Ph.D. students registering for only one credit hour of a dissertation course.
- C. With the written approval of the chancellor/provost, campuses may, for those non-resident students whose special talents and/or unique skills will make a significant contribution to campus life, exempt the non-resident portion of tuition. If instituted, the total number of exemptions granted in any given year should be established in accordance with the campus's strategic enrollment management goals, not to exceed two percent of campus enrollment in any given year and shall be reviewed/promulgated on a biennial basis.
- D. Citizens from an eligible Pacific Island district, commonwealth, territory, or insular jurisdiction, state or nation (collectively, "Pacific Island jurisdictions") which provides no public higher education institution granting baccalaureate degrees,

are charged 150 percent of the resident tuition rate. For citizens from Pacific Island jurisdictions that have a public higher education institution but it does not offer a program that is desired by the student and is offered at the University of Hawai'i, the 150 percent of the resident rate may be applied for participation in the specified program at a specified campus upon written agreement by that institution and the university. The president or designee updates and distributes the list of eligible Pacific Island jurisdictions.

- E. Visiting students on national and international exchange programs where tuition agreements have been signed by the president may be charged 150 percent of the resident tuition rate as specified by the tuition agreement.
- F. Only exemptions from non-resident tuition differential delineated in this policy are permitted.

IV. Delegation of Authority:

There is no policy specific delegation of authority.

V. Contact Information:

Office of the Associate Vice President for Student Affairs, (808) 956-8753,
avpsa@hawaii.edu.

VI. References:

- <http://www.hawaii.edu/offices/bor/>
- EP 6.207
- RP 6.209

Approved as to Form:

Kendra Oishi
Executive Administrator and
Secretary of the Board of Regents

Date

Hawai'i P-20 Partnerships for Education Update

BOR Academic and Student Affairs Committee

February 3, 2022

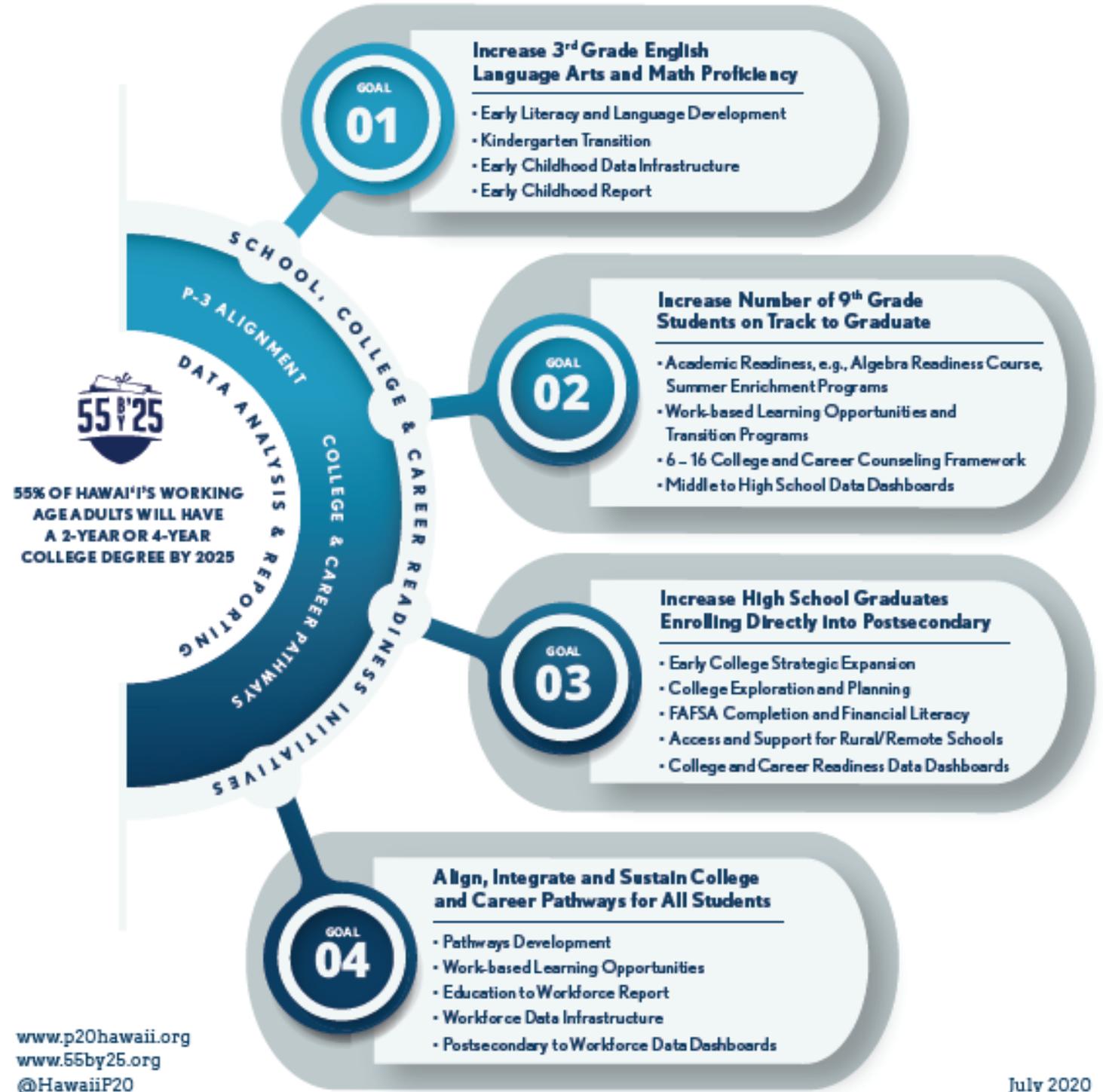
Hawai'i P-20 At A Glance

Mission:

Hawai'i P-20 strengthens the education pipeline from **early childhood** through postsecondary education and training with data-informed decision making, advocacy, policy coordination and shared action. Our work is focused on high expectations and equitable access, so all students can thrive in school, career, and life.

Role:

- Collaborate with stakeholders and facilitate change
- Incubate programs and scale successes
- Build and manage data infrastructure
- Inquire, analyze, and inform with data
- Advocate education policy for improved outcomes

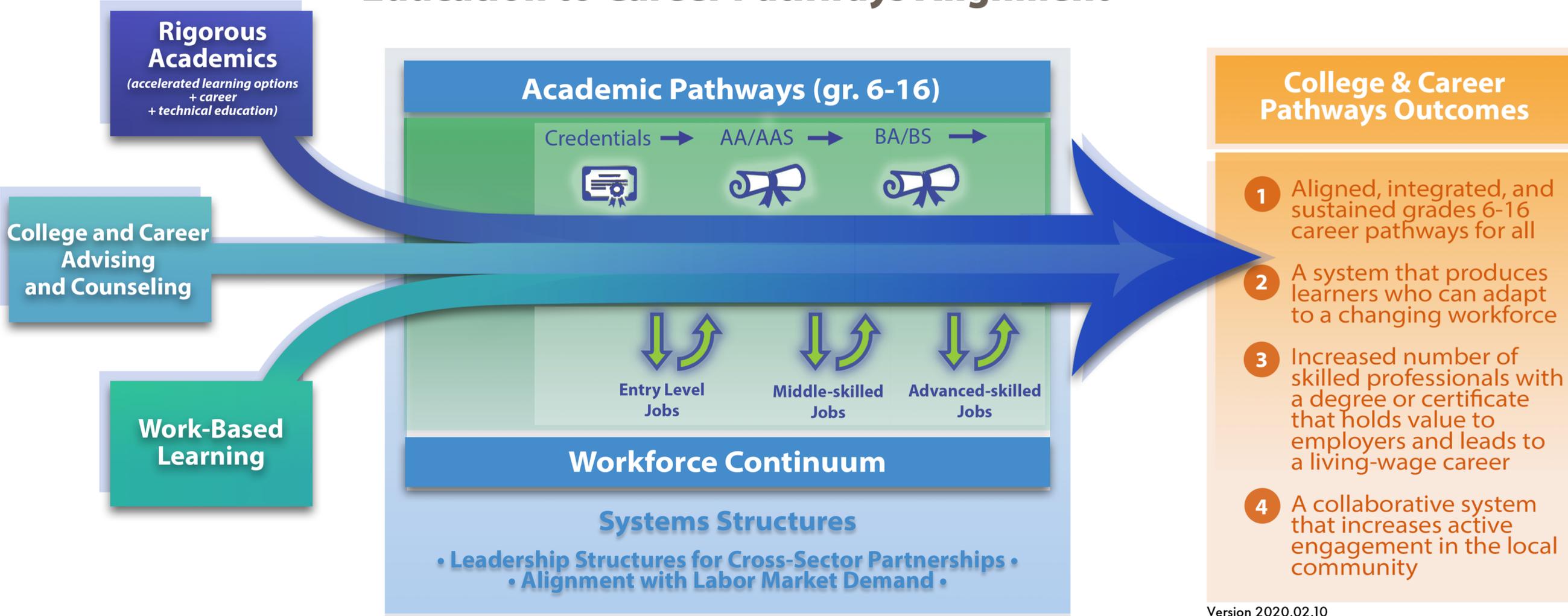


Data Sharing and Capacity



Data sharing agreements currently in place among DOH, DHS, UH, DOE, and DLIR.

Education to Career Pathways Alignment



Version 2020.02.10

Rigorous Academics

*(accelerated learning options
+ career
+ technical education)*

- “Door Opener” CTE classes – Developing resource for both K-12 and higher ed
- Shared, online Early College courses – Shared among 25 high schools across the State
- Running Start – Scholarships for eligible high school students in dual-credit courses at UH

College and Career Advising and Counseling

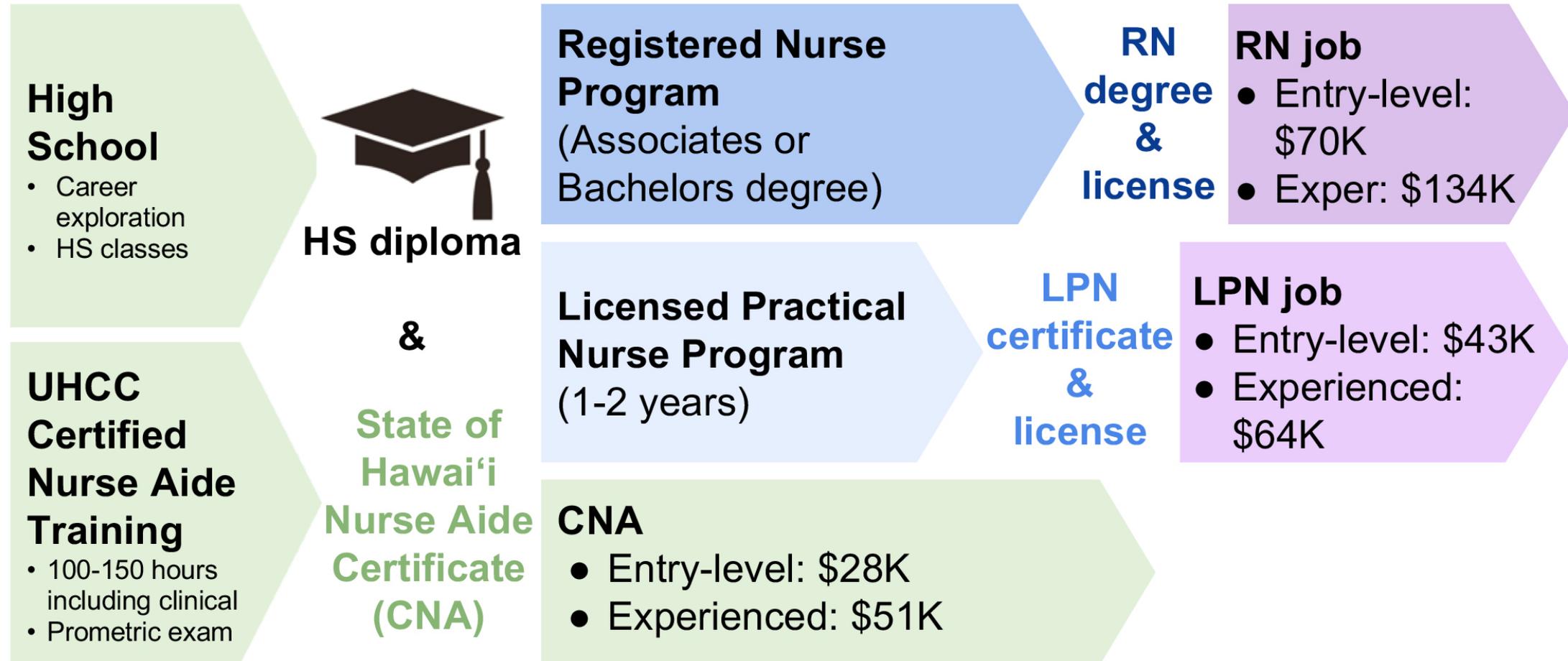
- “Next Steps to Your Future” campaign – Virtual advising to graduating public school seniors (pandemic response)
- Professional development for HS counselors – Building capacity to advise students on preparing for and applying to college
- FAFSA completion – Statewide, dedicated support to students and families for FAFSA completion

Work-Based Learning

- WBL Intermediaries – Hawai'i WBL Intermediary Collaborative Network established in 2021; 6 intermediaries serving 16 high schools; in RFP process to add 2 additional intermediaries
- WBL website – Developed for schools/colleges; contains resources for employers and educational institutions on the variety of WBL options; WBL intermediary-specific resources being added soon

Learn and Earn Pathway: Nursing

Leads from high school (senior year) to post-high employment as a CNA (in-demand job) with concurrent enrollment in nursing program for advancement





UNIVERSITY
of HAWAII
SYSTEM

UNIVERSITY OF HAWAII
BOARD OF REGENTS

22 JAN 27 P 3:53

Debora J. Halbert
Associate Vice President for Academic Programs and Policy

22137 D

January 20, 2022

MEMORANDUM

TO: Ernest Wilson
Chair, Committee on Academic and Student Affairs

VIA: David Lassner *David Lassner*
President

FROM: Debora J. Halbert *Debora Halbert*
Associate Vice President for Academic Programs and Policy

SUBJECT: General Education Redesign Update

Attached is a presentation on the general education redesign initiative with updates on the ongoing consultation and a revised schedule for the redesign process. Also attached is the "Place-Based Capacities Proposal for General Education" which was created by the UH General Education Design Team and describes the guiding principles and structure of the proposed curriculum.

This will be presented to the BOR Academic and Student Affairs Committee at the February 3, 2022, meeting. I will be present to answer any questions the Regents may have. Thank you for your consideration of this report and proposal.

Attachments

Sinclair Annex 1, Room 5
1633 Bachman Place
Honolulu, Hawai'i 96822
Telephone: (808) 956-9404
Fax: (808) 956-6976

An Equal Opportunity/Affirmative Action Institution

General Education Redesign Update

BOR Academic and Student Affairs Committee
February 3, 2022

Debora Halbert
Associate VP Academic Programs and Policy

Since Last ASA Meeting

**Draft Proposal
Submitted for Formal
Consultation**

<https://www.hawaii.edu/offices/vp-academic-strategy/academic-programs-and-policy/general-education-redesign/proposal/>

Prezi of the Proposal

https://prezi.com/v/35vtg1nfbu_ei/

Feedback and Consultation

Consultation and Communication

- Each faculty senate is engaged in its process.
- Email for comments.
- Google form for comments.
- Can request a meeting with design team members.

Town Halls

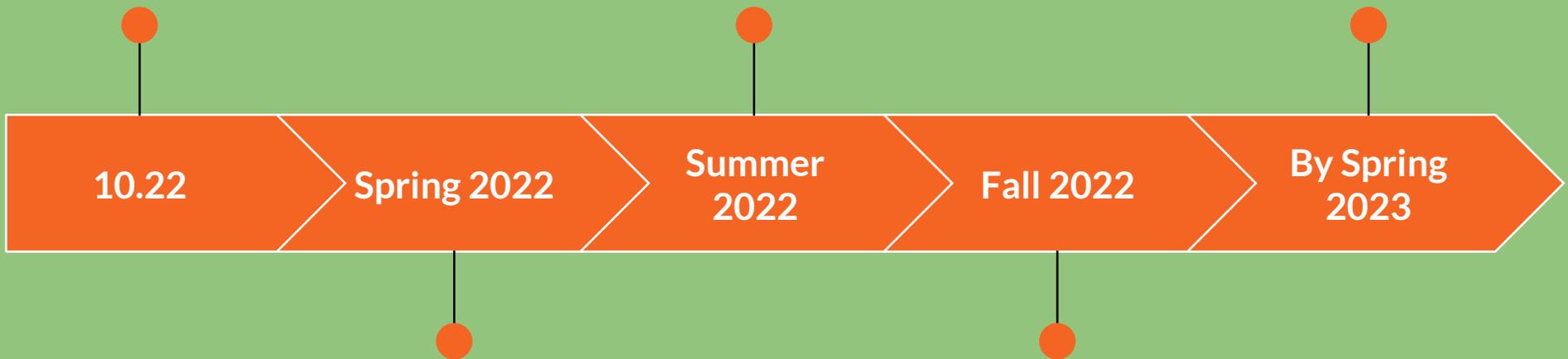
- Friday, Dec. 3, 2021, 12:00-1:00 pm
- Monday, Dec. 13, 2021, 10:00-11:00 am
- Thursday, Jan. 6, 2022, 3:00-4:00 pm
- Wednesday, Jan. 26, 2022, 11:00 am-12:00 noon

Revised Schedule

Consultation and discussion of draft proposal.

Revision team will work on revisions and implementation plan.

Formal vote on new proposal.



Revision team formed in consultation with faculty senates.

Revised Proposal submitted to faculty senates for consultation.

Next steps

Work with Senates to form a Revision Team.

Coalate comments and recommendations for review by Revision Team.

Develop Implementation Strategy in conjunction with revised proposal.

Future Updates

For updates please review documents on the website:

<https://www.hawaii.edu/offices/vp-academic-strategy/academic-programs-and-policy/general-education-redesign/>



Place-Based Capacities Proposal for General Education

Presented by the UH General Education Design Team:

Nani Azman, UH Maui College
 Celia Bardwell-Jones, UH Hilo
 Shana Brown, UH Mānoa
 Michael Cawdery, Leeward CC
 Sam Giordanengo, Hawai'i CC
 Ryan Girard, Kaua'i CC
 Ku'ualoa Ho'omanawanui, UH Mānoa
 Rene Hutchins, Student Representative
 Kara Kam-Kalani, Honolulu CC

Kristin Kumashiro, UH Mānoa
 Kealohilani Leleo, Student Representative
 Nicolas Logue, Windward CC
 Mike Menchaca, UH Mānoa
 Amy McKee, UH Mānoa
 Leslie Opulauoho, UH West O'ahu
 Marc Rollon, Student Representative
 Anthony Silva, Kapi'olani CC

About the Logo:

Hawai'i is positioned at the center, with five people encircling this global view. Some see the five people to be students (haumāna), others will find faculty (kumu) or, possibly, both, as we strive for all to be lifelong learners. All wear mortarboards, symbolizing scholarship and learning. All are joined in unity, with the ten clasped hands representing the ten campuses of the UH System, as well as the individual and collective commitments that we make to one another as peers and colleagues. The stars at the end of each mortarboard's tassel recall the celestial guidance of the first Hawaiian voyagers and are symbolic of each student's journey. The star motif--in the tassels and the arrangement of the people--is also universally recognized as a symbol of excellence. The backdrop showcases the summit of ka mauna, which symbolizes excellence and demonstrates the toil of an academic journey, whose strain parallels that of scaling the mountains of our goals.

Finally, color enhances the imagery; different skin tones and the varying hues of cap-and-gown reflect the diversity of our people and the broad and extraordinary range of disciplines and expertise across our ten campuses, respectively. The greens and blues of the land, sea, and sky of Hawai'i is both the background and the nucleus of General Education of the University of Hawai'i System.

Logo Developed by: Kealohi Leleo, Rene Hutchins, and Marc Joseph Rollon

LAND ACKNOWLEDGEMENT (HO'OIA 'ĀINA) AT THE UNIVERSITY OF HAWAI'I

To honor and respect Indigenous Peoples, the UH General Education Curriculum Design Team has crafted a proposed land acknowledgement for the General Education curriculum reflecting the responsibilities of an Aloha 'Āina university and a *Hawaiian Place of Learning*.

The University of Hawai'i campuses are situated on the traditional homeland ('āina) of the Kanaka 'Ōiwi (Native Hawaiian) people, who never ceded their sovereignty to the United States. We acknowledge that Queen Lili'uokalani temporarily yielded her authority under duress and in protest and did not relinquish her power in perpetuity. Rather, sovereignty was wrested through an illegal coup by foreign settlers aided by the US military in 1893, and later illegally (and immorally) annexed to the United States in 1898. Moreover, the University is a land grant institution under the Morrill Act of 1862, which was used to fund universities in the US by redistributing 11 million acres of Indigenous lands ceded under violent duress. The University has also benefited from 1.8 million acres of seized and contested Hawaiian lands that UH campuses sit on, as well as lands it leases and thus controls.

As a Hawaiian Place of Learning, as an Aloha 'Āina University, as an Indigenous serving institution, and as a beneficiary of the Morrill Act, the University of Hawai'i has a kuleana (responsibility) to recognize Hawai'i—including our campuses and facilities—as located on the 'āina of Kanaka 'Ōiwi; to support Indigenous peoples and the protection of Indigenous 'āina; to affirm Kanaka 'Ōiwi and their knowledge systems greatly contribute to our collective understanding of Hawai'i and the world, and practices such as mālama 'āina are models for sustainability. The university is committed to promoting equity for Kanaka 'Ōiwi and other marginalized groups in and beyond our institution.

EXECUTIVE SUMMARY

The UH General Education Curriculum Design Team presents this document to begin the conversation about a re-imagining of the general education curriculum that serves the 10 campuses of the University of Hawai'i system. The effort to re-imagine a General Education curriculum is a response to President David Lassner's charge: "We must identify and articulate what our students need to know, be able to do, and value so they can be knowledgeable and contributing citizens in the complex, diverse, information-driven and interconnected world within which they will live and work"¹ and attends to his guardrails.² Our proposal aims to improve our current General Education curriculum in the following ways:

- ease student transfer across institutions
- align with the learning outcomes of accreditation standards and the Interstate Passport
- Incorporate the values of the place of Hawai'i in the curriculum
- prepare students to confidently face the challenges of a precarious natural environment, rapid technological advancements and pervasive global social inequalities as well as to find solutions that creatively contribute to a thriving community.

After identifying the areas in need of improvement in our current General Education curriculum, the Design Team has framed the proposed curriculum around five Guiding Principles: **Hawai'i, Learning, Students, Unity, and Excellence**. These Guiding Principles have influenced our self-reflective process in designing a re-imagined curriculum.

The Design Team proposes a **place-based capacities** curriculum. Our proposal re-imagines the current general education system, which is organized around distribution requirements. In a place-based capacities curriculum, the student learning experience is situated within a community, in particular within the perspectives of Hawai'i. Briefly, we define capacities as the essential academic skills and knowledge that will prepare students to succeed in their future career paths or contribute to a thriving community.³ We recommend three components to a re-imagined General Education program:

- **Foundational courses** consisting of five courses and an information & digital literacy lab. These courses will incorporate knowledge, skills, and values that have been identified by

¹ <https://www.hawaii.edu/news/2021/03/12/uh-president-general-education-curriculum-redesign/>

² <https://www.hawaii.edu/offices/vp-academic-strategy/academic-programs-and-policy/general-education-redesign>

Also see UH Systemwide Competencies Survey results for Students and Faculty:

Students: <https://drive.google.com/file/d/1L3N-Zc-cEULINfqCpH01X6SA0Qj9uGxB/view?usp=sharing>

Faculty: <https://drive.google.com/file/d/1tYDNk3OId8K078EzotGewrm8GI-hKJRD/view?usp=sharing>

AAC&U 2021 Report: <https://www.aacu.org/sites/default/files/files/research/AACUEmployerReport2021.pdf>

³ https://drive.google.com/file/d/19icQOdnbegbOj8Zhq_oY9y-06IZABSq6/view?usp=sharing

students, faculty, community partners, and the workforce as crucial for career and lifelong success.

- **Reinforced and Integrated courses** consisting of 4-5 classes (depending on whether students are AA/AS or BA/BS) will reinforce capacities and integrate them with their major field of study.
- A **capstone course** for BA/BS students will integrate many of these capacities or skills through applied learning and civic engagement projects

Key components of proposed curriculum

- Allows students flexibility of taking more than one course in a discipline area.
- Students can double-dip General Education courses with requirements in the Major, Minor, or Academic Subject Certificates.
- Scaffolds capacities, such as Hawaiian Place of Learning and oral communication.
- Encourages exploration by allowing multiple courses to count towards requirements.
- Students benefit from intentionally focused advising to map courses and transfers across the UH system.

The team has included ‘ōlelo Hawai‘i in this document to indicate our commitment to incorporating Hawaiian knowledge, science, and values at all levels in the General Education curriculum. We recommend that in the implementation phase, a Hawaiian place of learning group be established to determine the appropriate place where system-wide or campus-specific language of Hawaiian words are to be used in the General Education Curriculum.

Faculty Development and Collaboration

The Design Team recognizes that faculty development is essential in order to ensure success in the implementation of the re-imagined general education curriculum. Faculty may not have the necessary training to address new capacities outside their current disciplinary training. Hence, the design team recommends that faculty development must accompany any process of implementation of the re-imagined general education curriculum.

Furthermore, the Design Team recommends that a culture of collaboration is fostered at all levels in administering the re-imagined general education curriculum because of its multidisciplinary nature. Faculty may need to learn new methods of pedagogies and expand their disciplinary knowledge to other fields that intersect with their interests. This may entail that articulation among the 10 campuses are in place and that more intensive academic advising is supported. Finally, this may entail that the top tiers of administration (President Lassner, Chancellors, Provosts and VCAAs) actively support faculty development and lead specific campus initiatives in nurturing creative and professional relationships among the community, the faculty, and the students.

Expectations for further discussion and revision

A consultation plan will be produced in conjunction with this proposal. Consultation with all system faculty senates will initially take place, starting in the Fall 2021. Suggestions for revisions of the proposed re-imagined general education curriculum will be collected and reviewed. Final discussion and vote for approval is required in **all** 10 Faculty Senates/Congress across the system, hopefully in Spring 2022.

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I. Guiding Principles for General Education at University of Hawai'i at a Glance

(See Appendix C for a more detailed account of the Guiding Principles)

The definition and articulation of the Guiding Principles ensures that our General Education curriculum at UH is grounded in Hawai'i, values teaching and learning, improves the student experience and increases the roles of our institutions and stakeholders in facilitating achievement and success. We aim to have a General Education curriculum that operates within a unified system to encourage successful student transfer, matriculation, and graduation. We also feel it essential that we situate the general education curriculum within the context of accountability as it relates to accreditation, national expectations within higher education, and in an effort to hold ourselves accountable to our own values. The proposed Guiding Principles for General Education for the University of Hawai'i System are organized with important 'ōlelo no'ēau (proverbs) that include:

The Principle of Hawai'i - Hawai'i, the history of Hawai'i, and Native Hawaiian knowledge and values are situated at the foundation of the General Education curriculum across the University of Hawai'i System as we acknowledge our responsibility as an Indigenous-Serving Institution.

He ali'i ka 'āina; he kauā ke kanaka. The land is chief; people are its servants.

The Principle of Learning - A diverse and high-quality liberal education utilizes the expertise of the faculty across all disciplines in conjunction with relevant pedagogies and high-impact educational practices to prepare our students for the workforce and society.

E lawe i ke a'o a mālama, a e 'oi mau ka na'auao. One who takes their teachings and applies them increases their knowledge

The Principle of Students - Our holistic, student-focused approach supports students' interests by creating experiences that value health and growth within a safe space community as essential aspects of learning, achievement, and success.

'O ke kahua ma mua, ma hope ke kūkulu. The foundation first, then the building.

The Principle of Unity - A single General Education framework across all 10 campuses of the University of Hawai'i System preserves each campus's unique identity and strengths while facilitating the goal of aligned student engagement, learning, achievement, and success.

Pūpūkahi i holomua. Unite to move forward.

The Principle of Excellence - Excellence is demonstrated through assessment and evaluation of General Education within a context of accreditation and the alignment to national standards for the purpose of improvement.

Kūlia i ka nu'u. Strive for the summit of the mountain; always seek excellence.

II. Place-Based Capacities: A New Direction for UH General Education

Contents:

- A. Introduction
- B. Proposed Structure: Capacities
- C. Tiered structure: foundational; reinforcement / integrated; and mastery levels

A. Introduction: Re-Imagining the General Education Curriculum - Collaboration, Accreditation and Scaffolding

General education fulfils a key responsibility of the University of Hawai'i campuses and programs. The general education curriculum ensures that all students gain skills and knowledge that are highly valued in the workforce and are tools of lifelong learning, as well as opportunities to inculcate students with our shared values. Students experience a broad-based education that exposes them to a variety of disciplines and modes of inquiry. Students also gain skills that enrich and reinforce their specific areas of study or majors. In addition to these goals, UH General Education should express to students how their education at the University of Hawai'i is unique, relevant, and authentic to the sacred spaces of the Hawaiian Islands.

1. Faculty collaboration in general education design and development

This proposal centers Hawai'i as a place of learning in the curriculum; respects the autonomy of individual campuses as authoritative agents in serving distinct student populations; and values the importance of interdisciplinary collaboration among faculty, both within specific campuses and also across the 10 UH system-wide campuses.

For our proposed changes to succeed, robust support for course development is essential. Moreover, it is recommended that collaboration be pursued at all levels of the UH system, such that creative and innovative pursuits are widely encouraged among multiple faculty members and academic units. Faculty are encouraged to work with colleagues in other disciplines, academic units, or other campuses in developing team teaching opportunities or learning new approaches and orientations in order to enhance a democratic citizenry. Cultivating a culture of collaboration fosters a diversity of perspectives and ensures transparency for students as they navigate their academic journeys within the UH system.

2. Accreditation considerations

Any General Education curriculum must support UH's journey to excellence via alignment of competencies and outcomes to regional higher education accrediting body standards and transfer agreements, including but not limited to:

- WASC accreditation: The Western Association of Schools and Colleges' (WASC) Senior⁴ and Junior Commissions⁵, which accredits the ten UH campuses, requires institutions to incorporate a robust general education program which ensures breadth of knowledge as well as competence in five core competencies, including written and oral communication, quantitative reasoning, critical thinking, and information literacy
- Interstate Passport: UH campuses participate in the Interstate Passport⁶ program, which allows students meeting the Interstate Passport requirements to transfer completed General Education credits according to learning outcomes, rather than specific courses and credits. The Interstate Passport includes written and oral communication; quantitative literacy; scientific literacy (both physical and biological) plus a lab; humanities and literatures, arts, and social sciences. Passport blocks are determined by the campus and each UH campus has mapped their current GenEd courses to the Passport.

3. Scaffolding of skills: foundations, reinforcement, mastery

Higher education typically recognizes three tiers of learning: an introductory level where foundational skills and information are first presented to students, a reinforcement level during which students have opportunities to integrate and practice applying their skills, and a mastery level where students use skills independently and in a significantly integrated way. In recognition of the importance of systematic scaffolding, we recommend that student learning be structured at three levels. Skills are either given sufficient attention at the foundational level that reinforcement is built in at that level, or are repeated at a reinforcement level. For students in BA and BS programs, a mastery level (i.e. a capstone or applied learning class and an extra reinforcement class at the 300 and above level) is also recommended.

B. Proposed Structure: Place-Based Capacities

We recommend that a common General Education program across the ten UH campuses be **place-based**.⁷ Students will learn about the cultural practices, history, language, and scientific

⁴ <https://www.wscuc.org/>

⁵ <https://accjc.org/eligibility-requirements-standards-policies/>

⁶ <https://interstatepassport.wiche.edu/>

⁷ See the following resources for further understanding of place-based education:

https://drive.google.com/file/d/1u_NG_cmEIE5t22bX-P6DWCBRPTmDPcO5/view?usp=sharing

knowledge of Hawai'i, and Hawaiian epistemologies and perspectives will infuse the curriculum in meaningful, culturally appropriate ways. A place-based curriculum emphasizes the importance of community engagement between the UH system and the communities within which our campuses are located. We also recognize the importance of intercultural and international understanding and diversity, as well as key communication (oral and written) and quantitative reasoning skills.

Another key feature we recommend is that the General Education program be organized around **capacities** rather than our current diversification requirements. In a diversification model, students take courses in specific disciplinary categories, such as Arts, Humanities, & Literatures; Social Sciences; Biological Sciences; and Physical Sciences. The diversification structure does not allow much space within the typical degree program for interdisciplinary curricula. A capacities-focused program engages students with a robustly broad educational experience, while also incorporating multiple additional skills.

During the UH General Education Summer Institute in July, participants explored the concept of competencies-based education (CBE),⁸ which is gaining popularity among many institutions of higher education. CBE ensures that students master certain skills in their degree programs, without necessarily counting credits that represent time spent completing specific courses. In a CBE system, each course may teach students a number of relevant skills; students may also learn skills in extracurricular settings or via modules that are independent of, or added on to, traditional courses offered by departments. The CBE system is appealing because it can include more skills in general education, while creating greater flexibility for students and how many courses they take.

The design team recommends that UH general education adopt a modified competency-based system, or what we are calling “capacities.”⁹ In the view of the Design Team, the term “competencies” expresses more of a deficit-based understanding of learning that seemed to imply that students either possess or lack competencies while not emphasizing the developmental capacity for students to grow and learn these essential skills. The term capacities (replacing “competencies”) expresses a holistic strength-based and growth-centered understanding of the essential skills to foster student learning. Moreover, capacities express a generative or developmental curriculum, which encourages students to generate meaningful connections between their educational experience and the impact they are able to create in

<https://drive.google.com/file/d/1hS-IIMytl5XiF6jFpplU928m3jKALy8/view?usp=sharing>

https://drive.google.com/file/d/1EC4T1E2oEEUI_H7QUeiAX5Boma459OAm/view?usp=sharing

⁸ See the following resources to further learn about competency-based education:

<https://docs.google.com/presentation/d/11pF3ekZwLR4eMhSv2AE2FuAeoZHTs3HAMwwodpU9o1/edit>

<https://drive.google.com/drive/folders/1WRQpa7aa3TDeB508qCtxlW61IdxOvhWV?usp=sharing&usp=sharing>

⁹ See Boston University's General Education program (the only program we reviewed that incorporates a multi-campus approach). Their use of the term “capacities” influenced our approach. <https://www.bu.edu/hub/>

their communities and any future career opportunities. Though the term capacities offers a slight re-orientation of these essential learning skills, the term does not diverge from the essential skills expressed in CBE. The capacities-focused structure does not use diversification designations but rather relies on cultivating the essential academic capacities that foster interdisciplinary teaching.

1. Definitions of Capacities thematically organized

We recommend the following capacities to be included in the UH General Education redesign:

Intellectual Toolkit/Habits of Mind: *These capacities cultivate habits of mind that improve a student's communication, analysis, and organizational skills. Students benefit from these skills at every phase of their academic journey.*

Written communication: Students are able to write and express ideas across a variety of genres and styles. Written communication skills develop over time and are interactive and layered throughout the curriculum.

Oral communication: Students will develop and deliver clear, oral presentations using appropriate content, organization, and style for the intended situation, audience, and purpose. Students will communicate effectively with individuals and groups through active listening and constructive responding.

Critical thinking: A habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.¹⁰ Apply careful, analytical thinking to address issues and solve problems.¹¹ Analyze and make connections through logical reasoning in order to challenge, explore, or think more deeply about ideas, issues, and perspectives.

Ethical reasoning: Will raise ethical awareness of social issues and challenge the student to confront his or her own certainty about the choices involved and create a class atmosphere in which diverse ideas are encouraged. Explain different ethical positions in relation to a problem or issue.

Creative Expression: Employ, interpret, and evaluate creative processes and practices to produce an original work of personal or social significance.

Information literacy: Students can "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."¹² Find,

¹⁰ <https://drive.google.com/file/d/11SciqN7Nz1M5ILz2IXeDKMKabOpFBI-r/view?usp=sharing>

¹¹ https://drive.google.com/file/d/1c11UzjHZK_7RvkkgnkwKByr3Slqlh7e6/view?usp=sharing

¹² <https://literacy.ala.org/information-literacy/>

evaluate, use, and document relevant information sources to address a specific information need.

Digital literacy: Students gain "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills."¹³ Make informed decisions when consuming and creating digital content to learn, share, or interact with others.

Place and the Flourishing Community : *These capacities aim to cultivate a sense of place and belonging to Hawai'i; its landscapes and people.*

Hawaiian Studies and Language: Students will investigate major aspects of the culture, language, history, or natural environment of Hawai'i. Students will cultivate skills of cultural appreciation and critical understanding of Hawaiian culture and language.

Hawaiian Place of Learning: Students will be exposed to Hawaiian perspectives, values, and practices for meaningful engagement in critical thinking and intercultural understanding. Such knowledge, situated in the local, is applicable to global, multicultural contexts. Since different campuses are located in different places of Hawai'i, campuses are encouraged to articulate this capacity through their own place-based perspectives.

Sustainability: Students will manifest a basic recognition of the interrelationships between essential human and natural systems. Explain and apply core concepts of sustainability as a lens for taking action on personal, social, or environmental opportunities for local and global change.

Civic and Community Engagement: In the context of general education learning outcomes, civic engagement refers to a student's preparedness to take part in activities that enhance the common good. There are many forms of civic engagement that may be relevant and helpful to student educational outcomes. Students can work with government bodies and programs, as well as engage in non-government organizations responsible for broad-based programs to enhance community well-being, whether that community is defined by a locality or a shared identity. When students take part in civic engagement activities, students are brought into close contact with members of a community, engage with issues and projects they value, and integrate academic skills with projects that benefit that community. Identify and take a position on civic issues of importance to local or global communities.

Identity and Diversity: *These capacities aim to develop a sense of empathy to a variety of different perspectives and to historically contextualize the global and international dimensions of Hawai'i.*

¹³ <https://literacy.ala.org/digital-literacy/>

Asia/Pacific: This capacity refers to knowledge about Asia and the Pacific / Oceania, and recognition of its history, cultural distinctiveness, and relationship to Hawai'i. After taking a class with this capacity, students will be able to identify and describe the cultural perspectives, values, and world views rooted in the experiences of peoples indigenous to Asia and the Pacific / Oceania. Students can identify and analyze forms of human expression in the region, such as the histories, cultures, beliefs, literature and arts, or social, political, and technological processes of these regions.

Intercultural and International Perspectives: After taking a class with this capacity, students understand global and local forms of cultural expression, and can relativize and critically examine their own assumptions and biases. Students can engage with diverse people and respect different forms of interaction and communication. Students can identify and describe how power, positionality, privilege, and other factors influence their lives and the circumstances of others.

Teamwork/Laulima: Students benefit from a teamwork / Laulima capacity as a way to increase their ability to work collaboratively, interdependently, and productively with others to achieve a common goal. Students understand the value of collaborative engagement and learn strategies to achieve consensus, manage differences of opinion, and find fair solutions to problems.

Mathematical and Scientific Problem Solving: *These capacities aim to develop important 21st century problem solving skills in quantitative reasoning and scientific literacy, to encourage students to make evidenced-based decisions, and to solve problems through quantitative analysis .*

Quantitative Reasoning/Data Literacy: Use mathematical tools and calculations to analyze real-world numerical data, draw conclusions about the data, and effectively communicate the results in an appropriate format.

Scientific Inquiry + Lab: Use concepts, theories, skills to describe, explain, and predict natural phenomena using the knowledge base of the appropriate STEM discipline. Use the scientific process and its steps (develop hypothesis, design experiment, conduct experiment and collect data, analyze and interpret data, develop conclusion based on data to support/not support hypothesis, propose theory based on data or refine hypothesis (or both)).

2. Second language learning and capacities

In addition to the capacities defined above, the team discussed how best to incorporate second language learning into general education. Second language learning offers important benefits, including improved oral and written communication skills, stronger intercultural and international perspectives, and experience in teamwork. We recommend that language classes be eligible for general education certification based on identified capacities. If campuses want

to establish requirements that students attain specific levels of second language capacity, we recommend this be addressed in campus- or program-level graduation requirements.

3. Tiered structure: foundational; reinforcement / integrated; and mastery levels

The proposed model includes three components. First, students will take a sequence of five **foundational courses** that incorporate capacities that have been identified by students, faculty, community partners, and the workforce as crucial for career and lifelong success. Second, students take 4-5 classes (depending on whether students are AA/AS or BA/BS) that **reinforce** capacities and integrate them with their major field of study. Finally, for BA/BS students, students integrate core skills via an applied learning or a **capstone course**. Terminal AAS/AS degrees may adapt their specific programs to the general education curriculum in order to address their specific program requirements.

1	Foundations	2	3
	<ul style="list-style-type: none"> Core capacities: place-based learning, an intercultural and international class, written and oral communication, quantitative reasoning, and information & digital literacy. Additional capacities flagged as key for career success and lifelong learning 	<ul style="list-style-type: none"> Capacities reinforced and/or integrated with major classes. Taken in thematic clusters, or chosen in other ways. Classes can be double-dipped with major, minor, and certificate requirements. 	<ul style="list-style-type: none"> Ideally integrated with major. Students demonstrate mastery & independent use of skills AA/AS students may have an optional applied learning class

Because students working towards different degree types have different academic needs, capacities should be included in the following manner:

- Terminal AAS/AS: 15-16 credits from Foundations of Learning *or* Reinforcement courses.
- Transferable AA/AS Degrees: 29 total credits, including 16 Foundations of Learning credits and 13 credits from reinforcement level.
- BA/BS Degrees: 35 credits, including 16 Foundations of Learning credits and 16 credits from reinforcement level, plus 3 credits from the capstone course.

General education course requirements by credit levels:

	Foundations	Reinforcement	Mastery
Years 1-2 (0-60 credits)	5 courses	4 courses	
Years 3-4 (61-120 credits)		1 courses	Capstone

Credits by degree type:

Terminal AAS/AS Degrees	Transferable AA/AS Degrees	BA/BS Degrees
Foundations or Reinforcement 5 courses, 15-16 credits	Foundations 5 courses, 16 credits	Foundations 5 courses, 16 credits
	Reinforcement 4 courses + lab, 13 credits	Reinforcement 5 courses + lab, 16 credits
		Capstone, 3 credits
Total credits: 15-16	29	35

4. Scaffolding of capacities, defining touchpoints

In recognition of the importance of either a robust foundational level course in a specific capacity, or reinforcement and scaffolding of skills, the Design Team recommends that the specific capacities defined above be included and scaffolded in the general education program.

Scaffolding embodies more than repeated exposure to specific capacities in the general education curriculum. It requires that capacities are “touched upon” (touchpoints) at multiple tiered levels of a student’s academic journey and progressively developed via practice and explicit instruction. The following table was used to ensure that the capacities touched upon at the foundations level are also touched upon at the reinforcement level and the BA/BS level. The table employs “*touchpoints*” as a way of mapping the scaffolding of capacities at the various tiered levels of a student’s educational journey. At the BA/BS level, the reinforcement of capacities is taken at the 300 and above level ensuring that the reinforcement of capacities are layered at the degree’s appropriate level. The total “touchpoints” reflect how many times a capacity was touched upon at all degree program levels. Hence, at the BA/BS level, the capacities of Written Communication is touched upon 5 times; Oral Communication is touched upon 4 times; and digital literacy is touched upon 3 times. These are the only capacities the team identified as minimally being touched upon more than once beyond the reinforcement level. Additionally, the scientific literacy capacity must include a lab and is mapped at 3

touchpoints meaning that a single course can be dedicated to meet the capacity. This course may be designed for non-STEM majors (depending on campus availability) and combine content in both Physical and Life Sciences in order to fulfill the Interstate Passport requirements.

	<i>Capacities / Touchpoints at each level</i>	<i>foundations level</i>	<i>reinforcement level</i>	<i>BA/BS level</i>	<i>total</i>
	Written Communication	2	1	2	5
	Oral Communication	2	1	1	4
	Quantitative Reasoning/Data Literacy	2	1		3
	Information Literacy	2	0		2
	Critical Thinking	2	1		3
	Scientific Inquiry + lab	0	3		3
	Digital Literacy	2	0	1	3
	Creative Expression	1	1		2
	Hawaiian Studies and Language	1	1		2
	Hawaiian Place of Learning	1	1		2
	Sustainability	1	1		2
	Civic Engagement	1	1		2
	Ethical Reasoning	2	1		3
	Teamwork/Laulima	2	1		3
	Asia/Pacific	1	1		2
	Intercultural perspectives	1	1		2

5. Assessment for capacities

We envision a system-wide assessment committee whose role will be to design and implement an assessment plan for the new Gen Ed program. This committee may complement and work together with existing system-wide faculty and staff units and committees that are already engaged in assessment work on each of our campuses.

6. Place-Based Capacities Focus

In recognition of the value of scaffolding, capacities are included at three levels:

1. Foundations: 5 courses + lab, 16 credits. Courses include: Hawaiian Place of Learning; International and Intercultural Perspectives; Written Communication; Oral Communication; Quantitative Reasoning; and Information & Digital literacy.

2. Reinforcement: 4 courses, 12 credits. Can be double-dipped in majors / minors / certificates. Reinforced capacities introduced in the foundational courses for transferable AA / AS and BA / BS students.
3. Mastery: 2 classes (5th Reinforcement course and capstone), 6 credits, for BA/BS students, ideally integrated into the major, that allows students to demonstrate proficiency of capacities including at minimum written and oral communication, and digital literacy with the expectation that majors may require other capacities at their discretion.

7. Foundations of learning requirements

(total: 5 courses + lab or 16 credits for all students)

‘O ke kahua ma mua, ma hope ke kūkulu. —The foundation first, then the building.

Foundation classes introduce students to all the core capacities and habits of mind necessary for success throughout their academic journeys and in their future careers. Faculty from many disciplines can teach these courses (or team-teach across disciplines). In recognition of the importance of a foundation for future learning, the team proposes that Kahua, meaning foundation or basis, be created as a new UH system-wide alpha (KHUA).

Much like our current designation system, the KHUA courses listed below may differ by campus, but the course descriptions offered here describe the themes, capacities, and course components that must be present. Foundation courses can include any pre-existing courses, but they need to be approved on individual campuses (via campus Gen Ed policies and boards) to ensure they have required capacities and course components. Note: Specific Written Communication, Oral Communication, and Quantitative Reasoning courses may be required in majors and these courses may also satisfy these foundation requirements. Capacities introduced in these courses will be reinforced in courses that are integrated with majors and / or offered at the upper-division level, as well as capstone courses that offer an opportunity to demonstrate proficient knowledge of many of these skills.

Course descriptions:

KHUA 100: Hawaiian Place of Learning (Ahupua‘a) (3 credits) The first part of a two-course signature sequence that centers learning within the context of a Native Hawaiian Place of Learning. Introduces students to their UH campus, and helps them become rooted in their campus and local community. Students become part of a community of learners and actively engage in academic and co-curricular exploration. The following capacities are chosen to best represent the themes of this course: Hawaiian studies and language, Hawaiian place of learning, sustainability, critical thinking, creative expression, ethical reasoning, and laulima (teamwork).

Course components:

- a. Addresses the specific places in Hawai'i of the instructing institution. For example, if the course is delivered in Kaua'i Community College, the course must address the place of Kaua'i.
- b. Incorporates Hawaiian values, epistemologies, and practices
- c. Addresses issues of identity, the good life, well-being in community

KHUA 200: Intercultural & International Perspectives (Ka Piko O Ka Honua) (3 credits) The second part of a two-course signature sequence. Places Hawai'i in the context of Asia, Oceania, and the world. Incorporates curricula concerning intercultural interactions, diversity, and historical context. The course will expose students to artifacts from different cultures and historical time periods. Students develop skills of cultural fluency, aesthetic appreciation, and communicating across differences. Students gain self-awareness and become better communicators and team-builders with people who have significant differences from themselves. The following capacities are chosen to best represent the themes of intercultural and international perspectives: Intercultural and international perspectives, Asia / Pacific, critical thinking, information and/or digital literacy, civic engagement, and ethical reasoning.

Course components:

- a. Introduces students to artifacts from different cultures and historical time periods
- b. Students relativize their own assumptions and cultural perspectives, and develop social and emotional skills that lead to better communication and understanding across differences

KHUA 110: Writing, Composition and Prose (3 credits): Teach the learning outcomes for written communication. The following capacities are chosen that best represents the theme of written communication: Written communication, information and/or digital literacy, creative expression.

KHUA 120: Oral Communication, Rhetoric and Ethics (3 credits): Teach the learning outcomes for oral communication. The following capacities are chosen that best represent the themes of oral communication: Oral communication, information and/or digital literacy, ethical reasoning, laulima.

KHUA 130: Quantitative Reasoning (3 credits): Teach the learning outcomes for quantitative reasoning. The following capacities of quantitative reasoning and data literacy focuses on the mathematical and data analysis that are essential in many STEM related fields.

KHUA 140: Information and Digital Literacy (1 credit): The purpose of the stand alone lab is to ensure this capacity is expressly taught not as a hidden component of a course but as a distinct feature of the curriculum. It is recommended that subject matter experts develop a module that

can be integrated in any of the foundations level courses. *Capacities*: information literacy and digital literacy

8. Reinforcement or integrated learning

(12 credits for transferable AA/AS Degrees; 15 credits for BA/BS Degrees)

Reinforcement courses scaffold the cross-cutting skills that are identified in the capacities chart above and can be integrated in any major classes. It is important to note that unlike the foundations courses where specific capacities are fixed to the particular foundations courses, capacities in the reinforced level are not fixed to specific courses. For AA/AS degrees, reinforced capacities are bundled in 4 courses. For BA/BS degrees, reinforced capacities are bundled in 5 courses (at least one of the courses must be at the 300 and above level). Campuses are given the opportunity to creatively arrange or weave the capacities either through thematic pathways (a set of courses addressing a common theme), areas of inquiry (each course representing a particular theme with a fixed set of capacities) or even within a diversification model (each course represents a specific discipline). As authoritative agents that know the educational needs of their students and campus community, individual campuses will enjoy flexibility in how the reinforced capacities are arranged. However, it is important to note that when reinforced capacities are unfixed, this places the burden of responsibility for weaving the capacities onto the campuses.¹⁴ Moreover, this responsibility includes how campuses will assist students in ensuring the capacities are completed. In fact students will greatly benefit from the experience of seeing how general education capacities can enrich and strengthen their major coursework. The structure of the reinforcement or integrated learning courses promotes diversity, experimentation, and flexibility. It may be the case that many departments are more suited to teach some capacities rather than others. However, a discipline or department may creatively utilize any of the relevant capacities that speak to the major. In this way, there are more opportunities for departments to develop integrated learning within the general education curriculum. Students are able to seek out courses which expose them to a range of themes. Or, students can opt to gain capacities via thematically linked pathways of courses.

¹⁴ This feature of the proposed curriculum was vigorously debated by the Design Team. There were both pros and cons to this issue, and the team ultimately voted for maximum flexibility at the campus level.

Capacities / touchpoints at reinforcement & integration level		
3 touchpoints	Scientific inquiry + lab	
1 touchpoint	Written Communication Oral Communication Quantitative Reasoning/Data Literacy Critical Thinking Ethical Reasoning Civic Engagement Information Literacy	Hawaiian Studies and Language Hawaiian Place of Learning Intercultural perspectives Sustainability Creative Expression Asia/Pacific Teamwork/Laulima

Guidelines to arrange or weave capacities in reinforcement / integration courses:

- A single reinforcement course may contain between 2-4 capacities. Note: the scientific inquiry + lab capacity must be a dedicated course. Other capacities may also be included in this course.
- Students retain credit for capacities when they transfer, regardless of whether a course has those capacities on another campus.

Guidelines to develop pathways at the reinforcement and integrated level:

- Pathways must ensure all reinforcement capacities are covered utilizing the reinforcement capacities table on II.B.4 (p.17).
- Pathways may thematically organize sets of courses at the reinforcement and mastery levels. This may include courses speaking to a common theme of vital importance or it may design areas of inquiry in which categories of courses embody distinct themes. How and whether the courses are organized around specific themes is left to the discretion of individual campuses.
- Best practice is for academic units, departments, interdisciplinary minors, and certificates to design pathways. Depending on campus capabilities, academic units and departments are encouraged to work collectively to develop meaningful pathways for their students.
- Pathways are completed with 4 (AA/AS students) or 5 courses (for BA/BS students). Campuses must ensure that capacities are arranged within the boundaries of 4 or 5 courses.

- Sample themes: Food Studies; Predicting the Future; Technology and Society; Power and Social Inequality; Social Justice; Wealth and Poverty; Gender and Sexuality
- No more than 4 courses can be required to fulfill reinforcement level requirements at the AA/AS level. If capacities are not covered in 4 approved courses at this level, students either complete them in their 5th course or in the capstone course at the BA/BS level. At the AA/AS level, students meet with academic advisors to ensure capacities are completed upon transfer.

Students should have multiple choices of pathways, and can move between pathways. The following tables characterize sample mappings of various ways campuses can create pathways for the reinforcement and mastery levels. For example, if a student moves from Sample map #1 to Sample map #2, then the capacities transfer seamlessly. It is the responsibility of the campus to ensure that capacities transfer if a student decides to change pathways. See II.B.10 (p.23) below for transfer and articulation discussion. Note: Capstone courses are able to link thematically with pathways or they can be taken independently and take on a different theme.

Sample mappings of pathways:

Sample #1: Capacities framed within distinct course themes (areas of inquiry)					
Courses	Course theme	Capacities			
1	Heal the World	written comm	Asia / Pacific	intercultural perspectives	
2	Creativity and Innovation	Hawaiian place of learning	teamwork / laulima	creative expression	
3	Catastrophe and Survival	oral comm	scientific inquiry + lab	civic engagement	sustainability
4	The Universe, Life and Meaning	quantitative reasoning	ethical reasoning	Hawaiian studies	critical thinking
5 (BA/BS)	Power and Social Inequality	written comm	digital literacy		
Capstone	Major requirement	written comm	oral comm		

Sample #2: Capacities framed within a curated thematic pathway Human Relationships in the Physical and Natural World					
Courses	Course theme	Capacities			
1	Sustainable Science	written comm	scientific inquiry + lab	quantitative reasoning	
2	Environmental Ethics and Ecological Advocacy	sustainability	teamwork / laulima	creative expression	civic engagement
3	Indigenous Conceptions of Nature in Oceania	Hawaiian place of learning	critical thinking	Asia / Pacific	intercultural perspectives
4	Culture, Art and the Natural World	oral comm	ethical reasoning	Hawaiian studies	
5 (BA/BS)	Cultural Geographies in Hawai'i	written comm	oral comm		
Capstone	Major requirement	written comm	digital literacy		

Sample #3: Capacities framed within the disciplines					
Courses	Course theme	Capacities			
1	Physical science	scientific inquiry + lab	quantitative reasoning	Asia / Pacific	critical thinking
2	Social Science	written comm	teamwork / laulima	creative expression	intercultural perspectives
3	Humanities	Hawaiian place of learning	oral comm	civic engagement	
4	Biological science	sustainability	ethical reasoning	Hawaiian studies	
5 (BA/BS)	Literature or second language	written comm	digital literacy		
Capstone	Major requirement	written comm	oral comm		

9. Applied learning / capstone

Sophomore Cornerstone Experience (optional, 1-3 credits). AA/AS students may have the option of integrating a cornerstone experience at the reinforcement / integration level. This may include an e-portfolio, study abroad, applied and/or service learning.

Senior Applied Learning / Capstone Experience (3 credits). For BA/BS students, the applied learning / capstone class integrates expertise in the Major and general education curriculum. The course must include a substantial, discipline/interdisciplinary-appropriate project or experience that demonstrates proficient knowledge of the foundations of learning, habits of mind, and reinforcement touchpoints (including written communication). Capstone experience might include a directed studies, senior thesis, 400 level seminar course, internship, or study abroad experience.

10. Transfer and articulation considerations

Per Executive Policy 5.209, the UH system is required to ensure that the student transfer experience is simple and predictable. We recommend that transfer and articulation be achieved through courses designated as foundations, reinforcement, and mastery levels. Each Foundation-level course is designed to address a defined set, or block, of capacities, which the student will earn upon successful completion of that course. When a student transfers within our System, this set of capacities will transfer. Students who transfer from outside the UH system and have taken a course similar to the foundations courses in Written Communication, Oral Communication and Quantitative Reasoning, these courses would also transfer if the capacities are met.

However, at the Reinforcement and Mastery level, courses (and the accompanying block set of capacities fixed to these courses) will not be tracked. Rather, each Reinforcement and Mastery-level capacities will be tracked independently of courses to allow students to transfer the capacities separately from the courses. Once a student completes capacities on one campus, they do not have to take them again. They would choose courses that fulfill their missing capacities. *For transfer students only:* Even if some capacities are not completed, students will have met this requirement after taking 4 courses.

The Design Team recommends that the best way to ensure students take the necessary capacities is for each campus at the reinforcement and mastery level to arrange the capacities based on their specific campus needs for all their students. Transfer students would not be penalized for missing capacities after they have met their required 4 reinforcement level courses. If a student transfers to a 4 year institution, they would be encouraged to take their missing capacities in the 5th reinforcement course or their capstone course at the BA/BS level. If a student transfers across 2 year institutions, it is recommended that students take the optional cornerstone experience to complete any missing capacities.

C. Consultation

Groups that will be consulted include:

Faculty Senates, Associated Students of the University of Hawai'i (ASUH), UH Student Caucus(UHSC), all Native Hawaiian Councils, Hawai'i Papa o Ke Ao, All General Education Boards or Committees, an any other constituents the Design Facilitation Team deems appropriate.

Tentative Consultation Schedule:

- 10/21/2021 Design Team Provides Proposal for Faculty Senate Consultation.
- 11/1/2021 Senates engage constituents for comments and recommendations. Simultaneously, additional methods of consultation will be utilized.
- 1/30/22 Feedback and recommendations for revisions will be collected and collated.
- 2/28/22 Proposal will be revised based upon feedback for the second round of consultation.
- 4/1/22 Design Team Provides Revised Proposal for Additional Faculty Senate Consultation.
- 5/1/22 Senates engage constituents for comments and recommendations. Final vote in faculty senates to be taken.
- Summer 2022 - Curricular and Structural Implementation strategy to be developed.
- 2022-2023+ Ongoing Faculty Development

III. Appendices

A. APPENDIX A - Frequently Asked Questions

What is the scope of this proposal?

Participants in the General Education Summer Institute were tasked with reimagining the General Education curriculum and offering creative ways to address problems within our existing system. Our proposal introduces new skills; eliminates inconsistencies across the 10-campus system; and trims the overall number of needed credits. There are remaining questions of both policy and implementation that will need to be addressed by faculty at the campus level, as well as in system-wide committees that we recommend be established going forward.

How were capacities / competencies selected?

Our discussions began with capacities that were the focus of the General Education Summer Institute in July 2021. These were drawn from the national literature regarding the most important skills for lifelong learning and workforce preparedness, as well as the recognition of skills that would be most important for students here in Hawai'i and in service to the needs of our communities.

Must Foundations classes be taught by specific departments?

No. Foundations classes can be taught by a variety of departments as long as they are able to teach the relevant capacities. However, some departments may be more suited to teach specific foundations courses than others. For example, the Math Department may be more suited to teach KHUA 130 Quantitative Reasoning, though other departments on some campuses may also offer sections of KHUA 130 just as they do now with FQ-designated courses.

How do students benefit from flexible options at the reinforcement / integrated level?

At the second tier of their general education courses, students can double-dip all general education classes with their major courses at various levels. Because this streamlines General Education, we recommend that students flexibly choose courses that may have a variety of capacities.

What is the role of departments at the reinforcement / integrated level?

Needs and resources vary by campus. Students will be best served when departments and units themselves determine how to involve their courses with General Education. Departments and units must be active and attentive partners to General Education and offer sufficient

opportunities to take General Education courses, and take them in concise and thoughtful sequences.

How does this proposal ensure students don't take "extra" General Education classes?

At the reinforced/integrated level, students take the required course cap (for AA/AS students, it will be 4; for BA/BS students, it will be 5). Missing capacities during transfer could be made up in the optional cornerstone course in the AA/AS degree programs and in the 5th reinforcement course and capstone course in the BA/BS degree programs. It is up to each campus to ensure that students take appropriate courses through the development of various pathways.

How does this proposal ensure scaffolding and reinforcement of capacities?

Students enter higher education at various moments in their academic journeys. Hence, scaffolding is more than just repeated exposure to the capacities, but ought to be understood as mutually reinforcing these capacities at every level of their curriculum. This is an issue that faculty at the campus level should take up with informed discussions about how specific capacities at different levels of the curriculum will progressively build skills and support student learning throughout their academic journeys.

What is the role of second language study in this proposal?

The members of the Curriculum Design Team felt very strongly about the benefits of second language study. Second language classes offer opportunities to develop the skills included in a reinvisioned General Education program. However, the Institute members felt it should be a campus- or unit-level discussion to decide whether a specific level of competency in a second language should be required as part of a campus' graduation requirements or specific degree programs.

What happens if a department doesn't have a capstone option?

It is not a requirement for departments to develop capstone courses. The capstone course is designed to work well with a student's major; however, if a student prefers to take a capstone course in another department this option would be possible for the student if the student meets all the graduation requirements of their major. Additionally, capstone courses could be a 400-level seminar course, an internship, an applied experience, or a study abroad experience.

What work remains to be done at the campus and unit level?

Our proposal prioritized the goal of a successful multi-campus model. We focus on issues that we feel can best be addressed at a system-wide level. Going forward, there will need to be additional campus-level discussions, as well as discussions in system-wide faculty bodies. For example, specific definitions and hallmarks will need to be developed for each capacity, and campuses will need to decide how instructors apply for their courses to participate in General

Education. Assessment will be carried out both on a campus and system-wide level. We also expect a robust discussion at the campus level of the degree to which individual courses can be interdisciplinary.

Additionally, this General Education redesign project gives us all an opportunity to reimagine different implementation options, such as the procedures through which course proposals are submitted and reviewed, the extent to which articulation can facilitate our students' transfer experiences, iterative assessment and improvement cycles, and much more.

B. APPENDIX B - Sample Draft Advising Sheet

The purpose of including this sample advising sheet is to provide a sense of how the place-based capacities curriculum proposal operates when advising students. This is a sample draft and we recommend that advisors develop their own campus-specific or system-wide advising sheets to track student progress towards graduation.

Steps in filling out Advising Sheets:

1. After each student takes a course designated in the foundations, advisors check off that the requirement has been completed.

<i>Foundations of Learning</i>	<i>Completed</i>
<i>KHUA 100</i> Hawaiian Place of Learning	<input type="checkbox"/>
<i>KHUA 110</i> Written Communication	<input type="checkbox"/>
<i>KHUA 120</i> Oral Communication	<input type="checkbox"/>
<i>KHUA 130</i> Quantitative Reasoning	<input type="checkbox"/>
<i>KHUA 140</i> Informational and Digital Literacy lab	<input type="checkbox"/>
<i>KHUA 200</i> Intercultural and International Perspectives	<input type="checkbox"/>

2. After each student takes a course, advisors indicate which course (ANTH 200 or PHIL 100) that covers the appropriate capacities. At the AA/AS level, students are required to take 4 courses. At the BA /BS level, students are required to take 5 reinforcement courses and 1 capstone.

<i>Reinforcement and Capstone Level Courses</i>			
<i>Capacities</i>	AA/AS	BA/BS	
	Course	Course	Capstone
Written Communication		Yes	Yes
Oral Communication		1 or the other	
Digital Literacy		1 or the other	
Quantitative Reasoning / Data Literacy		Not Required in these courses but can be included at the discretion of the majors	
Critical Thinking			
Ethical Reasoning			
Scientific Inquiry / Lab			
Hawaiian Studies and Language			
Hawaiian Place of Learning			
Intercultural and International Perspectives			
Sustainability			
Civic Engagement			
Creative Expression			
Asia / Pacific			
Teamwork / Laulima			

C. APPENDIX C - Guiding Principles

1. THE PRINCIPLE OF HAWAI'I

As an Indigenous-serving institution, the University of Hawai'i system embraces *Native Hawaiian Place of Learning* (NHPoL) as foundational, including it as an important tenet of the system's strategic plan. Understanding this importance, the **Principle of Hawai'i** is provided as the first guiding principle in the refreshed General Education model.

The Principle of Hawai'i recognizes that Hawai'i, its history, its Indigenous people—Kanaka 'Ōiwi (Native Hawaiians) and their knowledge and values—are situated as the foundation of the General Education across the University of Hawai'i system as a Native Hawaiian Place of Learning, an Aloha 'Āina University, and as an Indigenous-serving Institution.

Components (Nā Māhele) of the Principle of Hawai'i include:

- A) Background on Land Acknowledgements (Ho'ōia 'Āina) at University of Hawai'i.
- B) Historical Context: The University of Hawai'i as an Indigenous-Serving Institution.
- C) Background on Indigenizing the University with meaningful integration of Native Hawaiian values, pedagogies, and curricular practices (*See Appendix D for more ideas on pedagogical practices that speak to topics related to Hawaiian Place of Learning*).

a. Background on Land Acknowledgements (Ho'ōia 'Āina) at University of Hawai'i

The Principle of Hawai'i is exemplified by acknowledging and respecting Indigenous Peoples, including their relationship to land.

The Principle of Hawai'i should be predicated upon respect of Indigenous Peoples. Land Acknowledgement, while insufficient in reconciling the history of land disposition of Kanaka 'Ōiwi people, is an important step in honoring Indigenous people and their relationship with land. Land Acknowledgement is a “formal statement that recognizes and respects Indigenous Peoples as traditional stewards of this land and the enduring relationship that exists between Indigenous Peoples and their traditional territories,” as defined by the American College Personnel Association.¹⁵

It is within the University of Hawai'i's responsibility as an academic institution to meaningfully include and support Kanaka 'Ōiwi and their knowledge and perspectives, across our institution as part of the University's commitment to diversity and inclusion. The university continues to work towards building relationships with Native communities through academic pursuits, partnerships, historical recognitions, community service, enrollment and retention efforts, and student support.

¹⁵ <https://www.insightintodiversity.com/acknowledging-native-land-is-a-step-against-indigenous-erasure/>

b. Historical Context: The University of Hawai‘i as an Indigenous-Serving Institution

The Principle of Hawai‘i is exemplified by an identification of the UH System as primarily an Indigenous-serving institution.

While the university was officially established in 1906, its origins are in the Hawaiian Kingdom. In 1893, Queen Lili‘uokalani signed into law the creation of the Bureau of Agriculture, whose role, in part, was educating the public on agricultural practices. The first subjects taught at the University were English, Math, and Agriculture. Over the decades, Kanaka ‘Ōiwi and allies have carved out Indigenous spaces within the institution, beginning with ‘Ōlelo Hawai‘i (Hawaiian language) in 1920. As a vibrant, living institution, the university continues to evolve.

The University of Hawai‘i identifies itself as a Native Hawaiian Place of Learning. Since the 2002 strategic plan, the University has aspired to be “the world’s foremost [I]ndigenous serving university and embraces its unique responsibilities to the [I]ndigenous people of Hawai‘i and to Hawai‘i’s indigenous language and culture” (Papa o ke Ao). The initiative to become a “Native Hawaiian Place of Learning” began twenty years ago, was “reinforced as an aspiration and priority in the UH Mānoa 2011–15 Strategic Plan,” and continues to be “one of four main goals outlined in the UH Mānoa 2015–25 Strategic Plan¹⁶, updated in December 2020” (UH News). This vision is based on four reports that date back to 1986.

The University of Hawai‘i defines “Native Hawaiian Place of Learning” as “responsive to the needs and assets of Native Hawaiian communities and is reflective of Indigenous Hawai‘i” (UH NHPoL Advancement Office). When the Hawai‘i Papa o ke Ao office was established in 2017, it asked on- and off-campus communities “what does ‘Native Hawaiian place of learning’ really mean?”; the overwhelming response was **Aloha ‘Āina** (Papa o ke Ao).

Aloha ‘Āina, defined by the Kūali‘i Council, is the “recognition, commitment, and practice sustaining the ea—or life breath—between people and our natural environments that resulted in nearly 100 generations of sustainable care for Hawai‘i. We recognize that it is because of the aloha ‘āina practiced by Native Hawaiians over many centuries that we can enjoy the Hawai‘i we have today” (Papa o ke Ao).

The University’s Native Hawaiian Place of Learning emphasis was supported by WASC in 2015 and identified it as an objective that should continue to be strengthened (2018). In 2015, WASC supported the 2012 task force recommendations supporting UHM striving toward becoming a Hawaiian place of learning, and thus aloha ‘āina “was determined to be a necessary guiding kuleana for the university in its newest strategic plan (2020-2025)”.

¹⁶University of Hawai‘i at Mānoa. “Mānoa 2025: Our Kuleana to Hawai‘i and the World Strategic Plan 2015–2025.” Mānoa 2025 Strategic Plan, Dec. 2020, manoa.hawaii.edu/wp/wp-content/uploads/2020/12/manoa-2025-strategic-plan.pdf.

Some of the kuleana the University of Hawai'i has as an Indigenous-serving, Aloha 'Āina institution, based on its own definitions as such, is to meaningfully indigenize the university and integrate Native Hawaiian values and pedagogies across the institution, including General Education.

Native Hawaiian Place of Learning in an Indigenous-serving, Aloha 'Āina institution means understanding Hawai'i as an Indigenous place, with Indigenous roots, that is much deeper and more meaningful than a State of Hawai'i-centric, US settler colonial understanding of Hawai'i. It seeks to engage critical questions, such as:

- What is important to know about Hawaiian culture, Hawaiian perspectives, and Hawaiian values?
- What is important to do and put into practice in the classroom? For lifelong learning? For civic engagement?

In defining NHPoL for General Education, the focus is to expose students to Hawaiian perspectives, values, and practices for meaningful engagement in critical thinking and intercultural understanding. Such knowledge, situated in the local, is applicable to global, multicultural contexts.

c. Background on Indigenizing the University with meaningful integration of Native Hawaiian values, pedagogies, and curricular practices (Supporting Material)

The Principle of Hawai'i is exemplified by meaningfully and actively integrating Native Hawaiian values.

Indigenizing the University with meaningful integration of Native Hawaiian values, pedagogies, and curricular practices are integral in building place-based (**NHPoL**) capacities across the UH system. The General Education curriculum is intentionally designed to anchor the student's intellectual development to the well-being of their community. Hence, laulima (**teamwork, collaboration**) animates the experience of the student in their Gen Ed classes in a way that meaningfully situates civic, professional, and social relationships to others in their community.

Centering pedagogies and capacities inclusive of Hawaiian knowledge and ways of learning will guide our state's higher education system in a direction that increases our promotion of excellence for all our students, and our ability to fulfill our kuleana (responsibilities) as an educational institution to our communities. NHPoL capacities are broadly conceptualized so that each campus can determine what that means for them, and what is relevant for their students and their learning environment. Campuses can focus on cultural knowledge and resources within their kaiāulu (communities) and ahupua'a, the larger moku (district, island), or pae 'āina (archipelago).

2. THE PRINCIPLE OF LEARNING

A diverse and high-quality liberal education utilizes the expertise of the faculty across all disciplines in conjunction with relevant pedagogies and high-impact educational strategies to prepare our students for the workforce and society.

The Principle of Learning, as it relates to the General Education curriculum at the University of Hawai'i, centers on the provision of a scaffolded, meaningful, and dynamic Liberal Arts education. Learning in the General Education is characterized as foundational courses across disciplines, integrated and multi-disciplinary skill-based studies, clear and enforced learning outcomes associated with agreed upon capacities, a diverse expert faculty, equitable access to education, high-impact practices and pedagogy, and the integration of technology driving an ever-changing educational and work-force driven world. It's key that as discussion of the UH General Education curriculum persists, the principle of learning always remains the forefront of consideration.

Components (Nā Māhele) of the Principle of Learning include:

- A) A Liberal Arts Education
- B) The Expertise of the Faculty
- C) Diversity, Equity, and Inclusion
- D) Competencies & Capacities at the Foundations of Scholarship
- E) High Impact Practices, Emerging Pedagogies, and Scaffolded Experiences
- F) The Role of Technology

a. A Liberal Arts Education

Learning in the General Education curriculum is facilitated by a depth and breadth of the Liberal Arts.

The General Education curriculum helps ensure that all UH students are given the opportunity to receive a liberal arts education that ensures exposure to diverse disciplines and fields of knowledge. The breadth of the curriculum provides creative and challenging experiences that prepare students for lifelong learning, ethical behavior, a sense of community responsibility, and the drive to make a difference. Students who engage in these courses are prepared for a wide array of careers and life experiences, and they will be in a better position to more fully participate in the economy, democracy, and society. Generally speaking, a General Education curriculum emphasizes cross-disciplinary methods of inquiry and learning, analysis of information arising from diverse sources and fields, an appreciation for aesthetics and social life, and the importance of communication across all areas.

b. The Expertise of the Faculty

Learning in the General Education curriculum is guided by faculty who are the experts in their fields.

Without teaching, learning is both arduous and uncertain. The General Education curriculum distinctly values the expertise of the faculty across a wide array of fields. Faculty are singularly responsible for the development and implementation of UH courses and curricula, and for the dynamic innovations that drive the system's relationships and reputation with the public. Faculty use their historical, contextual, institutional, and current knowledge of their fields and instructional and research expertise to decide on course content, pedagogical approaches, and other matters related to the delivery of instruction. Faculty use "best practices" in teaching to provide students with motivation, networks, leadership, advice, mentorship, and models of inquiry and scholarship. Faculty guide learning by designing coursework that is centered on learning outcomes that reflect the capacities and capacities that the University as a whole values. Faculty are primarily responsible for the assessment of student learning and making decisions to adjust curriculum and instruction as we seek both improvement and excellence.

c. Diversity, Equity, and Inclusion

Learning in the General Education curriculum is done so with respect for all people, their opportunities, and our shared outcomes.

The UH system serves a critical responsibility, as a facilitator to higher education, to always persist and protect the rights of all those who want to learn and have access to said higher education. To allow for a world which builds on the diversity of its people, UH shall work to offer an equitable platform for all to contribute to higher education and learning.

The University of Hawai'i is one of the most diverse universities in the U.S. It is because of this diversity of backgrounds, thoughts, and views that the UH can offer a positive and encouraging learning experience. This is extended into the classrooms, labs, and all offices of the University of Hawai'i by faculty and staff treating all people with respect for who they are and where they come from within or outside of Hawai'i. UH understands that to have a meaningful education, students, faculty, and staff must have freedom from unnecessary judgement, bias or favoritism in order for all to be welcome. Due to legacies of racism, bigotry, and exclusion, the University of Hawai'i strives to include all people who have historically been marginalized in higher education, and commits to a flexible General Education curriculum that focuses on meeting students where they are and providing necessary support.

d. Capacities at the Foundations of Scholarship

Learning in the General Education curriculum requires students to become users of the foundations of scholarship.

Foundational courses introduce students to key concepts and skills which increase student achievement and satisfaction during subsequent courses. These courses set a measurable standard for the university to ensure all students are equipped with the skills, knowledge, and experiences necessary to succeed in degree programs as well as in lifelong learning. Students who earn a degree from the University of Hawai'i will have certain capacities that will have prepared them for contributing to society in the 21st century.

e. High Impact Practices and Emerging Pedagogies

Learning in the General Education curriculum requires students to become users of the foundations of scholarship.

General Education integrates and unifies the various disciplines that students are exposed to in a liberal education, and does this best by offering integrated and multi-disciplinary experiences through a capacities-focused approach. Within the General Education curriculum faculty are encouraged to use high impact practices¹⁷, instructional strategies, and educational experiences that are predicated on applied learning, independent and group-oriented capstone projects, culminating performances, study-abroad, independent research, and field and work-based internships. These high impact practices have been shown to be most beneficial to college students from myriad backgrounds. They offer opportunities to synthesize knowledge from various classes via collaboration and hands-on experiences and make the learning experience more meaningful and relevant. We envision the general education proposal to be flexible enough to ensure that students have access to these beneficial experiences.

General Education pedagogies must remain responsive and contextually based, thereby respecting the prior knowledge and life-worlds of students while establishing learning outcomes appropriate and relevant to students within their social and cultural contexts, as well as to their future personal and professional goals. As students progress through their studies, learning outcomes should be reinforced, and should increase in complexity in an explicit and logical way until mastered. Creating a scaffolded system between course levels and subject areas allows for gaps in understanding to be properly addressed and bridged, minimizing student confusion and establishing a predictable flow to their education. Through the General Education curriculum, the university intentionally operates opportunities for students to become acquainted with new knowledge and information, its reinforcement, and their mastery in fields most relevant to Hawai'i, our communities, and our place in the world.

f. The Role of Technology

Learning in the General Education curriculum encourages students to develop a robust appreciation for technology.

As the workforce and overall world continues to evolve, technology overall serves not only as a tool to education as a whole, but also as an area of study. As the classroom is meant to be a reflection of the possible work and research environments which students will eventually enter, it is very important for the technology used in higher education to also reflect what students will encounter in the future. As technology itself continues to evolve, upgrade, and grow, educational technology should follow in that same fluidity and adaptability. A student's education should look at the ever-evolving technological world in the same context they would

¹⁷ "High Impact Practices." AAC&U, McCuen@AAC&U, www.aacu.org/resources/high-impact-practices. Accessed 29 Apr. 2021.

any other subject area. With that also in mind, various campuses also serve the purpose of providing equitable access to technology useful and necessary for students to use during their time in school. Removing barriers of access allows for all students to have an equal shot at thriving while in school.

3. THE PRINCIPLE OF STUDENTS

Our holistic, student-focused approach supports students' interests by creating experiences that value health and growth within a safe space community as essential aspects of learning, achievement, and success.

The Principle of Students is our holistic, student-focused approach that supports students within and beyond the classroom by creating experiences that value health and growth from a safe space community, essentially enhancing aspects of learning, engagement, achievement, resiliency, and success.

The university's purpose is to "provide a variety of entry points into a comprehensive set of postsecondary educational offerings, allowing flexibility for students to move within the system to meet individual educational and professional goals."¹⁸ Within this, the general education curriculum should support the whole student, including beyond the classroom by helping students to gain skills to be academic-minded and career-ready, and to provide opportunities for transfer, matriculation, and graduation. In addition, we feel as if the General Education curriculum should provide students with an opportunity to contribute to building a thriving community, and to be healthy (emotionally, physically, and mentally) within the identities they hold as students.

Components (Nā Māhele) of the Principle of Students include:

- A) The Purpose of Liberal Education for students
- B) Transferability
- C) Student Success: Supporting the Student's Academic Journey

a. The Purpose of Liberal Education for students

Students are exposed to a Liberal Education that prepares them to be critical thinkers and responsible citizens in an ever changing global society.

In 2005, AAC&U launched *Liberal Education and America's Promise (LEAP)*¹⁹ to encourage institutions to deeply reflect on how their general education programs are *preparing students to*

¹⁸ "Mission Statement: OVPCC." *Office of the Vice President of Community Colleges*, University of Hawai'i, 2016, uhcc.hawaii.edu/ovpcc/mission.

¹⁹ "The LEAP Challenge: Education for a World of Unscripted Problems." *Association of American Colleges & Universities*, 2014, <https://www.aacu.org/sites/default/files/files/LEAP/LEAPChallengeBrochure.pdf>.

be responsible citizens and professionals in a global society. To help institutions think through their outcomes, LEAP developed four *Essential Learning Outcomes*:

- 1) Knowledge of Human Cultures and the Physical and Natural World;
- 2) Intellectual and Practical Skills;
- 3) Personal and Social Responsibility; and
- 4) Integrative and Applied Learning.

The current General Education curriculum was introduced in December 1999, and the requirements were adjusted and evolved with the intent to “provide students a cohesive yet flexible undergraduate curriculum that developed knowledge, skills, and ways of thinking to foster lifelong learning.” The curriculum further instilled in students an appreciation for human diversity with an emphasis on the heritages of Hawai‘i, the Pacific and Asia.

In envisioning a refresh of the current General Education through a capacities-focused curriculum, students across the 10 UH system campuses will experience a generative curriculum that builds capacities of academic growth that will prepare students to confidently face the challenges of a precarious natural environment, rapid technological advancements, pervasive global social inequalities, as well as ways to find solutions that creatively contribute to a thriving community. Students will be able to craft their educational journey in meaningful and intentional ways. Moreover, the General Education curriculum will encourage students to explore different disciplines and areas of knowledge. Finally, students will be able to frame their general education experience by developing a rich cultural understanding of identity and a sense of place.

b. Transferability

Students must be able to transfer easily across campuses and we must strive to work together as a system to reduce institutional barriers to transfer and this starts by prioritizing the student experience.

Transfer students are the growing majority of incoming students within the University of Hawai‘i System: UH Mānoa (51%), UH Hilo (48%), and UH West O‘ahu (79%).²⁰

Transfer students come into the UH System from a variety of pathways:

- *Vertical Transfer* (e.g., students may start at a UH Community College then transfer to a UH 4-year institution)
- *Lateral Transfer* (e.g., students may start at a UH 4-year institution and transfer to another UH 4-year institution; or students may start at a UH 2-year institution and transfer to another UH 2-year institution)
- *Reverse* (e.g., students may start at a UH 4-year institution and transfer to a UH 2-year institution)
- *Dual Enrollment* (e.g., students may take classes on multiple campuses by choice or through Early College or another dual enrollment program (e.g., Ka‘ie‘ie Program))

²⁰ Slideshow Presentation on Transfer and Enrollment, presented to Summer Institute Team
<https://drive.google.com/file/d/1pUCp6Xgl6aWsEj4bJY6-0iFsN-bnEgOL/view>

- *Non-UH System Transfer* (e.g., students enter the UH System from an outside institution)

Given the importance of transfer students to the UH System, any new General Education model we propose must benefit students transferring within our system and coming from outside our system, and allow for flexibility of transfer among different UH campuses. The goal of pursuing a higher education is to provide opportunities for transformation. Students may attend one of our campuses not knowing their goal and pathway, and can discover and build their pathway as they get here. Others, may exactly know what their goals are and have the opportunity to develop their skills, knowledge, and values.

The beauty of the University of Hawai'i System is that there are multiple ways students can gain entry. Students can start at a UH Community College near their home or start at a UH University and transfer smoothly between both branches of the system. In addition, there are UH Educational Centers (e.g., Wai'anae, Hāna, Moloka'i, Lāna'i, Honoka'a) that provide further access and opportunity for students.

Lastly, and perhaps most importantly, for students to be successful within their educational journey, their General Education courses must be transferable across the UH System. Collaboration across campuses is key. As previously stated, the majority of our incoming students are transferring from either within the UH System or from outside of the system. And students expect that wherever they start within the UH System that they can move through to their next campus or degree program without slowing down their process from the General Education.²¹

c. Student Success: Supporting the Student's Academic Journey

Student Success is built on opportunities for learning and growth and access to Academic Advising and Student Resources

For students to be successful in their General Education journeys, there should be multiple opportunities for learning and growing through discussion-based courses, applied learning experiences, and an emphasis on developing 21st century skills (e.g., critical thinking). In addition, we believe that given the diverse learners we strive to serve, General Education courses should be offered in multiple modalities: in-person, distance learning, hybrid, varied term length, and within learning communities. Through the design process, we have discussed the value of applied learning and capstone experiences for students to demonstrate their proficient knowledge of their skills and capacities, and encourage these experiences within General Education.

We believe that early and proactive academic advising is the key to helping students develop positive relationships with the campuses and receive guidance on making intentional and

²¹ See the following resources that specifically suggest that collaboration across campuses is key in successful transfer and articulation.

https://drive.google.com/file/d/11eKXEYikJlpo9Yi_s89upo3Mud6Ha8W5/view?usp=sharing

meaningful choices about their educational journey. Receiving guidance about General Education provides a foundation for learning and opportunities for students to learn more about their campus and how they may make the most of their educational experience.

Furthermore, access to transfer advising is an important component of the General Education as stated in EP 5.209 to help students make meaningful decisions from one campus to the next and reduce the numbers of credits lost in transfer.

Finally, for students to be successful as they take their General Education classes, they need to have access to academic and student resources such as (but not limited to):

- Technology (e.g., computer lab, laptop loans, printing, digital literacy support)
- Tutoring
- Mental Health Counseling
- Peer Mentoring
- Career Counseling

Access to these vital academic and student resources support students in making the most of their General Education experiences and ensuring they are able to set themselves up for success as they tackle their educational challenges.

4. THE PRINCIPLE OF UNITY

Our General Education framework - designed as a capacities-focused proposal - unifies the ten University of Hawai'i System campuses under a common curriculum while preserving and amplifying each campus's unique identity and strengths in the spirit of facilitating the goals of student engagement, learning, and achievement. The Principle of Unity, as it relates to the General Education curriculum at the University of Hawai'i, is our recognition that the ten campuses should operate as a single system, with seamless articulation and transfer between all campuses within our system for all of our students, while acknowledging and sustaining the distinctiveness of each campus.

The redesigned General Education curriculum will be a shared responsibility among the ten University of Hawai'i campuses. A refreshed General Education program should make the goals and outcomes of the general education curriculum explicit and intuitive for students and faculty alike. Each of the ten UH system campuses has its own unique mission, and therefore, the associated Institutional Learning Outcomes (ILOs) for each campus are slightly different.²²

Under the framework of the redesigned General Education curriculum, each of the ten University of Hawai'i campuses will be able to tailor the curriculum to the strengths of its campus and the diverse student population, with the guidelines and framework set forward in the redesigned curriculum.

Components (Nā Māhele) of the Principle of Unity include:

A) A Unified General Education Model

²² <https://docs.google.com/spreadsheets/d/1griWZK-cYATq4rMiNU04Ywtdl6vhhFRggaWmydrRVM8/>

- B) Alignment with existing transfer policies
- C) Alignment with Interstate Passport
- D) Alignment with ILOS, General Education outcomes, and campus specific graduation requirements

a. A Unified General Education Model

What can we do to support our transfer students and help our students meet their goals? While there are many barriers to transfer that include structural, institutional, social, emotional, and economic factors, the new General Education model must focus on addressing and eliminating structural and institutional barriers to transfer. As we design our new General Education model, we must keep the perspectives of transfer students in mind. Many students arrive on our UH Community College campuses with the intention to pursue a bachelor's degree. Halbert and Kaakua⁵ found that 75% of UH Community College students wanted to earn their bachelor's degree, but only 16% transferred within 3 years to a baccalaureate granting institution. This alarming statistic is unfortunately on par with national trends; about 80% of community college students nationally plan to earn a bachelor's degree, but only 17% transfer and earn a degree within 6 years.²³

Adopting a unified General Education model across all of the ten campuses will help to eliminate confusion among students about their degree requirements and how their credits will transfer. A unified system approach will also allow students to be able to take courses from multiple campuses and be confident in their ability to transfer.

b. Alignment with existing transfer policies.

Current policies exist that allow the transfer of General Education courses, provided the student has fulfilled the full block of courses (e.g., all Foundations and all Diversifications transfer, but not necessarily individual designations) or complete their Associate in Arts (AA) degree at a University of Hawai'i System campus²⁴ as well as the Transfer of General Education Core Requirements.²⁵ A unified General Education model will eliminate the need for these policies to be heavily regulated by students, advisors, and faculty, and it should be intuitive for students to navigate. Further, campuses should have the ability to customize the General Education experience, though that customization should not come at the expense of transfer or the student experience.

²³ "What We Know About Transfer." *Community College Research Center*, Columbia University, Jan. 2015, https://drive.google.com/file/d/1N6bQ1jPgveSRWGceiH8qeGlumh_uW19c/view.

²⁴ "UH Executive Policy 5.209." *UH Systemwide Policies and Procedures Information System (PPIS) - Executive Policies*, Aug. 2020, <http://www1.hawaii.edu/policy/?action=viewPolicy&policySection=ep&policyChapter=5&policyNumber=209>.

²⁵ "Transfer of GE Core in UH System." *University of Hawai'i System*, University of Hawai'i, May 2010, <https://drive.google.com/file/d/1KoRLraUZWQ6oxigdlF6dQfHXJVA8mrc/view>.

Additionally, having a common course alpha numbering system at the Foundations level across the UH System will remove a large barrier for students. There are many cases of inconsistent course numbering, and while attempts have been made in the past to ameliorate these discrepancies, more can be done. The UH Community College system has a policy to address common course numbering²⁶ but there is no UH Systemwide policy or guidance. In order for a new model of General Education to be successful and intuitive for students to navigate, the UH System must follow through on its efforts to maintain common course alpha and numbering, titles, descriptions, capacities, and learning outcomes.

c. Alignment with Interstate Passport and External Transfers

Participation in the Interstate Passport should be continued in order to support non-UH System transfer students coming in and to make it easier for our students who meet the Interstate Passport requirements to transfer out of the UH System. All ten UH System campuses are members of the Interstate Passport Network. The Interstate Passport consists of 63 Passport Learning Outcomes in nine areas: oral communication, written communication, quantitative literacy, natural sciences, human cultures, creative expression, human society and the individual, critical thinking, and teamwork and value systems. Members of the Network agree to map the Passport Learning Outcomes to their lower-division general education courses in order to create a Passport Block that will be transferred and accepted--as a block--by all other member institutions. This block transfer of lower-division general education courses ensures that students do not “lose” any general education credits in the transfer process, thereby supporting students' timely earning of a degree.²⁷

For students who transfer from institutions not participating in the Interstate Passport, they occasionally run into issues if they then transfer again within the UH system. System-wide acceptance of transfer requirements would also support a timely completion of the students' academic journeys.

d. Alignment with Campus specific ILOs, General Education outcomes and graduation requirements.

It is important to note that ILOs²⁸ and General Education outcomes are not necessarily the same across the system. Some campuses use their Gen Ed outcomes as their ILOs while others do not. Everything considered, despite well-intentioned institutional learning outcomes, a clear disjuncture exists between our current General Education curriculum and the learning outcomes of our respective institutions. From a student perspective, perhaps nothing highlights the values of an institution more clearly than the list of graduation requirements. The link between these graduation requirements and the institutional learning outcomes is not immediately evident. Distribution models of general education, like the ones currently used

²⁶ “5.301 - Common Course Numbering | OVPCC.” *Office of the Vice President of Community Colleges, University of Hawai‘i*, 2018, http://uhcc.hawaii.edu/ovpcc/policies/UHCCP_5.301.

²⁷ It may be possible for the General Education Curriculum to align a minimum GPA requirement of a C or better; however, we recommend that this decision takes place in the implementation phase.

²⁸ <https://docs.google.com/spreadsheets/d/1griWZK-cYATq4rMiNU04Ywtdl6vhhFRggaWmydrRVM8/>

throughout the UH system, require that students check off courses from a laundry list of unrelated courses in various Foundations, Diversification and Focus areas in order to complete their Gen Ed requirements.

A further complicating factor is that the ten UH system campuses have nuanced versions of the distribution model. On the surface, it may appear that the UH System has a unified General Education curriculum, but a deeper dive finds this is not the case. Courses that a student took to satisfy the requirements on one campus do not always articulate when they transfer to another UH system campus. As a result, students are required to take more classes and take even longer to graduate.

That each campus has its own unique set of category requirements, as well as variations in the number of courses required for each category, has been a perennial problem. UH Mānoa, for example, requires a total of five Writing Intensive courses for graduation with the BA degree, while UH Hilo requires just three. In addition, UH Hilo has a Structural Requirements and an Integrative Requirements category that extend beyond the traditional Foundations and Diversifications categories. Among the community colleges, Leeward CC and Honolulu CC require at least one course with an Ethics focus, while others do not. In addition, some UH Community Colleges require oral communication at the 100- or 200- level, though the requirement is nested within the Gen Ed curriculum differently by campus. Honolulu CC classifies oral communication as a 3-credit Speech requirement for graduation, and Leeward CC and Kapi'olani CC classify oral communication as a Focus-area requirement. UH Mānoa requires oral communication and contemporary ethical issues Focus courses to be taken at the 300+ level, and therefore any 100- or 200- level courses taken at the community colleges do not satisfy the requirements at UH Mānoa. These examples are only the tip of the proverbial iceberg of transfer and articulation discrepancies that exist among the Gen Ed requirements of the ten UH System campuses.

5. THE PRINCIPLE OF EXCELLENCE

Excellence is demonstrated through assessment and evaluation of General Education within a context of accreditation and the alignment to national standards for the purpose of improvement.

The Principle of Excellence, as it relates to the General Education curriculum in the University of Hawai'i system, is about honoring our commitments, evaluating our outcomes, valuing partnerships, and participating in processes toward improvement. Our commitment to principles is guided by standards and guidelines used by local and national partners and leaders, the engagement in accreditation and assessment cycles, the assessment of student learning, the use of meaningful metrics that guide our thinking about quality, and planning for the future. These elements together encourage us to iteratively improve our work.

Accountability is a lynchpin in the movement toward excellence in General Education at the University of Hawai'i. It is not enough to set forth these guiding principles, we must ensure that we are acting in accordance with them. Excellence as we have defined it is communicated by acting Hawai'i-centric, being learning-driven, and staying student-focused within a unified 10

campus system. Beyond our internal value structures, campuses in our system are accredited members of the WASC Senior College and University Commission (WSCUC) and the Accrediting Commission of Community and Junior Colleges (ACCJC) accrediting panels. The faculty and administration are concerned with the assessment and improvement of curriculum and instruction, and as we do so, we often refer to expert opinion and “best practices” put forth by the American Association of Colleges and Universities (AAC&U). Finally, we are responsible to the public as state institutions of higher education. We must stand up our graduates as citizens, artists, servants, advocates, activists, professionals, entrepreneurs, scientists, scholars, and leaders. To communicate our commitment, we must explore our outcomes based on student experiences, and futures, as well as consult within state-wide efforts to ensure the entire P-20 education system is leading to the desired results of learning, citizenship, and workforce development.

As actors working on improvement, we have a responsibility to assess our desired and agreed upon outcomes. To do so, Faculty and Administration participate in regular cycles of assessment, accreditation, and strategic planning. This requires the campuses and the university to take a regular, and systematic, look at how they enact their purpose, curriculum, personnel, services, infrastructure, resources, and governance. Within these structures, processes, and mechanisms are essential data metrics and qualitative measures that shed light on our performance. While some have yet to be determined as they relate to our Guiding Principles and the General Education, many have been used as a part of annual reviews, the assessment of learning outcomes, student success metrics, and campus performance indicators. These, to the best of our ability, should be linked to aspects of the General Education curriculum, its purpose, delivery, and outcomes, so that we may use the information to address issues of quality.

Our outcomes, the measures of quality, and our evaluation processes need to come together in an effort to situate this information as an opportunity. Together, this information is useful in working towards improvement of our system. This is an opportunity to share our best practices “internally” with other professionals and campuses in the system to scale efforts for maximum effectiveness but also in an effort to guide short-term and long-range planning efforts related to General Education.

Components (Nā Māhele) of the Principle of Excellence include:

- A) Accreditation Bodies
- B) Standards of Practice in Liberal Education
- C) Assessment of Student Learning Outcomes
- D) Data & Success Metrics within General Education
- E) Innovations, Short-term, & Long Range Planning
- F) UH Graduates in Society and the Workforce

a. Accreditation Bodies

Excellence is pursued via alignment of General Education capacities and outcomes to regional higher education accrediting body standards.

A capacities-focused proposal aligns well with accreditation standards. The four-year institutions in the UH System, as well as Maui College, are accredited by the WASC Senior College and University Commission (WSCUC). The Commission requires that core General Education competencies--written communication, oral communication, quantitative reasoning, information literacy, and critical thinking--be included in all undergraduate programs. The Commission also requires that undergraduate programs "foster creativity, innovation, an appreciation for diversity, ethical and civic responsibility, civic engagement, and the ability to work with others" as well as "ensure breadth for all students in cultural and aesthetic, social and political, and scientific and technical knowledge expected of educated persons." General Education is expected to be included at both lower division and upper division levels.²⁹

Community colleges in the UH System are accredited by the Accrediting Commission for Colleges and Junior Colleges (ACCJC). ACCJC requires that accredited colleges include in all degree programs "a substantial component of general education designed to ensure breadth of knowledge and promote intellectual inquiry."³⁰ Specific General Education student learning outcomes/competency requirements include "a student's preparation for and acceptance of responsible participation in civil society, skills for lifelong learning and application of learning, and a broad comprehension of the development of knowledge, practice, and interpretive approaches in the arts and humanities, the sciences, mathematics, and social sciences."³¹ In addition, all programs must include student learning outcomes in "communication competency, information competency, quantitative competency, analytic inquiry skills, ethical reasoning, [and] the ability to engage diverse perspectives."³² (Note: ACCJC will undertake a standards review/revision beginning in fall 2021, with expected adoption/implementation in fall 2023.)

b. Standards of Practice in Liberal Education

Excellence is pursued by engaging with higher education standards and best practices.

Institutions of Higher Education use a multiple of professional and academic organizations to guide their practices in General Education. The most commonly referenced organization in Higher Education is the American Association for College and Universities.³³ AAC&U focuses on being a driver for a liberal education. The organization uses its resources to "advance the economic and civic value of a liberal education", improve diversity, equity, and inclusion in

²⁹ "Handbook of Accreditation 2013 Revised." *WSCUC Handbook of Accreditation*, WASC Senior College & University Commission, 23 Sept. 2021, <https://www.wscuc.org/handbook/>.

³⁰ "Eligibility Requirements - ACCJC." *Accrediting Commission for Community and Junior Colleges*, WASC, 2014, <https://accjc.org/wp-content/uploads/Eligibility-Requirements-Adopted-June-2014.pdf>.

³¹ "Accreditation Standards - ACCJC - Accrediting Commission ..." *Accrediting Commission for Community and Junior Colleges*, WASC, 2014, https://accjc.org/wp-content/uploads/Accreditation-Standards_-Adopted-June-2014.pdf.

³² "Accreditation Standards - ACCJC - Accrediting Commission ..." *Accrediting Commission for Community and Junior Colleges*, WASC, 2014, https://accjc.org/wp-content/uploads/Accreditation-Standards_-Adopted-June-2014.pdf.

³³ *Association of American Colleges & Universities*, AAC&U, <https://www.aacu.org/>.

higher education, connect liberal education to the community and global society at large, and advocate for the role of science and technology in a contemporary world.

Generally speaking, AAC&U has a set of guiding principles that it shares as a foundation of a liberal education. These principles are outlined in the General Education Maps & Markers (GEMs).³⁴ In particular, the GEMs principles encourage colleges and universities to create clearly defined and scaffolded learning outcomes, empower students with clear pathways that encourage autonomous decision making, develop curricula that are meaningful and relevant within the context of local and global problems, ensure that General Education is accessible and equitable for all students, and utilize transparent processes for assessment to ensure a quality education.

AAC&U cares about colleges' and universities' abilities to ensure these values through assessment. For several areas of General Education, AAC&U has developed VALUE rubrics that help guide colleges and universities to think through how they frame the objectives and criteria for foundational subject areas in an effort to normalize how they are assessed. There is a general consensus that rubrics should be adapted within assessment processes in General Education. Moreover, AAC&U's VALUE rubrics are widely used across the UH System.

c. Assessment of Student Learning Outcomes

Excellence is investigated through the assessment of student learning outcomes.

Assessment is viewed as a “holistic process to engage faculty, staff, and administrators in collaborative efforts to investigate student learning achievement and to use assessment to effect course, program and/or institutional improvement and, ultimately, student learning improvement.”³⁵ Assessment for the purpose of improvement is undertaken across the System, and coordinated at the campus level on a schedule that meets the specific needs of each campus. While each campus does not have an institutional assessment coordinator, each campus is represented on the UH System Assessment Coordinators' Group, an advisory council to the University's Academic Programs and Policy Office.³⁶ This group also serves as a forum for the discussion of student learning improvement in general, and as a source of guidance in maintaining excellence across the system, and is supported by the Vice President for Academic Strategy and the Office of Academic Programs and Policy.³⁷

³⁴ https://drive.google.com/file/d/15CPzSX_H_qPOXOQP5lqv7JNlysoDixoOw/view?usp=sharing

³⁵ “Assessment Coordinators.” *University of Hawaii System*, University of Hawaii, Sept. 2021, <https://www.hawaii.edu/offices/vp-academic-strategy/academic-programs-and-policy/advisory-councils/assessment-coordinators/>.

³⁶ “Academic Programs and Policy Office.” *University of Hawaii System*, University of Hawaii, Sept. 2021, <https://www.hawaii.edu/offices/vp-academic-strategy/academic-programs-and-policy/>.

³⁷ “Hawai'i Graduation Initiative (HGI).” *University of Hawaii System*, University of Hawaii, June 2021, <https://www.hawaii.edu/offices/vp-academic-strategy/hgi/>.

d. Data & Success Metrics within General Education

Excellence is documented through various data and success metrics across the UH System.

To determine whether or not the above goals have been achieved, the University of Hawai'i System defines excellence using a number of performance indicators. These metrics are situated within efforts for UH Strategic Directions for the Hawai'i Graduation Initiative (HGI).³⁸ The general metrics used include: the total number of degrees and certificates earned, the number of STEM degrees awarded, our 4-year graduation rates, success and graduation rates within 6 year or 150% CC (IPEDS),³⁹ graduation and transfer rates (Student Achievement Measures), the enrollment to degree gap for Native Hawaiian students, and the enrollment to degree gap for Pell recipient students.

Finally, as we embark on this new curriculum, we should consider tracking all sorts of new metrics. These should be simple and clear, but relevant to our curriculum design. To explore efficiencies built into the new curriculum, we could include items such as credits upon award completion compared with historical data. For assessing our multi-disciplinary approach, we could record the number of team taught/cross listed courses, and/or the total number of KHUA courses. In an effort to explore the value of scaffolding, we could examine success rates of courses at the various levels of improvement, reinforcement and mastery or we could assess performance in majors at various levels of General Education.

Beyond our schools, we could identify quantitative and qualitative measures of 21st learning and skills aligned to workforce development needs as identified in the recent 2021 AAC&U study of employers, such as teamwork, critical thinking, information & digital literacy, and applied learning, along within many of the competencies that are an explicit part of the General Education curriculum.⁴⁰ Along these lines we should measure our contributions to the workforce in terms of the volume of UH graduates working in various industry sectors across Hawai'i, in an effort to explore supply and demand matches and mismatches. We would like to know the satisfaction of students and employers in terms of preparation, and ensure that our skill sets that graduates attain are those most needed by our local industry. We should consider piloting in specific high needs workforce areas or in relation to specific "in-demand" competencies to begin to examine the quality of the curriculum.

e. Innovations, Short-term, & Long Range Planning

Excellence is organized through planning and spurred by innovations.

³⁸ "Graduation And Success Rates." *UH Strategic Directions, 2015-2021*, University of Hawai'i, <https://www.hawaii.edu/vpaa/sdm/sdem-success2020-2.html>.

³⁹ Flaherty, Colleen. "What Employers Want - AAC&U." *Inside Higher Ed*, 6 Apr. 2021, <https://www.insidehighered.com/news/2021/04/06/aacu-survey-finds-employers-want-candidates-liberal-arts-skills-cite-preparedness>.

⁴⁰ "High Impact Practices." AAC&U, McCuen@AAC&U, www.aacu.org/resources/high-impact-practices. Accessed 29 Apr. 2021.

As a system, we have several opportunities to innovate in an effort to create cohesion, synergies, and efficiencies across campuses. These include the creation of a centralized articulation/transfer office to help facilitate articulation and transfers across the UH System and the creation of a centralized policy, planning, and assessment office to assist other campuses with the implementation of policy and the assessment of learning outcomes at a student, program, and institutional level. This would require a robust and dynamic Institutional Research team driven to facilitate correct and timely data to help individuals, campuses, and the system monitor our success. We should explore students' opportunities to take courses, seamlessly from any campus across the system. With that said, it makes sense to create opportunities for faculty to collaborate and team teach between departments and programs as well as across campuses.

Excellence is exemplified by meeting our goals. The proposed Gen Ed guiding principles and curriculum model aligns with goals in strategic plans across the system. UH Mānoa's 2015-2025 Strategic Plan,⁴¹ outlines goals of becoming a "Native Hawaiian Place of Learning", enhancing Student Success, and demonstrating excellence in Institutional Research. Similarly, University of Hawai'i at Hilo, through its UHH Strategic Plan,⁴² intends to "Strengthen Our Commitment to Haumāna: Equity and Student Success" and "Strengthen Our Commitment to 'Āina and Community-based Education." The UHWO Strategic Plan (2018-2028)⁴³ clearly outlines a commitment to "Increasing Student Success & Engagement and "Advancing Dynamic and Integrated Learning Experiences." And finally, as was tied to metrics to assess the quality of the general education curriculum, UHCCs Strategic Plan (2015-2021)⁴⁴ sets goals as increased Graduation rates, and specifically for Native Hawaiians, increased overall UHCC baccalaureate transfers. We have some work to do regarding the elimination of access and success gaps for targeted populations, as well as continued efforts to reduce time-to-degree, and continue the modernization of teaching and learning environments.

f. UH Graduates in Society and the Workforce

Excellence is achieved by the quality of our graduates' contributions to society and the workforce.

Hawai'i P-20 is "a statewide partnership led by the Executive Office on Early Learning, the Hawai'i State Department of Education, and the University of Hawai'i System that works to strengthen the education pipeline from early childhood through postsecondary education and

⁴¹ "UH Hilo Strategic Planning Home." *University of Hawaii Hilo*, University of Hawaii, <https://hilo.hawaii.edu/strategicplan/>.

⁴² "UH Hilo Strategic Planning Home." *University of Hawaii Hilo*, University of Hawaii, <https://hilo.hawaii.edu/strategicplan/>.

⁴³ "Strategic Action Plan - University of Hawai'i–West O'ahu." *University of Hawai'i at West O'ahu*, University of Hawai'i, 2019,

https://westoahu.hawaii.edu/wp-content/uploads/docs/general_info/UHWO_Strategic_Action_Plan.pdf.

⁴⁴ "Strategic Directions - UHCC." *University of Hawai'i Community Colleges*, University of Hawai'i, 2017, <http://dspace.lib.hawaii.edu/bitstream/10790/4343/1/UHCCP1.104.pdf>.

training with data-informed decision making, advocacy, policy coordination and shared action. Our work is focused on high expectations and equitable access, so all students can thrive in school, career and life.” Locally, the P-20 initiative has been making efforts to clearly articulate, align, and evaluate pathways for matriculation from preschool through higher education.⁴⁵ This includes both Career and Technical Education pathways as well as pathways directly connected to the general education curriculum at UH. We want to be able to present clear vertical alignment between the High Schools and Community Colleges and to the Universities and beyond. This has become even more important as the University system has made great strides in offering Early College and Dual Credit initiatives across the state.

⁴⁵ “Hawai’i P-20: Resources, Guidance, News and Events That Connect Educators with the Tools Needed to Prepare Students for College and Career Success.” *Hawai’i P-20*, 30 Sept. 2021, <http://www.hawaiip20.org/>.

D. Appendix D - Native Hawaiian Pedagogy Ideas

1. Beyond Pedagogies: What are some possible General Education practices that can reflect the Hawai'i Principle?

The principle of Hawai'i engages with the other **Guiding Principles** (Learning, Students, Unity, and Excellence), as well as on the model concept of scaffolded learning (Introduction, Reinforcement, Mastery). A few suggested "first" or "small" steps for Students and Learning at the Introductory level are listed below, as a potential pathway towards Unity, Reinforcement, and Mastery, exemplifying Excellence at an Indigenous-serving, Aloha 'Āina university. This is not an exhaustive list, and there are other institutional resources, such as Hawai'i Papa o ke Ao, and resources on all our campuses that can and should be consulted.

1. Commit to using Hawaiian diacritical marks, starting with familiar campus and place names: Hawai'i, Mānoa, Kaua'i, Kapi'olani, Moloka'i, Lāna'i.
2. Incorporate links to the online Hawaiian dictionaries on course syllabi to assist student access: www.wehewehe.org.
3. Commit to learning proper pronunciation of Hawaiian place names and words (for example, it's O-ahu, not O-wahoo; it's Ka-me-ha-me-ha, not Ka-mea-mea).
4. Incorporate a "land acknowledgement" onto course syllabi and into department practices (esp. When hosting guest speakers, colloquium, events, etc.).
5. Incorporate cultural values, such as laulima (collaboration, teamwork, peer accountability), kuleana (responsibilities, which include personal, student, family, professional, etc.) [Where professors can also acknowledge the humanity of the student and not just "do this assignment and turn it in on time or fail" mentality.]
Other possibilities: aloha (compassion, empathy), mālama (caring), kūlia i ka nu'u (work your hardest to do your best; motto of Queen Emma), pono (do the right thing--ethics).
6. Examples, problems, case studies, etc. from Hawai'i, that engage Hawaiian culture in ways that can potentially give back to our local Hawaiian communities in meaningful ways. [The fishpond example from Keaukaha, the Pālolo community project, the building homes for DHHL recipients and then landscaping with native Hawaiian plants are all excellent examples.]
7. Incorporate Native Hawaiian authors into course readings, and readings by others that support Indigenous-focused perspectives/approaches/methodologies.
8. Incorporate Indigenous theories and methodologies relevant to the discipline or topic. [Linda Tuhiwai Smith' *Decolonizing Methodologies* is excellent for this.]
9. When using Hawaiian practices and protocols in classes or departments, such as offering lei to guest speakers, follow proper protocols or don't do them at all. For example: remove lei from plastic packaging, lay them out ahead of time, and dispose of or put packaging away (out of site). Remind guests (especially guests not from Hawai'i/unfamiliar with protocol) not to throw away the lei; if they do not wish to wear the lei, it is okay to remove it and place it on the podium or table; if they do not want to take the lei with them, it is okay to leave it on the desk/podium, or gift it to someone else (the host, the department secretary, etc.).

10. Hawaiian ‘ōlelo no‘eau (proverbs, saying) are applicable to many people and situations. “‘A‘ole pau ka ‘ike i ka hālau ho‘okahi,” or “Not all knowledge is contained in one school,” is a good one to keep in mind. There are many perspectives on any given topic within Hawaiian culture; Hawaiians were not and are not monolithic or stagnant. Thus, each class, instructor, department, discipline, program, school, college, and campus can (and should) develop different perspectives, and we can (and should) engage in vigorous critical thinking, inquiry, research, and debate.

2. Models, pedagogies, and curricular practices as possible frameworks for NHPoL in General Education.

The following are examples of curricular practices that may be utilized as possible frameworks in building courses, developing thematic pathways, or cultivating interdisciplinary collaborations across campuses based on NHPoL.

a. ALOHA Concept

1. **ALOHA:** Is an acronym describing foundational points guiding the refreshed General Education framework. Meanings of “aloha” are much deeper than just “hello,” “goodbye,” and “love.” Connotations of aloha go far beyond common understanding or usage. For some, aloha is comprised of alo (presence) and hā (breath), connoting connection and relationship beyond a quick salutation. General Education is meant to provide this breadth of knowledge to our students in a way that allows the space for growth, learning, and health.

ALOHA represents:

Attention to students and competencies
Lowering the boundaries and reducing or eliminating barriers for *all* students
Opening opportunities for *all* Students
Honing the skills they already possess, have learned, and are learning
Applying education at the local, regional, national, and global levels.

The ALOHA concept compliments the **Pedagogy of Aloha** developed by Dr. Kū Kahakalau.

b. Pedagogy of Aloha

Pedagogy of Aloha: A method of teaching that integrates “Hawaiian language, culture, knowledge and history to make the curriculum relevant and personal to students.” The Pedagogy of Aloha lists Hawaiian cultural values and related practices:

Values	Practice
Teacher as Researcher	Experiment and apply methods, flexible to change
Teacher as Beloved	Preserving relationships through familial terms
Teacher as Guide and Co-learner	Teacher facilitates knowledge
Culture as Teacher	Culture defines curriculum model
Place/Environment as Teacher	50% of learning done outdoors, place-based learning
Life as Teacher	Applied education
Teacher as Role Model	Individual and Collective Responsibility, sustainability
Teacher as Validator	Hō'ike - feedback, validation

c. Ka'ao⁴⁶

A framework for transforming the University of Hawai'i to a model Indigenous-serving institution (developed by Hawai'i Papa o ke A'o office). There are four elements of the Ka'ao framework:

- a. Hua: The Why?
- b. Ha'alele: The Preparation & Separation
- c. Huaka'i: The Journey
- d. Ho'i: The Give Back

d. 21st Century 'Auwai

An 'āina- or place-based model rooted in Hawaiian cultural and ancestral frameworks and “grounded in native Hawaiian pedagogy that is reflected in the interaction between three

⁴⁶ <https://vimeo.com/showcase/7697840>

essential program components, set in a contemporary farming concept” (developed by MA‘O Organic Farm). The three essential components are:

- e. ‘Āina (land): Provides abundant physical and natural resources that feed physically, spiritually, emotionally, and intellectually;
- f. ‘Ike Kūpuna (ancestral Hawaiian knowledge): Generational learning is catalyzed and pono (just, harmonious) living is sustainable, and mana (spiritual power) is accrued;
- g. Kānaka (people): Transmit ancestral and cultural memory and embody lived experience to connect the past, present and future piko (centers) that facilitate our resilience and continuity as a community.

Relationship with the ‘āina is cultivated through “long-term mutual commitment, creating a shared mutual benefit between the organization and the intern [student].” It reflects “‘Ike ‘Āina,” which is learning from place-based experiences as much as it is learning about place (ho‘omanawanui 2008).⁴⁷

Each of the above are generative curricular models of learning grounded in cultural values supporting NHPoL pedagogies and practices that also seek to give back in meaningful and sustained ways to the ‘āina, Hawaiian, and Hawai‘i communities.

e. The Kalo Model⁴⁸

The Kalo model presents a central symbol of Native Hawaiian culture, kalo, the elder sibling of Kanaka ‘Ōiwi, and its growth cycle through harvest and feeding the community who have cared for it as a metaphor for introduction, reinforcement, and mastery of knowledge and skills.

LEVEL I: ‘Āina Momona (Fertile soil)

Introduction, Engagement - As students begin college, the focus is on introducing foundational knowledge and skills, and to begin practicing the skills necessary to ensure success for the rest of their academic journey.

- How to write, read, analyze, and discuss in a college setting.
- Navigating data and digital formats to maximize their understanding and accuracy.

LEVEL II: Ho‘okupu Kalo (Sprouting taro)

Reinforcement, Engagement - Now adjusted to being a college student, students can now dive into creating a better understanding of the world in and outside of academics.

- Looking at the world in the scope of a student and future contributor to society

⁴⁷ ho‘omanawanui, ku‘ualoha, “This Land is Your Land, This Land was Our Land: Representations of ‘Āina in Contemporary Literature of Hawai‘i.” *Asian Settler Colonialism: From Local Governance to the Habits of Everyday Life in Hawai‘i*. Eds. Candace Fujikane and Jonathan Okamura. U of Hawai‘i P, 2008.

⁴⁸ The Kalo model was introduced by Rene Hutchins during the Design Institute.

- Intercultural understanding and how varieties of societies have shaped our global landscape.
- Exploration of subjects applicable to students' interests, personal goals, and program prerequisites/ preparation.

LEVEL III: Huli (Regeneration)

Reinforcement, Engagement - Students are now able to conceptualize themselves as contributors to the world and their school, students can decide more carefully how they want their academics to serve them: Immediate workforce development, or academic expansion.

- Academic: Students whose journey is focused on an extensive academic experience (Bachelor degree, graduate school, career path, lifeskills, etc.)
 - Focused courses that contribute to success in their major or program.
- Immediate Professional: Students who will immediately emerge in the professional world (CTE, ASC, etc.)
 - Focused courses that contribute to success in their field of work

LEVEL IV: Lau and Pua (Leafing, Blossoming)

Reinforcement, Engagement, Mastery - In their own defined paths, students can begin to showcase their understanding in examinable evidence.

- Academic Capstones:
 - Program/ Degree/ Major defined demonstration of academic and industry knowledge
- Immediate Professional:
 - Assisted transfer into the workforce via institution (opportunities for students to smoothly transition into being full-time employees)

LEVEL V: 'Ohi (Harvest)

Mastery - As a fully developed academic and professional, students can now contribute to the 'Aha'aina (feast, banquet) and leave the institution, or continue on into graduate work and studies with a full plate of knowledge and skills catered to them and their life. Just as important is that they are capable of contributing to filling the plates of others through their academic mastery.

- Contributes to a sense of place, community, and belonging to the school and Hawai'i.

f. The Kūkulu model

The **Kūkulu** model is centered around the process of constructing a hale (building) on a firm kāhua (foundation), that provides shelter and facilities for community use, in which knowledge and skills are also gained through the process:

- I. **Paepae** (Introductory): The paepae is the foundation of a building, and represents the introduction of concepts, key terms in a class/discipline. A firm

foundation is necessary to construct a solid structure. It sits on the 'āina, and should be placed with thought and care for optimal results; Hawaiian Place of Learning is represented by the 'āina.

- II. **Hālau** (Reinforcement): The building is both a physical structure, but also a school of knowledge and learning, such as in hula, where practice of skills is reinforcement towards mastery.
- III. **Kauhale** (Mastery): The collection of buildings in a physical space that represent mastery through the interdisciplinary engagement with different disciplines and learning in each.