

Academic Program Review
Bachelor of Environmental Design Degree, University of Hawai‘i at Mānoa

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Executive Summary

The goal of this review is to help determine whether the Bachelor of Environmental Design (BEnvD) degree should be moved from “provisional” to “established” status. In our view, the BEnvD program has exceeded the requirements for this change in status and recommend the BEnvD program be formally designated as an “established” program. The program is already performing well both in term of its metrics (# of majors, SSH, etc.), curricular excellence, the employability of BEnvD alums post-graduation, preparedness to succeed in related advanced degree programs, and the quality of their contributions to the broad field of design. And, 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. Based on our review, we have various suggestions for how the program might improve and these are noted over the course of the following document and summarized at its close. But this should not detract from our overall very positive impression of and support for the BEnvD program.

Purpose and Process

A committee was formed to help determine whether the Bachelor of Environmental Design (BEnvD) degree, housed in the School of Architecture at the University of Hawai‘i at Mānoa, should be moved from provisional to established status. The committee consisted of Dr. Daniel Harris-McCoy, Assoc. Prof. of Classics at UH Mānoa and historian of architecture, who served as Chair; Mr. David Miller, principal and lead architect of Architects Hawai‘i; and Dr. Brennon Morioka, Dean of the College of Engineering at UH Mānoa. The committee’s composition accordingly reflected a range of disciplinary, administrative, and professional perspectives that, we believe, positively impacted our review.

In advance of the interviews phase of the review, the committee received an impressive 25-page Self-Study composed by Prof. Laura McGuire, who serves as Director of the BEnvD program, as well as an array of supplementary documents relating to many aspects of the program. The committee also spent two full days interviewing a wide range of individuals and groups about their impressions of the BEnvD program. These individuals and groups included the Dean of the School of Architecture; the BEnvD Program Director, faculty, staff, and students; members of the Office of the Vice Chancellor for Academic Affairs; the University Provost; and professional architects in their role as community stakeholders. All meetings were lively and frank, and the committee believes that it received more than enough information to conduct its review.

Value of the BEnvD Degree

The value of the BEnvD degree is clear. Over the course of the 4-year degree, students receive high-quality, broad-based, relevant instruction in many aspects of design. And, after they graduate, BEnvD students are granted a degree that, while technically pre-professional, is nevertheless highly-regarded within the Hawai‘i architectural community and sufficient in rigor to allow them to do creative work in a number of fields. In other words, the BEnvD program is how Hawai‘i’s future architects, designers, and design-based problem-solvers will be trained.

As a pre-professional degree—as opposed to the more technical Bachelor of Architecture (B.Arch.) offered at other institutions—BEnvD students receive a flexible, useful education that is broader in breadth and adequately prepares them for a relatively wide range of design-related careers or graduate degrees. They also explore how their design can help address a number of urgently relevant issues, including economic disparities, climate change and sustainability principles, and culture- and place-based issues. The solutions-oriented and place-conscious focus of the BEnvD curriculum also aligns well with the strategic planning of the University given its emphasis on the unique cultural milieu of Hawai‘i and its commitment to solving Hawai‘i’s pressing challenges including affordable housing and climate change.

The BEnvD is a pre-professional degree, although its graduate students enter a range of professional fields including architecture and can become licensed architects through work experience and an exam though the time to licensure is significantly longer than if compared to the requirements of an accredited professional degree program. That said, the BEnvD program articulates well with professional graduate degrees already offered in the School of Architecture including the 2-year Master in Landscape Architecture (MLA) degree and 3-year Doctor of Architecture (D.Arch.) degree. The proposed 2-year Master of Architecture would provide an even more efficient path to licensure.

It should also be noted that the BEnvD degree also provides an important “jumping-off point” for its graduates, providing them with a broad education that allows them to enter various sectors of the workforce as well as a range of graduate programs not necessarily related to architecture per se. In other words, students who graduate with the B.Arch. degree might find themselves with a limited set of professional and academic options. Not so with the more flexible BEnvD!

Metrics/Recruitment

Both qualitatively- and quantitatively-speaking, the BEnvD program is strong. According to the Self-Study, the number of majors enrolled in Fall 2020 was 203 (p. 13). In 2019, the number of FTE was 18.77, for a very respectable approximately FTE to majors ratio of 1:10.82. The overall ratio of FTE to SSH for AY 17-19 for the entire School of Architecture was 1:275.05, which is again impressive, especially considering the personalized instruction and contact time required for its courses.

The first BEnvD cohort graduated in 2016. Since then, an average of 32.8 BEnvD degrees have been awarded annually (Self-Study p. 13), with ebbs and flows following University enrollment trends. The program is doing considerable outreach to local students at various age levels. Salient efforts include their free online aftercare program called “Who Designs Hawai‘i?”, geared towards 7 to 11 year-olds and outreach to STEM centered high schools on O‘ahu. The BEnvD program has largely attracted local students, and its demographics largely reflect those of the local population. The Self-Study

observes that recruitment is hampered somewhat by student unfamiliarity with the concept of “environmental design” as opposed to “architecture”. BEnvD faculty and staff are attempting to counter this problem and we encourage them to persist in their efforts.

One interesting set of statistics afforded by the Self-Study relates to the larger than normal—76 students in Fall 2020—freshman ARCH 101 (Design Fundamentals Studio I) course, which is described in the Self-Study as “inadvertently” functioning as a “weeding out” course for incoming students due to the intensive, studio-centered nature of the course. That said, of the students in this initial course, only 12% to 14% choose to leave the BEnvD program. Of those students who continue on, approximately 75-80% graduate with the BEnvD (p. 15). The outstanding quality of this particular course was repeatedly noted during our interviews, as well as its need for more resources to support its students. Our committee wonders if providing more instructional support might encourage even more students to persist within the BEnvD course, thus increasing its number of graduates still further. That said, we were impressed by the overall persistence rate among students in the BEnvD program.

Curriculum

The broad nature of the BEnvD curriculum, its relevance to Hawai‘i’s urgent challenges, and its value in preparing students for both the workforce and graduate-level education has been discussed to some extent above. As the Self-Study 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” (p. 11). This can be seen in both the courses offered in the BEnvD curriculum, and in extra-curricular opportunities available to BEnvD students such as the UH Community Design Center (UHCDC) and UH Environmental and Research Design Lab (ERDL)

The BEnvD curriculum is credit-intensive and highly-structured. Students are ultimately required to 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 provides added flexibility. The University-wide electives are not specified on the program sheet, but are chosen in collaboration with the advisor and tend to relate to planning, sustainability, geography, business, American Studies, and/or engineering.

Based on our interviews, 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 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 after completing “just” the BEnvD were curious and teachable, and served as assets to their firms.

Students did express some tension between the breadth of the BEnvD program and the corresponding deemphasis of certain technical skills, in particular, the drafting software AutoCAD and Revit. Various solutions were proposed, ranging from teaching these programs more intensively in BEnvD courses; forming relationships with the drafting program at Honolulu Community College; or simply learning these programs on the job (something BEnvD graduates frequently do successfully). Other students

expressed a desire for an even more intensive technical, professional education, and wished they could complete a B.Arch. degree, although such students were relatively few in number. In our opinion, due to the transient nature of particular software applications and the ability to learn these applications on the job, BEnvD coursework is probably better spent focused on design. However, we do want to advocate for more instruction in materials and structures, which will give students a stronger basis in the physical aspects of design. These concepts can likely be taught without the need for more resources.

While students repeatedly noted the intensive nature of the BEnvD program, they did not want the number of required courses/credits to be reduced. Instead they sought other ways of creating a more efficient pathway to graduation. For example, some expressed their desire to eliminate or decrease the 4-semester foreign-language (HSL) requirement. This opinion was not, however, universal, with both students and faculty recognizing the value of learning a non-English language in their work, especially a language with relevance to the polyglot and multicultural community of Hawai'i. A reduction from the 4-semester HSL requirement to a 2-semester requirement may be a compromise solution and worth further evaluation and discussion. Another method of improving curricular efficiency—proposed by Dean Chapman—would be to develop an Architecture 151-152 (“World Architecture”) sequence, which would simultaneously fulfill the currently required HIST 151-152 sequence and serve in place of ARCH 271-272 (World Architecture and Urbanism A and B).¹ Students also wished that more BEnvD courses fulfilled the W and O Focus designations, although doing this will limit the enrollment cap on these courses to between 20-30 students.

Assessment

According to Dr. Yao Hill of the UH Mānoa Assessment and Curricular Support Center, the BEnvD program does an “exemplary” job of assessing student learning. Assessment efforts in the program centers around the collaborative observation, evaluation, and discussion of actual student work developed through the design studios. The results are discussed among faculty, directors, and the dean to help improve student learning.

More generally, the BEnvD program has worked closely with the Assessment and Curricular Support Center to revise its Student Learning Outcomes (SLO's). Initially, the BEnvD program had too many SLO's out of a desire to reflect the several hallmarks of the National Architectural Accrediting Board (NAAB). Recognizing that these were unwieldy, the BEnvD program worked with Dr. Hill's office to create a more manageable 7 SLO's, which have since been used productively in their assessment. We admired this effort, not least because it demonstrates an eagerness to work with experts across the University to improve the BEnvD program.

In our interview, Dr. Hill recommended ways in which assessment could be improved still further. In particular, she recommended that rubrics be developed for assessing student work; the development of quantitative data regarding student success; assessing across the curriculum (as opposed to specific courses); and increased involvement of alumni and community stakeholders in assessment. Although not necessarily related to program assessment, a need to better track student success post-graduation was also noted at various points over the course of our interviews, though this shortcoming appears to be true for all units within the University due to the overall lack of data collection with graduating seniors and alumni as a whole.

¹ N.B. It is possible to double-dip courses that fulfill the FG and major requirements.

Faculty/Staffing

The School of Architecture, and the BEnvD program by extension, has recently benefited from being able to hire five new tenure-track faculty as replacements for faculty retirements. Unfortunately, two intended job searches were canceled in AY 2019-2020 due to the COVID-related budget crisis. The School of Architecture currently has 14 full-time tenure-track or tenured faculty, two full-time temporary faculty, and “numerous” Lecturers (Self-Study p. 19). Overall FTE for 2019 was 18.77.

Over the past five years, reliance on part-time Lecturers by the School of Architecture has increased significantly, and Lecturers now teach between 30-40% of all BEnvD courses. Normally, this would be considered a negative trend. In the BEnvD program, however, hiring lecturers provides the opportunity to bring working architects into the school, whose real-world, practice-based perspective is recognized and appreciated by full-time faculty and students alike. Indeed, the presence of architect-lecturers in the classroom feels like an extension of a broader culture of interchange between the School of Architecture and the community of professional architects and, in a sense, a correction to the trend of hiring more research- and theory-driven full-time faculty (as opposed to the historical practice of hiring professional architects as full-time faculty). Lecturers said they felt valued and included in the program, and we encourage the School of Architecture to continue finding meaningful ways to use the expertise of their architect-lecturers.

Based on our review, faculty and staffing seems adequate for now, especially given the availability of high-quality architect-lecturers in the Honolulu area. We do want to emphasize that both faculty and staff are extremely hard working and this has certain consequences. In particular, because of the high number of contact hours involved in teaching architecture courses and the substantial involvement of faculty in service, faculty research has suffered. Should the BEnvD program continue to grow, we recommend that additional full-time faculty be hired both to remedy this problem and to support the BEnvD program and the School of Architecture more generally.

In general, as the Self-Study notes, the diversity of the faculty should and, in fact, largely does reflect the diversity of the student body itself (p. 6). That said, full-time male faculty members outnumber female faculty by 9 to 5. Given the BEnvD program’s goal of decreasing the attrition rate of female students and, conversely, increasing the number of female BEnvD graduates as discussed on p. 16 of the Self-Study, we recommend that an emphasis be placed on hiring female full-time faculty members who can serve as outstanding mentors and role-models to their students.

Student Body and Culture

Our committee had the opportunity to speak with a group of more than 70 undergraduates and recent alumni from the BEnvD program, as well as an assortment of students in UH Architecture graduate programs. The appearance of so many students at the session was a sign of the commitment of these students to their program.

As noted above, students expressed appreciation for the quality of their education and the amount of attention and high-quality feedback they receive as undergraduates from the faculty. Students felt like the program is comprehensive, productively challenging, and provides ample opportunity for creative expression. They also described the BEnvD environment as one where constant learning takes place.

The student culture also appears excellent. This is supported by certain BEnvD initiatives, such as the Big-Little Program, through which an upper-level student serves as a mentor to a lower-level student. But much of the team-spirit seems to be based in the students' studio work, with students developing truly supportive relationships, healthy competition, and a spirit of mutual learning and appreciation from spending so much time together in their design studios, which are open 24 hours per day. One student mentioned that the experience of her first-year studio served as the ideal initiation to college life.

Student recommendations regarding the BEnvD curriculum have been noted above. Some comments were made by students on the quality—good and bad—of the facilities which, it should be noted, are currently being renovated. Students also expressed concern for security in the design studios. While the studio doors are secured by coded locks, outsiders are evidently able to access the studio area at night through the elevators. We recommend that this be remedied for the sake of the safety and security of the students and their work.

Recommendations

The following is a list of recommendations relating to the BEnvD program based on our review. We hope these suggestions are useful as the program continues to grow and improve in the future:

- ** When financially possible and assuming continued growth, hire full-time faculty to make up for the two canceled tenure-line searches in AY 2019-20
- ** Emphasize hiring of female full-time faculty members to address gender imbalance in the faculty.
- ** Study and address the relatively high attrition rate among incoming female BEnvD students.
- ** Foster professional and student organizations specifically focused on women much like the engineering industry does with the Society of Women Engineers and Women in Transportation.
- ** Improve the security of studio spaces, in particular, as accessed through building elevators after hours.
- ** Continue to familiarize potential BEnvD students—on the Mānoa campus and in the community—with concept of environmental design as opposed to the more familiar “architecture” to improve recruitment into the BEnvD program.
- ** Develop coursework in structures and building materials, possibly in conjunction with the College of Engineering.
- ** Find ways of improving student exposure to and competency in drafting software commonly used by professional architects, e.g. AutoCAD and Revit.
- ** Consider modifying general education requirements to allow students to graduate more efficiently, including evaluation of the language requirements and offering BEnvD courses with W and O Focus designations.
- ** Provide more instructional/students support for ARCH 101 with the goal of improving retention.
- ** Create an ARCH 151-2 (World Architecture) sequence to replace both the HIST 151-2 and ARCH 271-2 requirements.
- ** Continue to work with the Mānoa Assessment and Curricular Support Center to improve BEnvD assessment efforts still further.
- ** Create a more formal mechanism for tracking BEnvD alumni post-graduation.
- ** Create a Master of Architecture (M.Arch.) Degree to provide BEnvD students with a more efficient pathway to professional licensure in architecture.

ADDENDA:

1) BEnvD Assessment Overview and Recommendations, Dr. Yao Hill, UH Mānoa Assessment and Curriculum Support Center (PowerPoint)

2) Report on Performance of BEnvD alumni in the workplace, Mr. Emile Alano, Principal, Vice-President, and Chief Operating Officer, Architects Hawai‘i Ltd. (PDF)